



Date of issue 2023-04-11

Version 1.0

Total pages 55

Test report of

IES LM-79-08

Approved Method: Electrical and Photometric

Measurements of Solid-State Lighting Products

Applicant:

RAB LIGHTING, INC

Address:

408 W 14th St New York, NY 10014, USA

For Product:

LED Corn Lamp

Model No.:

HID-100-EX39-8CCT-BYP/5SP/480V

Test laboratory: Shenzhen Belling Efficiency Testing Lab Co., Ltd, 1Floor, No.1 Building, Meibaohe Industrial Park, Dalang Street, Longhua District, Shenzhen, Guangdong Prov.518101 China.



Complied by: Sam Chen

Review by: Jason Zhou

Project Engineer

Technical Manager

Note: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Shenzhen Belling Efficiency Testing Lab Co., Ltd. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.



1 General

1.1 Product Information

Manufacturer	RAB LIGHTING,INC
Manufacturer Address	408 W 14th St New York, NY 10014, USA
Brand Name	RAB
Luminaire Type	LED Corn Lamp
Model Number	HID-100-EX39-8CCT-BYP/5SP/480V
Rated Inputs	AC 277-480V, 50/60Hz
Rated Power	100W
Color-Tunable Product	Yes, CCT setting: 3000K, 4000K, 5000K
Date of Receipt Samples	2023-02-27
Date of test	2023-02-28 to 2023-03-15
Burning Time Before Test	0hour(For New Products)

1.2 Standards or methods

- ANSI C78.377-2017:Specifications for the Chromaticity of Solid State Lighting Products
- ANSI C82.77-10:2014:Harmonic Emission Limits - Related Power Quality Requirements for Lighting Equipment - Solid State
- CIE Publication No.13.3-1995:Method of Measuring and Specifying Color Rendering of Light Sources
- IESNA LM-79-08 Approved Method: Electric & Photometric Measurement of Solid-state Lighting Products

1.3 Description

- Declaration: RAB LIGHTING,INC declare that their product with model HID-100-EX39-8CCT-BYP/5SP/480V are the same to the product in the report BL230227009-9 and is authorized by original applicant to use their test data.
- Note: All the data in previous report BL230227009-9 is shared in report.



1.4 Equipment list

Device	Manufacture	Model No.	Serial No.	Calibration due date
Goniophotometric System	SENSING	GMS-3000	N.A	2023-04-08
AC Power Source	ALL POWER	APW-105N	970780	2023-04-10
Total Luminous Flux Standard Lamp	SENSING	110V/100W	S13100188	2023-03-30
Total Luminous Flux Standard Lamp	OSRAM	12V/20W	LSD12201737	2023-03-30
Digital Power Meter	YOKOGAWA	WT310	C2QM02030V	2023-04-10
Thermostatic stabilized photometric sphere	SENSING	SPR-600M	N.A	2023-04-08
Digital Power Meter	YOKOGAWA	WT210	91L929742	2023-04-10
Spectral radiometer	SENSING	SPR-3000	S1101108	2023-04-08
Environment Measurer	XUYAO	HS-1	N/A	2023-03-30
Environment Measurer	XUYAO	HS-1	N/A	2023-03-30
Stop watch	KISLO	K610	N/A	2023-04-14
Digital Anemometer	TECMAN	TD8901	026141	2023-09-07

Statement of Traceability: Shenzhen Belling Efficiency Testing Lab Co., Ltd attests that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit (SI).



2 Test conducted and method

2.1 Ambient Condition

The ambient temperature in which measurements are being taken was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, the air flow around the sample(s) being tested did not affect the performance.

2.2 Power Supply Characteristics

The AC power supply had a sinusoidal voltage wave shape at the prescribed frequency (60 Hz) such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the test item.

The voltage of AC power supply (RMS voltage) applied to the device under test was regulated to within ± 0.2 percent under load.

2.3 Seasoning and Stabilization

No seasoning was performed in accordance with IESNA LM-79-08. And before the measurement, the sample was stabilized until the light output and power variations were less than 0.5% in 30 minutes intervals (3 readings, 15 minutes apart).

2.4 Integrating Sphere System

The system includes AC power source, digital power meter, DC power supply, spectrophotometer, and integrating sphere. The integrating sphere system is calibrated by standard light source before measurement. The system and standard light source has been calibrated regularly and traceable to the National Primary Standards. 4π geometry was used during measurement. The product was operated in its intended orientation in application and was recorded in this report.

Integrating Sphere Uncertainty: The uncertainty of the light output (luminous flux) measurements is $U=1.8\%$ ($K=2$), at the 95% confidence level. The uncertainty of the correlated color temperature measurements is $U=20\text{K}$ ($K=2$), at the 95% confidence level. The uncertainty of the CRI is $U=1.8(K=2)$, at the 95% confidence level. The uncertainty of power meter AC current $U=0.18\%$ of rdg, AC Voltage $U=0.16\%$ of rdg, Power $U=0.20\%$ ($K=2$), at the 95% confidence level.



2.5 Goniophotometer System

The goniophotometer system is calibrated by standard light source before measurement. The standard light source has been calibrated regularly and traceable to the National Primary Standards.

Type C goniophotometer was used for measuring total luminous flux, luminous intensity distribution, and color spatial uniformity. The product was operated in its intended orientation in application and was recorded in this report. The method according to IESNA LM-79-08 following chapter.

Goniophotometer Uncertainty: The uncertainty of the luminous intensity is $U=1.6\%$ ($K=2$), at the 95% confidence level.



3 Test Result Summary

3.1 Integrating Sphere System (Total operating time for integrating sphere test: 1.0 hour)

3.1.1 Model Number: HID-100-EX39-8CCT-BYP/5SP/480V, 3000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.07	60	0.350	95.76	0.987

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
13753.96	143.6	3048

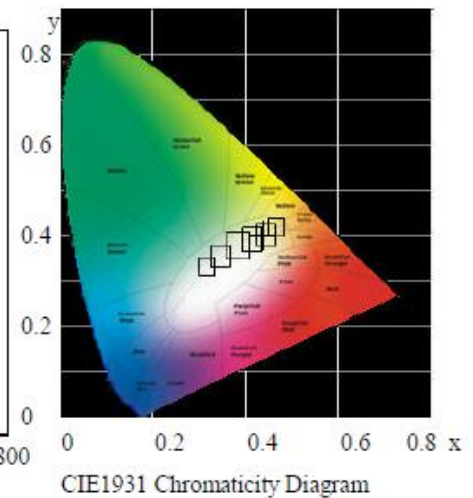
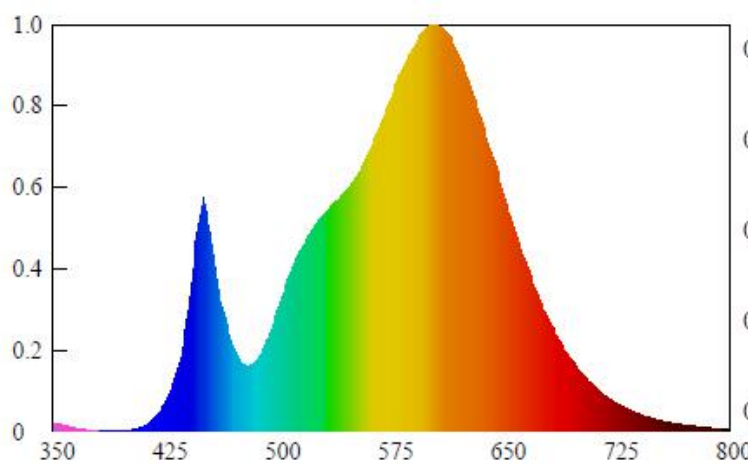
Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00119	0.4319	0.3994	0.2493	0.5188

Color Rendering

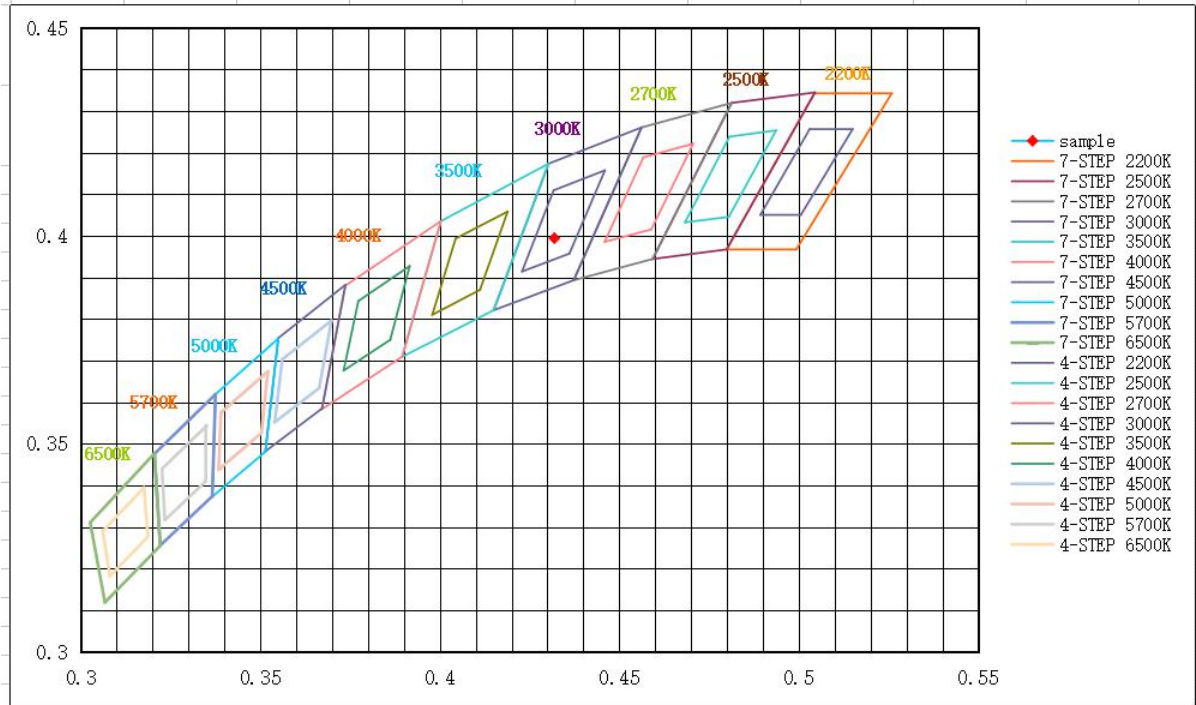
CRI	R9	Rf	Rg	Rcs,h1(%)
82.8	9	84	98	-11

Spectral Distribution





7/4 Step Quadrangle

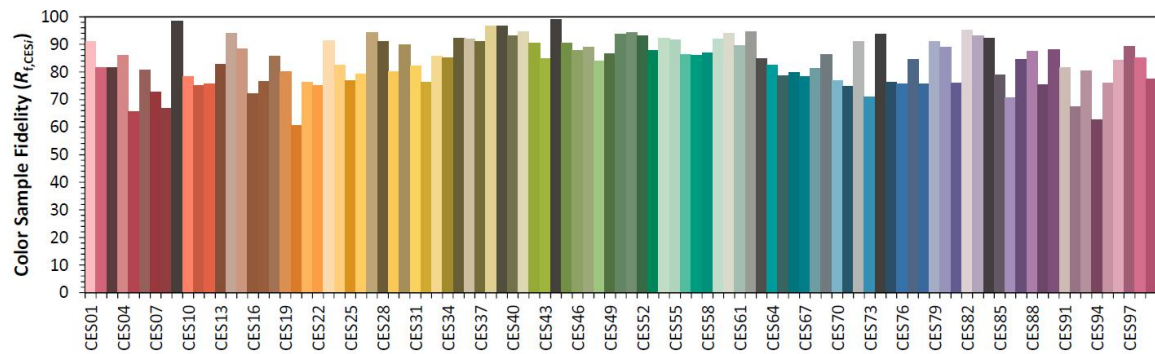
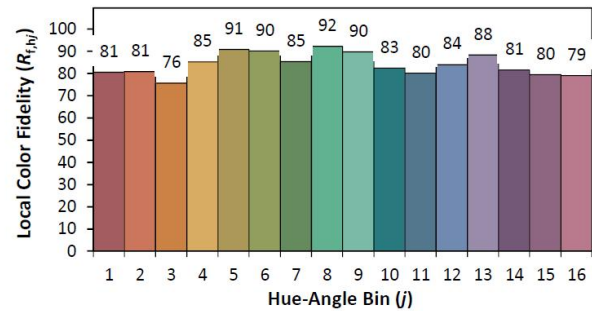
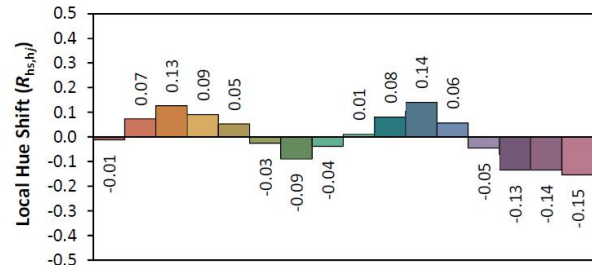
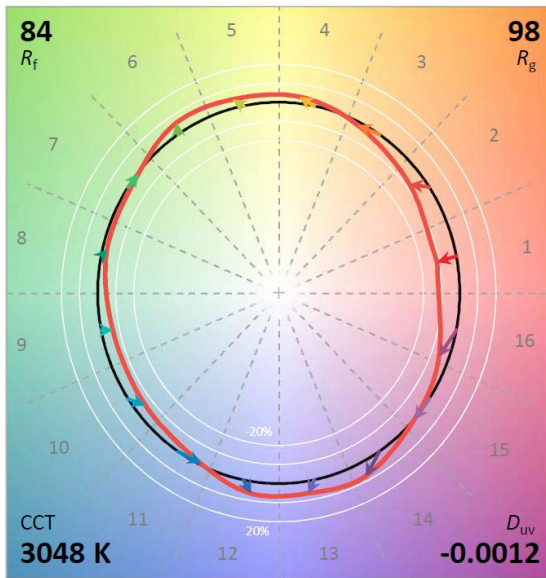
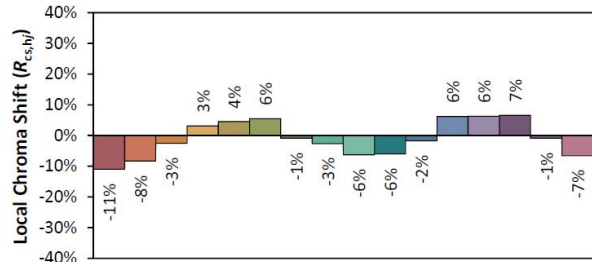
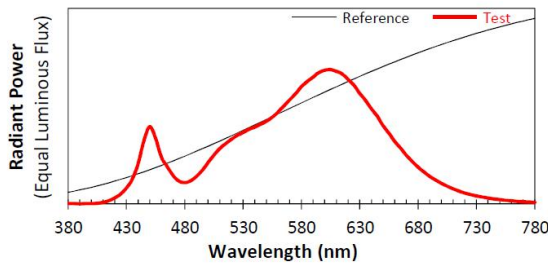




ANSI/IES TM-30-18 Color Rendition Report

Source: BL230227015-9
Date: 2023-04-11

Manufacturer: RAB LIGHTING,INC
Model: HID-100-EX39-8CCT-BYP/5SP/480V, 3000K at 277V



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4319
 y 0.3994
 u' 0.2493
 v' 0.5188

CIE 13.3-1995 (CRI)

R_a 83
 R_g 9

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.



3.1.2 Model Number: HID-100-EX39-8CCT-BYP/5SP/480V, 3000K at 480V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
479.98	60	0.216	95.70	0.923

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
13698.12	143.1	3049

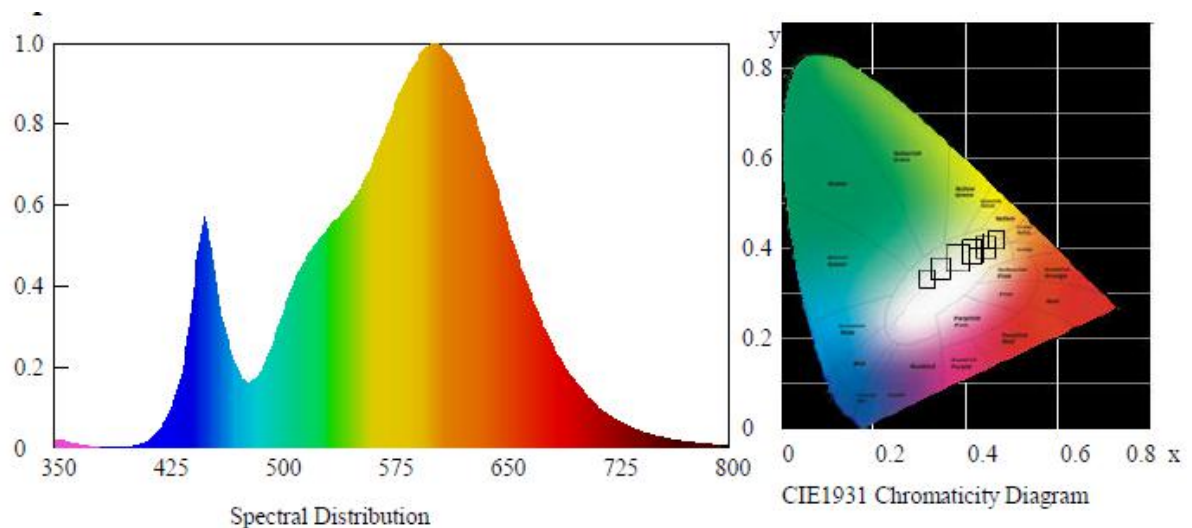
Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00121	0.4318	0.3993	0.2493	0.5187

Color Rendering

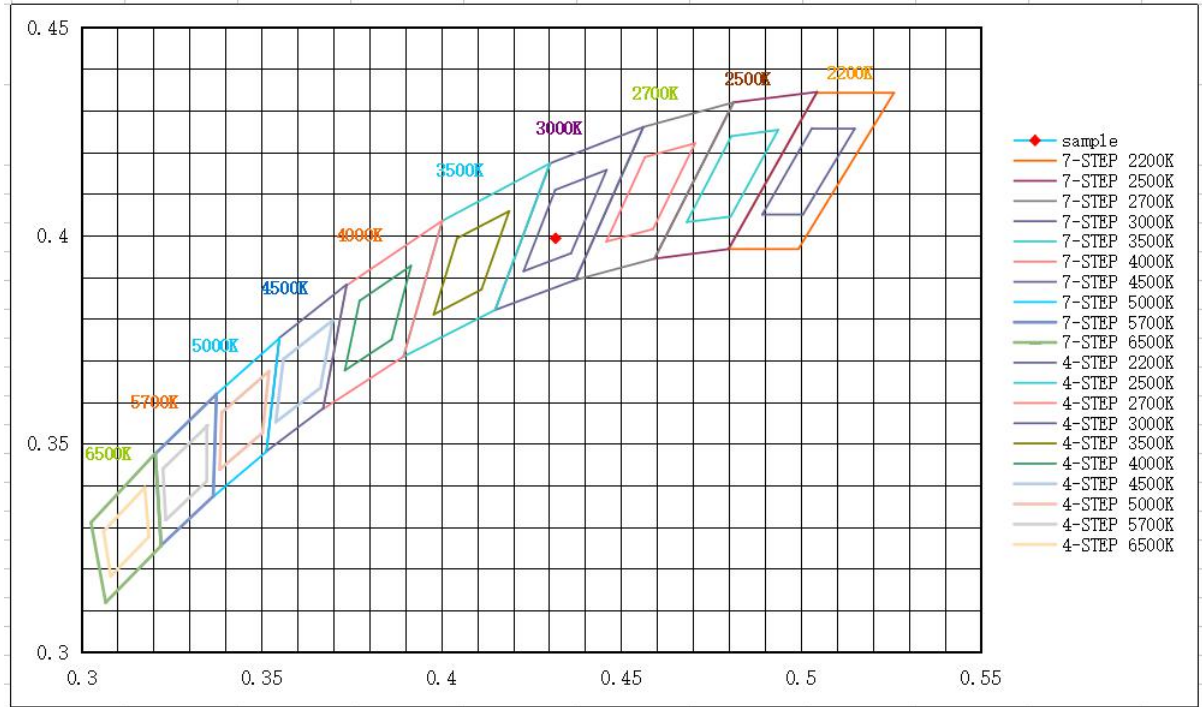
CRI	R9	Rf	Rg	Rcs,h1(%)
82.8	9	84	98	-11

Spectral Distribution





7/4 Step Quadrangle

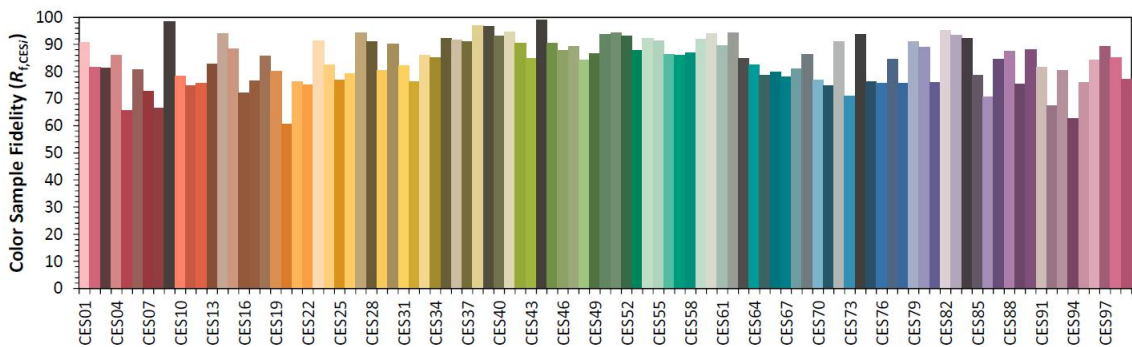
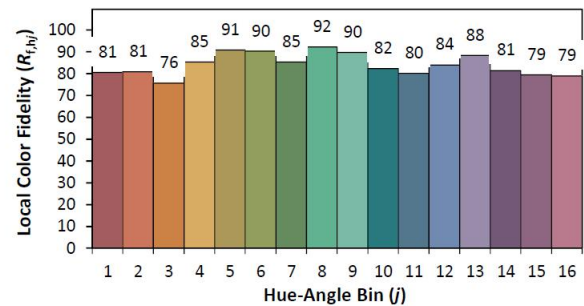
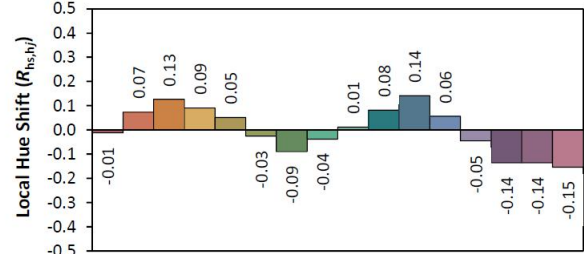
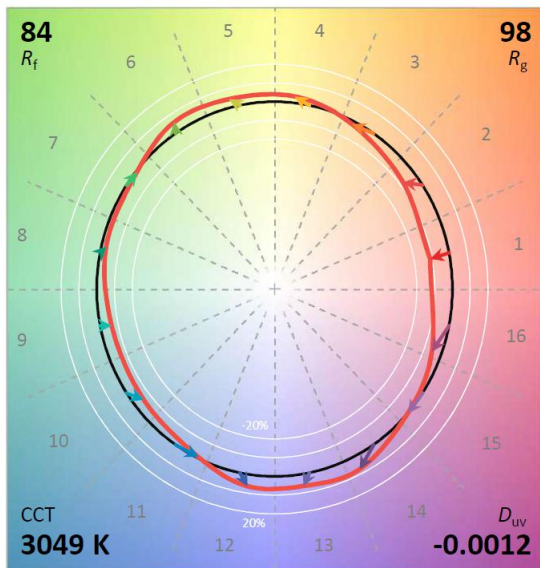
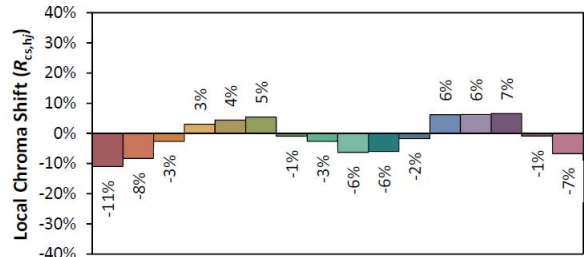
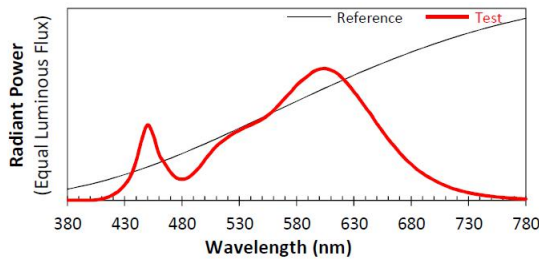




ANSI/IES TM-30-18 Color Rendition Report

Source: BL230227015-9
Date: 2023-04-11

Manufacturer: RAB LIGHTING,INC
Model: HID-100-EX39-8CCT-BYP/5SP/480V, 3000K at 480V



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4318
 y 0.3993
 u' 0.2493
 v' 0.5187

CIE 13.3-1995 (CRI)
 R_a 83
 R_g 9

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.



3.1.3 Model Number: HID-100-EX39-8CCT-BYP/5SP/480V, 4000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.07	60	0.344	93.88	0.986

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
14707.99	156.7	3963

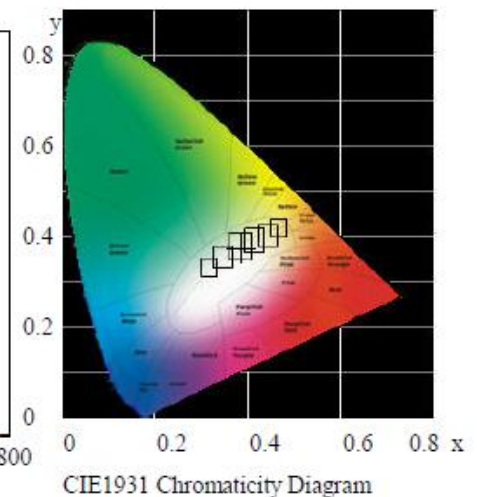
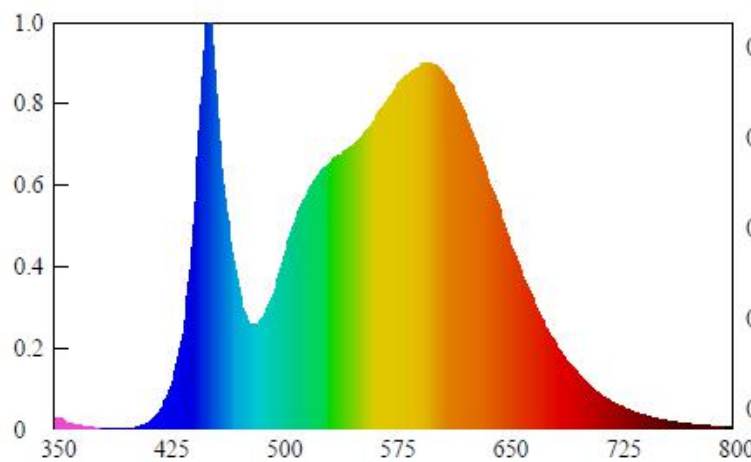
Chromaticity Coordinate

Duv	x	y	u'	v'
-0.0023	0.3805	0.3719	0.2271	0.4994

Color Rendering

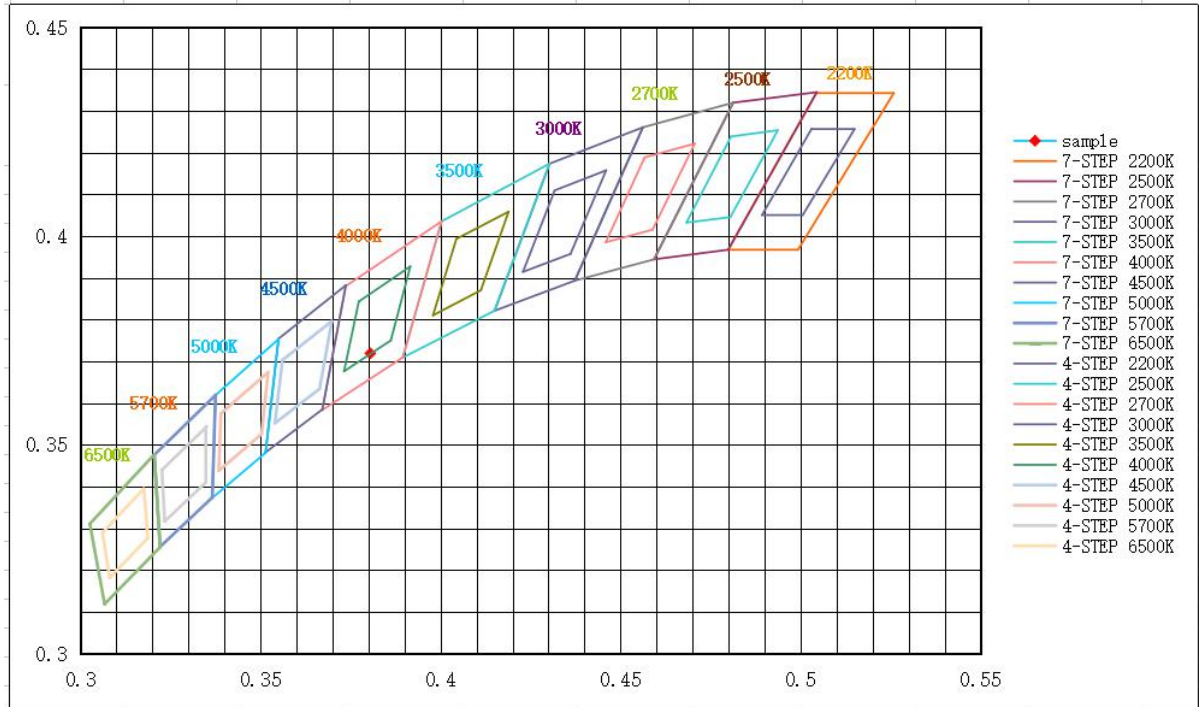
CRI	R9	Rf	Rg	Rcs,h1(%)
85.0	20	85	97	-11

Spectral Distribution





7/4 Step Quadrangle

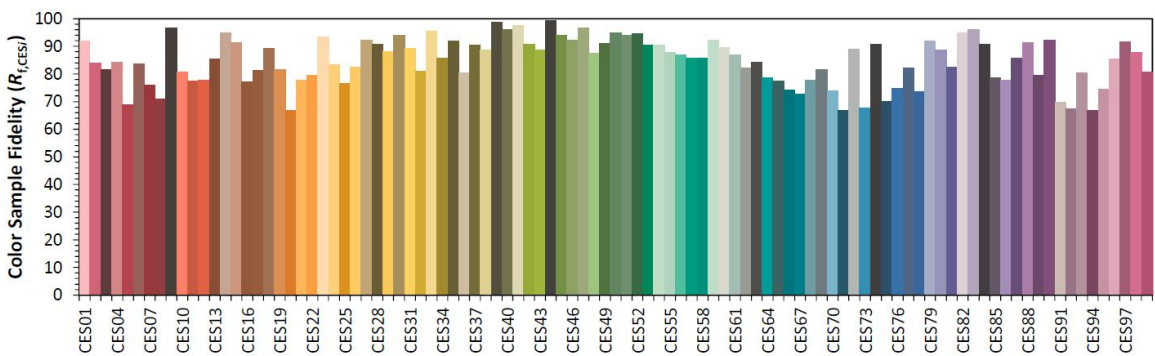
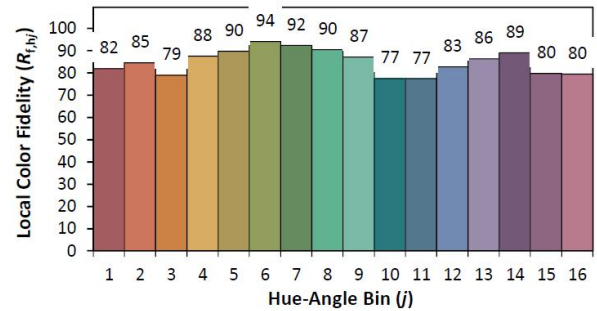
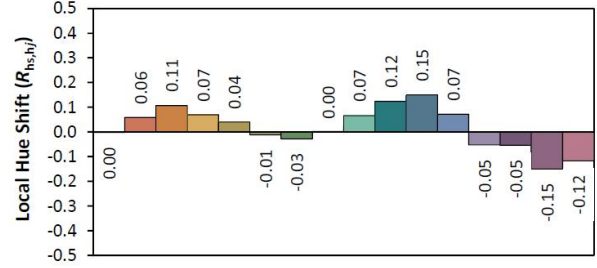
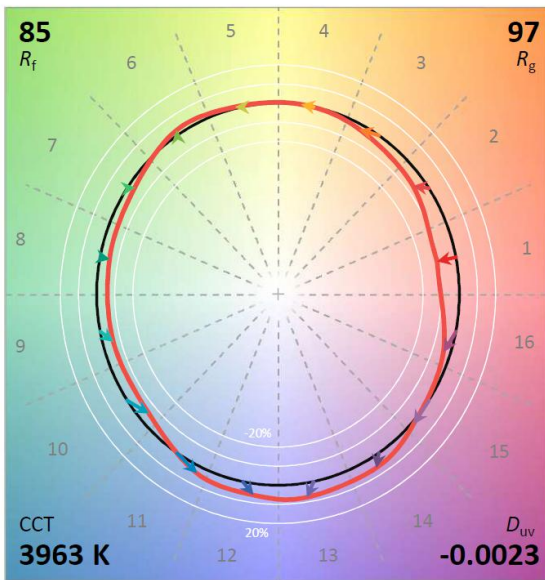
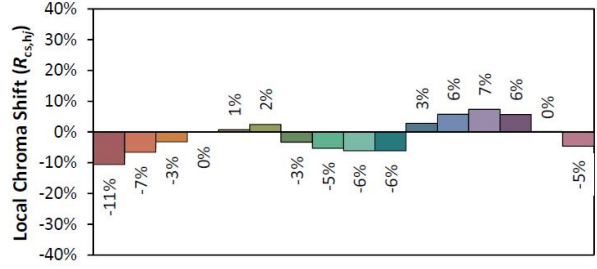
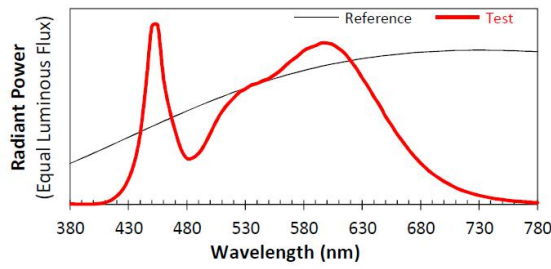




ANSI/IES TM-30-18 Color Rendition Report

Source: BL230227015-9
Date: 2023-04-11

Manufacturer: RAB LIGHTING, INC
Model: HID-100-EX39-8CCT-BYP/5SP/480V, 4000K at 277V



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.3805
 y 0.3719
 u' 0.2271
 v' 0.4994

CIE 13.3-1995 (CRI)
 R_a 85
 R_9 20

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.



3.1.4 Model Number: HID-100-EX39-8CCT-BYP/5SP/480V, 4000K at 480V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
479.98	60	0.212	93.84	0.921

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
14686.27	156.5	3968

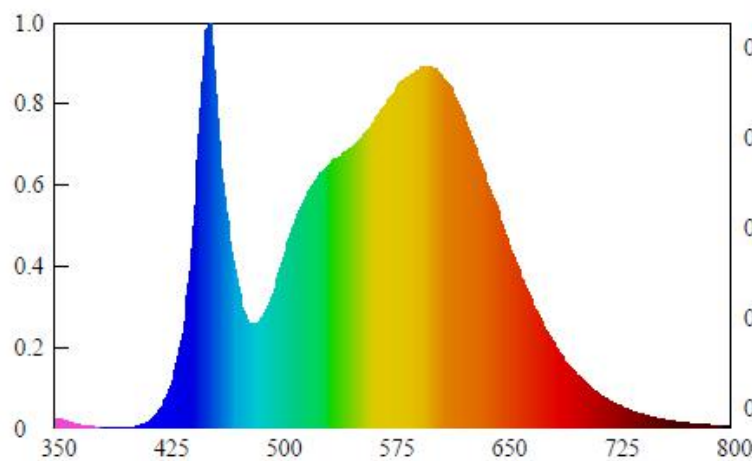
Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00234	0.3802	0.3717	0.2270	0.4993

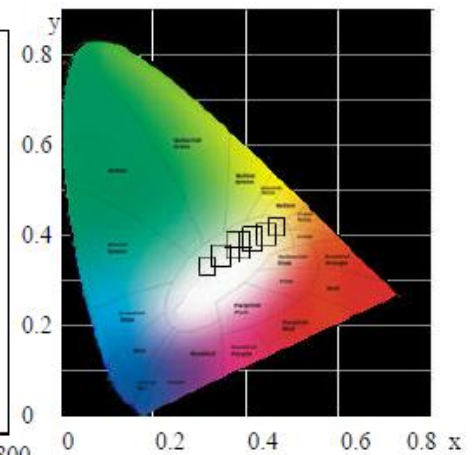
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
85.0	20	85	97	-11

Spectral Distribution



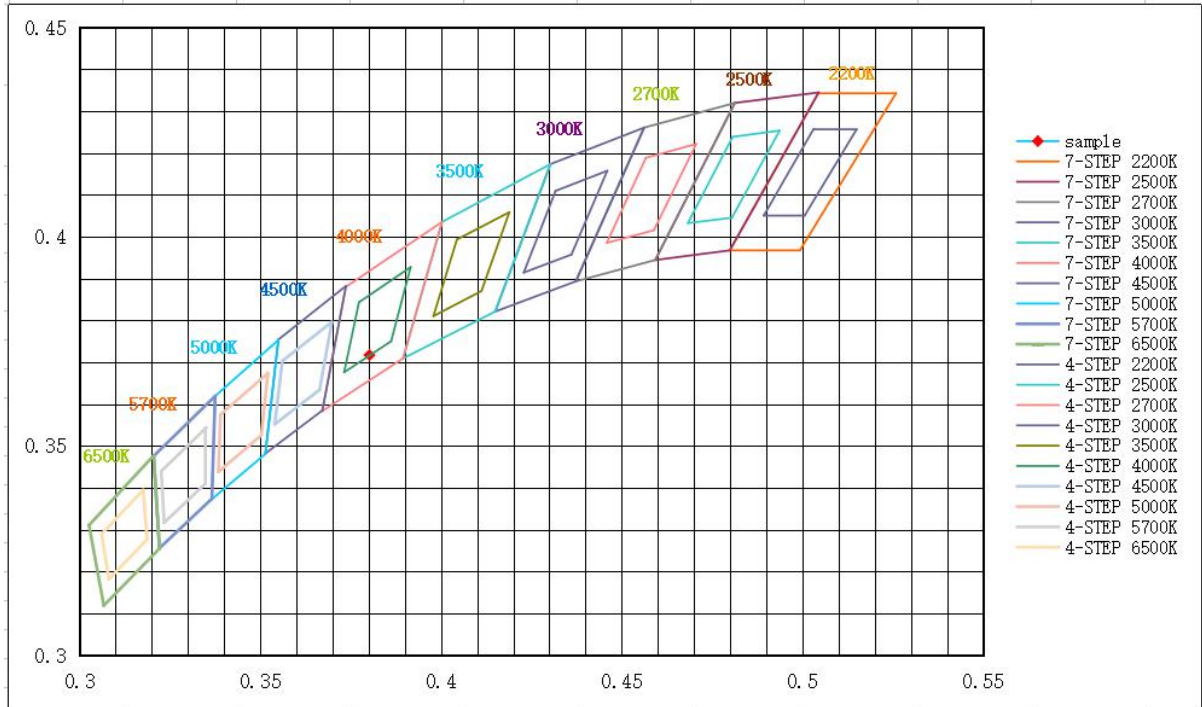
Spectral Distribution



CIE1931 Chromaticity Diagram



7/4 Step Quadrangle

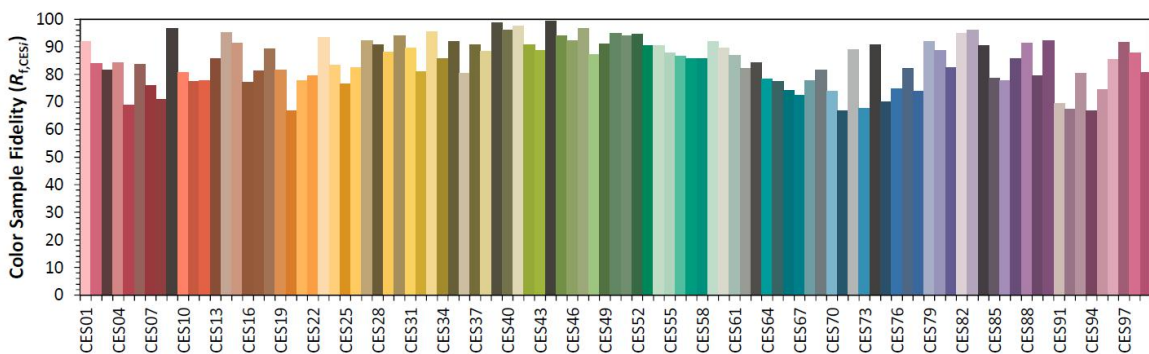
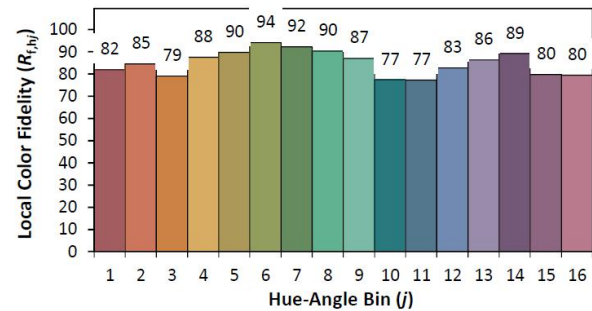
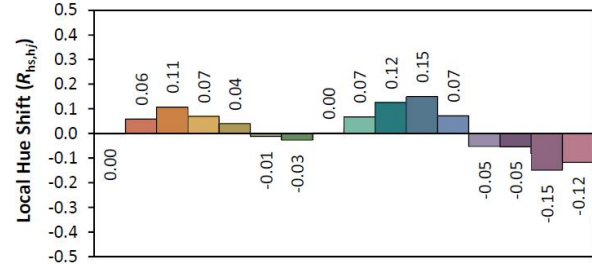
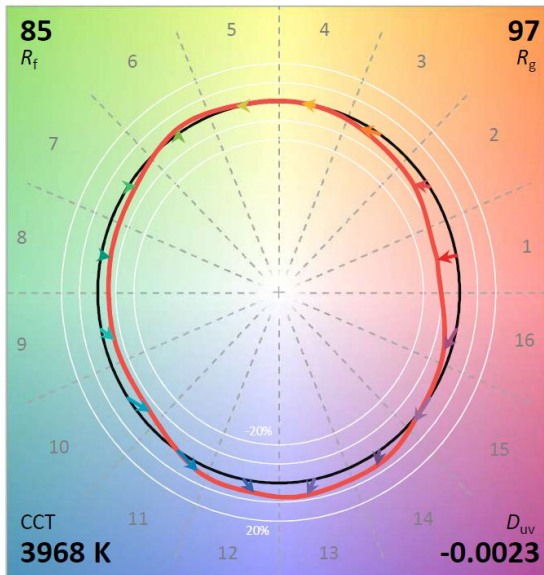
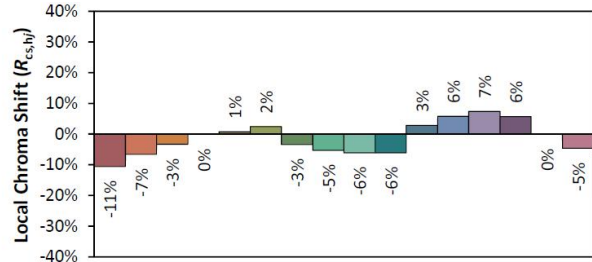
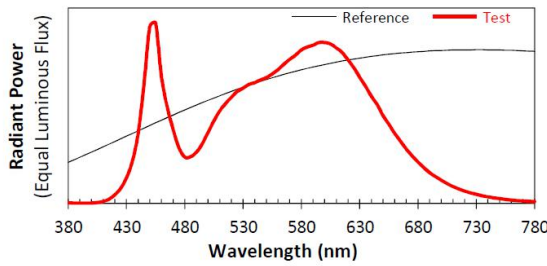




ANSI/IES TM-30-18 Color Rendition Report

Source: BL230227015-9
Date: 2023-04-11

Manufacturer: RAB LIGHTING, INC
Model: HID-100-EX39-8CCT-BYP/5SP/480V, 4000K at 480V



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.3802
 y 0.3717
 u' 0.2270
 v' 0.4993

CIE 13.3-1995 (CRI)
 R_a 85
 R_g 20

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.



3.1.5 Model Number: HID-100-EX39-8CCT-BYP/5SP/480V, 5000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.07	60	0.350	95.58	0.987

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
13890.47	145.3	4993

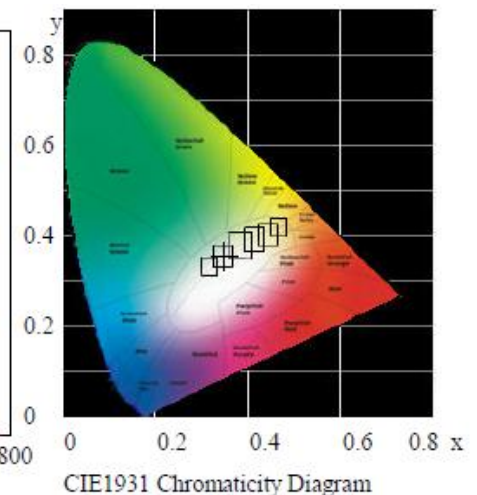
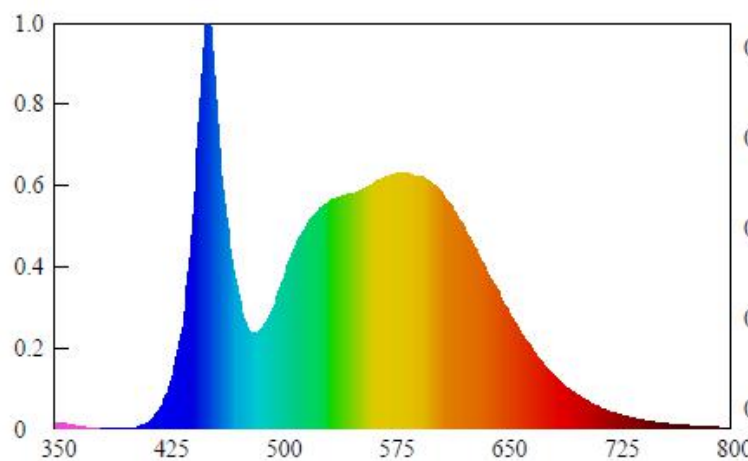
Chromaticity Coordinate

Duv	x	y	u'	v'
+0.00039	0.3454	0.3526	0.2112	0.4852

Color Rendering

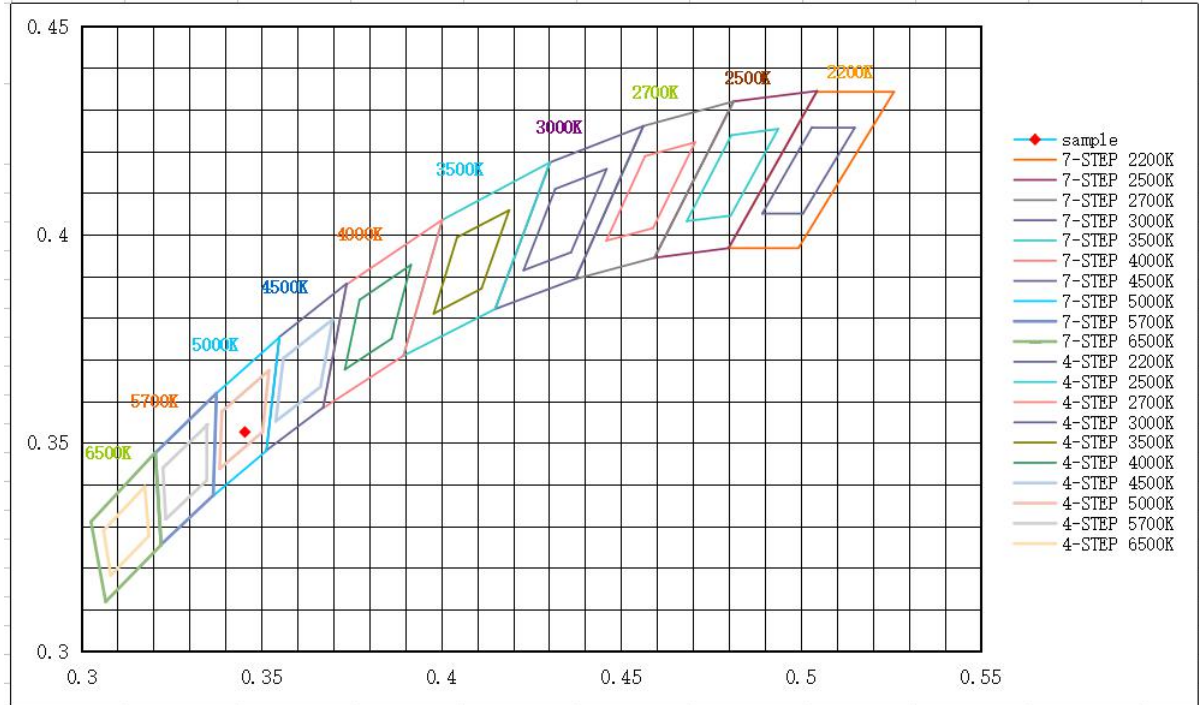
CRI	R9	Rf	Rg	Rcs,h1(%)
83.6	15	83	97	-12

Spectral Distribution





7/4 Step Quadrangle

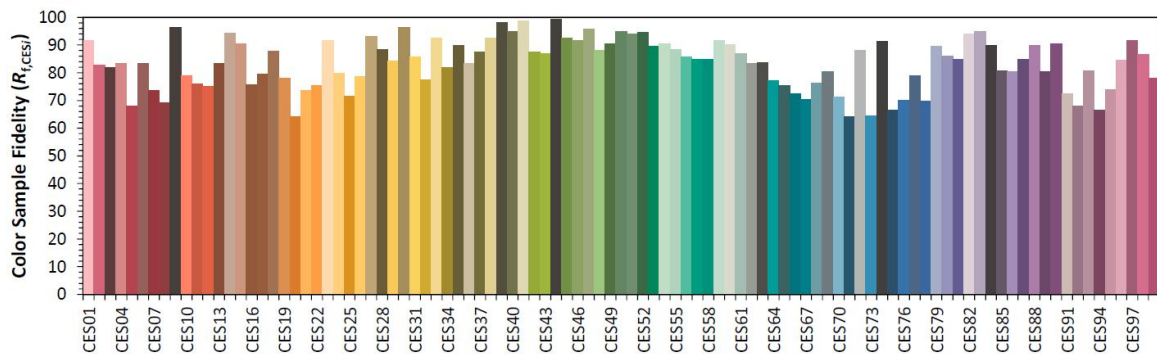
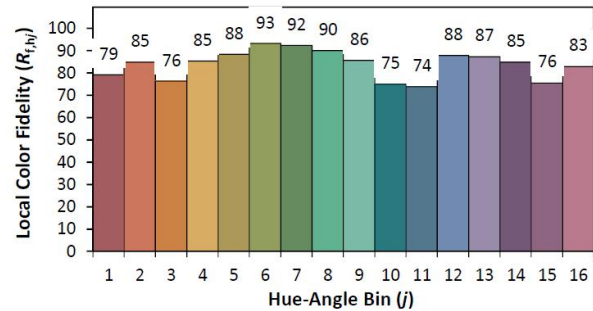
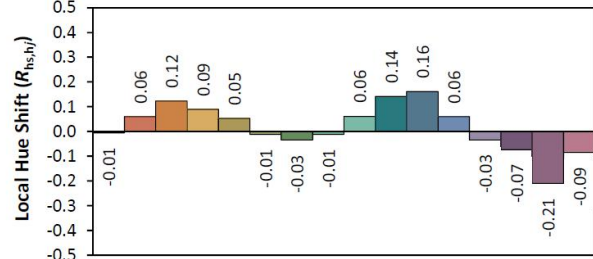
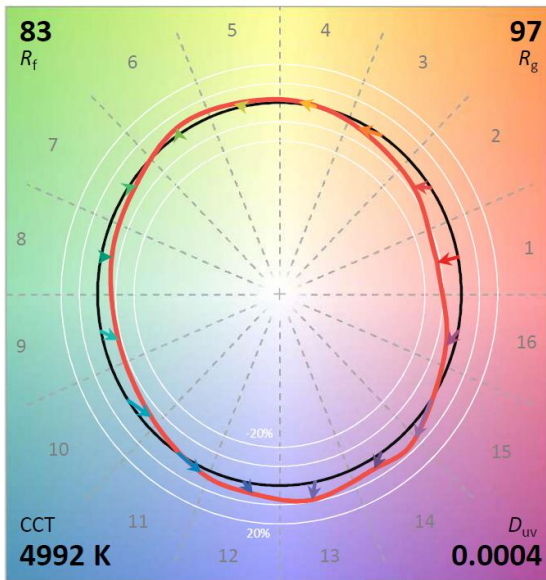
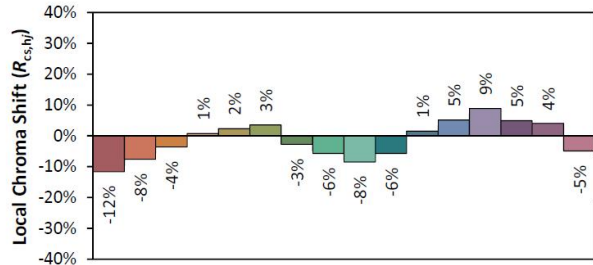
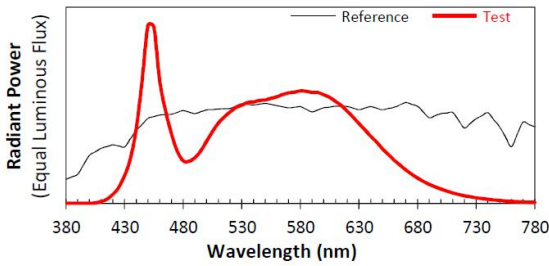




ANSI/IES TM-30-18 Color Rendition Report

Source: BL230227015-9
Date: 2023-04-11

Manufacturer: RAB LIGHTING,INC
Model: HID-100-EX39-8CCT-BYP/5SP/480V, 5000K at 277V



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.3454
 y 0.3526
 u' 0.2112
 v' 0.4852

CIE 13.3-1995 (CRI)
 R_a 84
 R_g 15

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.



3.1.6 Model Number: HID-100-EX39-8CCT-BYP/5SP/480V, 5000K at 480V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
479.99	60	0.216	95.59	0.923

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
13876.51	145.2	4999

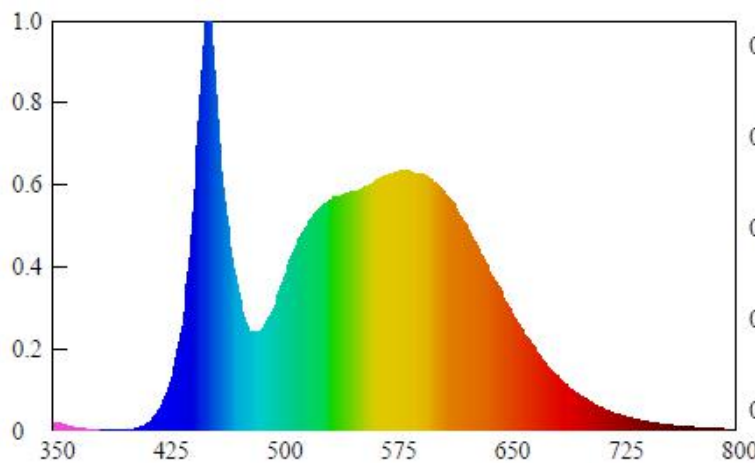
Chromaticity Coordinate

Duv	x	y	u'	v'
+0.00035	0.3452	0.3524	0.2112	0.4851

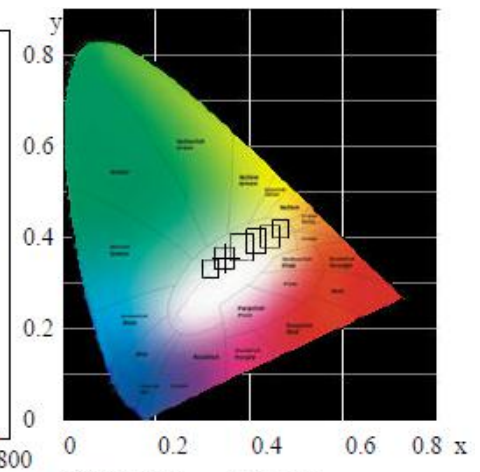
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
83.6	15	84	97	-12

Spectral Distribution



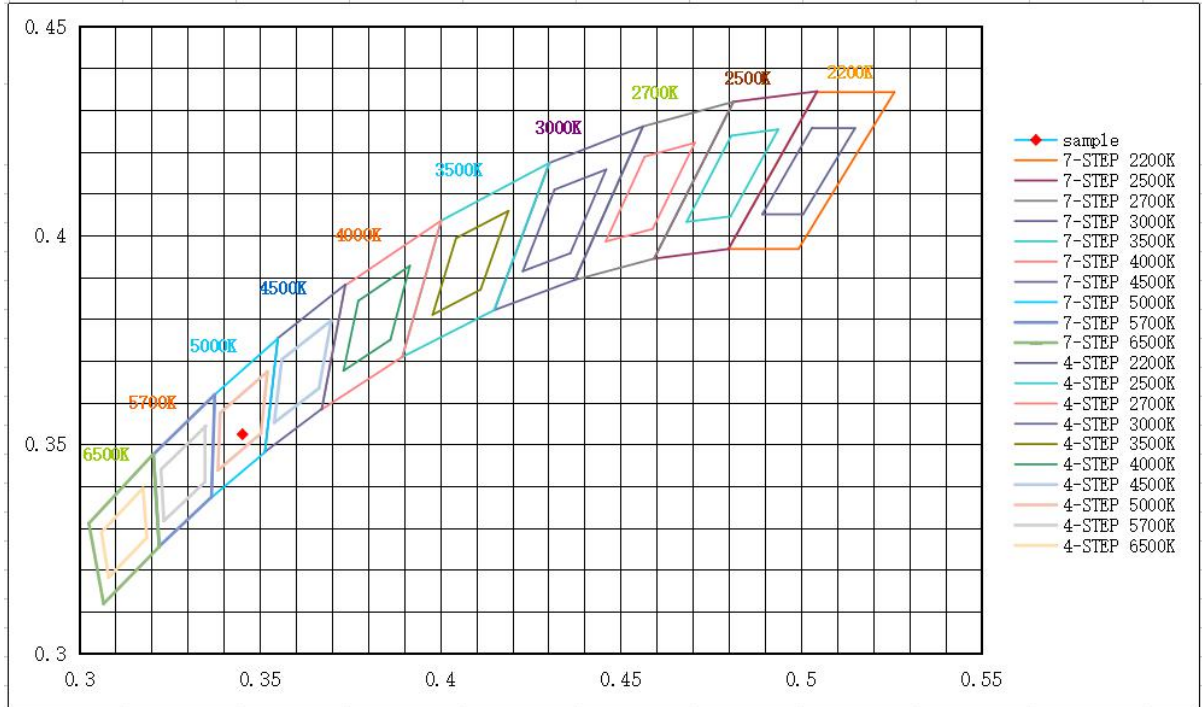
Spectral Distribution



CIE1931 Chromaticity Diagram



7/4 Step Quadrangle

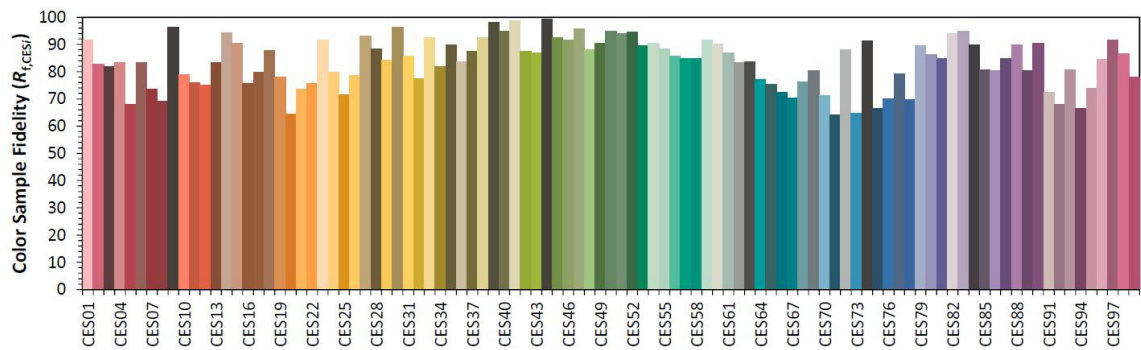
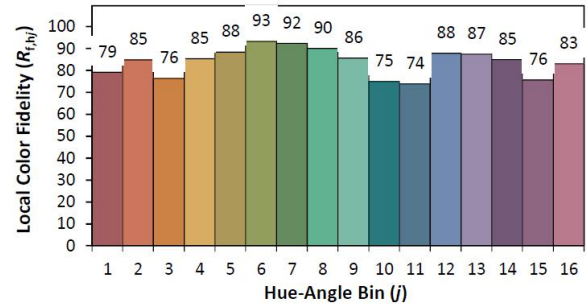
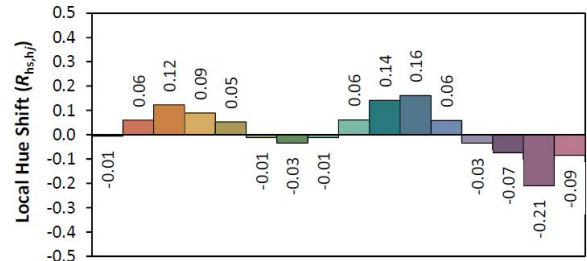
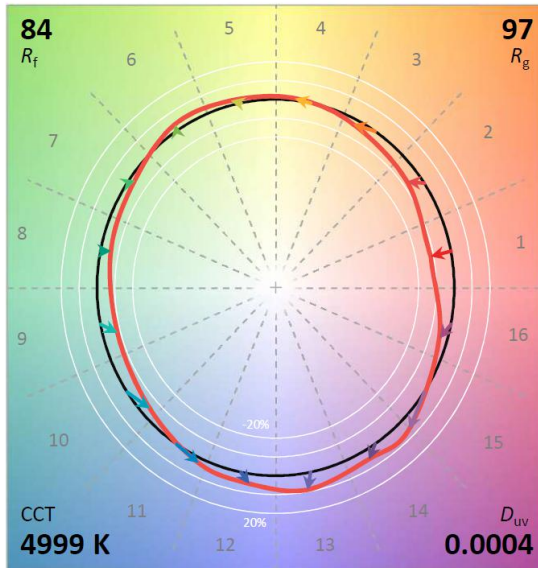
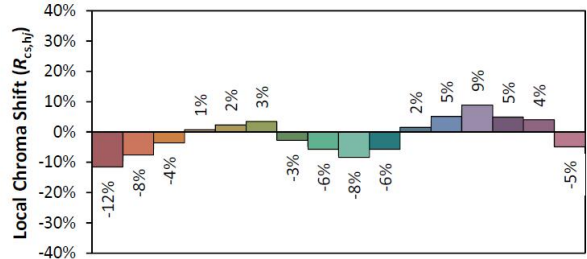
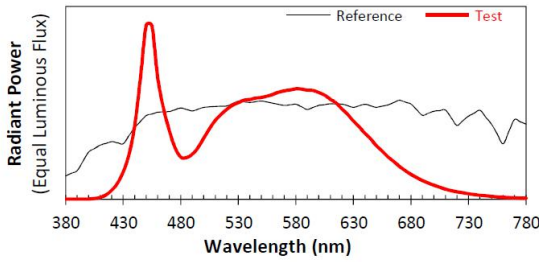




ANSI/IES TM-30-18 Color Rendition Report

Source: BL230227015-9
Date: 2023-04-11

Manufacturer: RAB LIGHTING, INC
Model: HID-100-EX39-8CCT-BYP/5SP/480V, 5000K at 480V



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.3452
 y 0.3524
 u' 0.2112
 v' 0.4851

CIE 13.3-1995 (CRI)	
R_a	84
R_g	15

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.



3.2 Goniophotometer System (Total operating time for luminous intensity distribution: 1.0 hour)

3.2.1 Model Number: HID-100-EX39-8CCT-BYP/5SP/480V, 3000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.08	60	0.3500	95.57	0.9860

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
13736.22	143.73	30.41	59.32



Zonal Flux Diagram

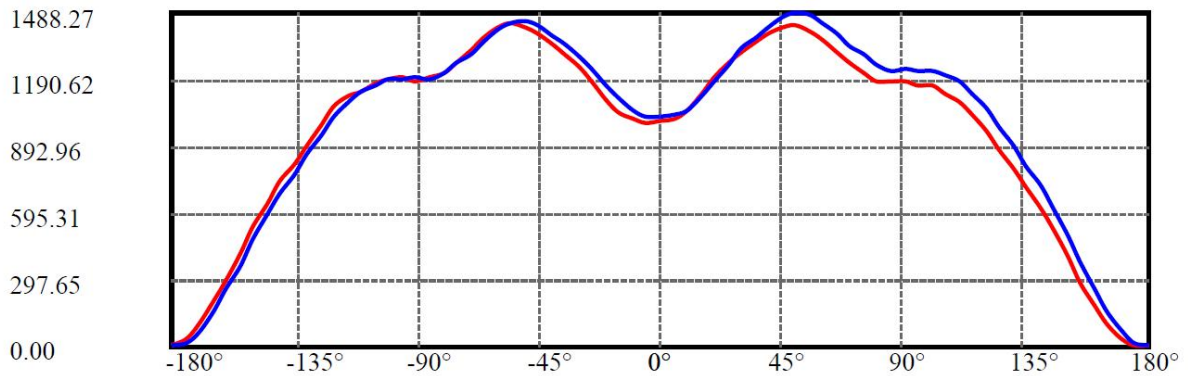
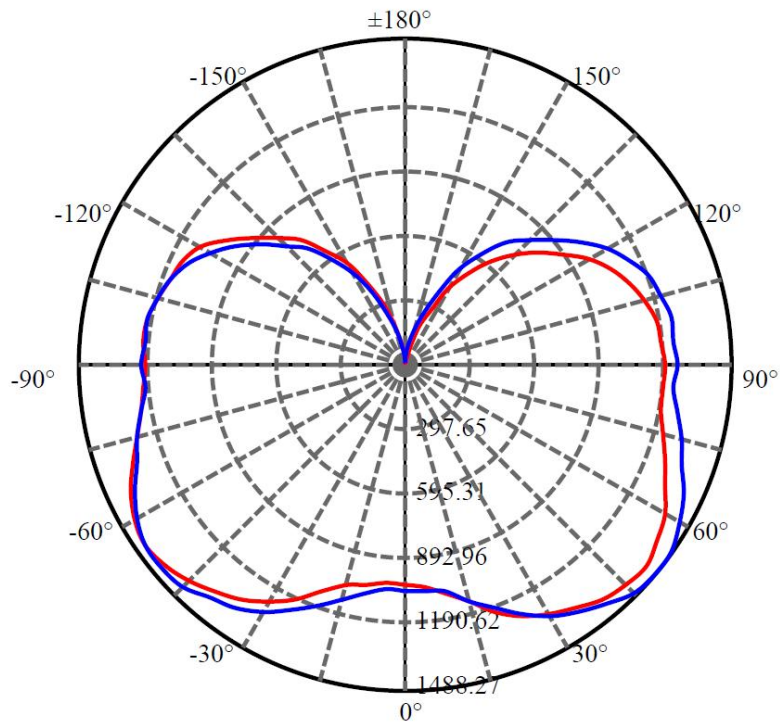
Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1012.123	0.000	0	0.00%	0.00%
5.0	1014.161	24.224	24.224	0.00%	0.18%
10.0	1038.917	73.445	97.669	0.00%	0.71%
15.0	1089.474	126.255	223.923	0.00%	1.63%
20.0	1152.416	184.763	408.687	0.00%	2.98%
25.0	1224.249	249.268	657.955	0.00%	4.79%
30.0	1284.359	317.466	975.421	0.00%	7.10%
35.0	1332.879	385.407	1360.828	0.00%	9.91%
40.0	1375.656	451.899	1812.727	0.00%	13.20%
45.0	1415.761	516.853	2329.58	0.00%	16.96%
50.0	1434.642	575.965	2905.545	0.00%	21.15%
55.0	1423.752	621.510	3527.056	0.00%	25.68%
60.0	1391.626	650.767	4177.822	0.00%	30.41%
65.0	1348.518	666.134	4843.957	0.00%	35.26%
70.0	1300.489	670.746	5514.702	0.00%	40.15%
75.0	1254.139	667.739	6182.441	0.00%	45.01%
80.0	1212.089	659.894	6842.335	0.00%	49.81%
85.0	1192.997	653.520	7495.854	0.00%	54.57%
90.0	1191.038	652.767	8148.622	0.00%	59.32%
95.0	1186.791	651.068	8799.69	0.00%	64.06%
100.0	1185.031	644.481	9444.171	0.00%	68.75%
105.0	1159.256	627.266	10071.437	0.00%	73.32%
110.0	1122.248	596.349	10667.786	0.00%	77.66%
115.0	1074.364	556.196	11223.982	0.00%	81.71%
120.0	1011.620	507.107	11731.089	0.00%	85.40%
125.0	930.380	448.888	12179.976	0.00%	88.67%
130.0	844.018	385.813	12565.79	0.00%	91.48%
135.0	760.277	324.171	12889.961	0.00%	93.84%
140.0	675.450	265.836	13155.797	0.00%	95.77%
145.0	578.583	209.226	13365.023	0.00%	97.30%
150.0	471.276	154.599	13519.622	0.00%	98.42%
155.0	355.700	104.655	13624.277	0.00%	99.19%
160.0	243.537	62.849	13687.126	0.00%	99.64%
165.0	148.695	32.325	13719.451	0.00%	99.88%
170.0	70.259	12.988	13732.439	0.00%	99.97%
175.0	24.174	3.378	13735.818	0.00%	100.00%
180.0	9.844	0.407	13736.224	0.00%	100.00%



Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]



C0/C180: ———

C90/C270: ———

Field angle(10%Imax):C0/180Left:168.1 Right:162.5

:C90/270Left:165.3 Right:165.4

Beam Angle(50%Imax):C0/180Left:140.8 Right:134.3

:C90/270Left:136.6 Right:138.8

**Luminous Intensity Distribution Data**

<i>C/γ</i> (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1007.07	1018.71	1058.30	1123.29	1197.18	1267.04	1317.00	1357.23	1394.48
22.5	1008.97	1015.75	1050.89	1115.25	1179.61	1252.43	1293.93	1331.19	1381.36
45.0	999.24	1014.48	1049.20	1108.47	1184.48	1258.57	1310.02	1350.66	1390.46
67.5	1007.28	1006.43	1046.66	1109.96	1172.41	1239.73	1290.33	1332.24	1368.87
90.0	1029.93	1035.23	1051.95	1118.21	1182.78	1255.18	1327.16	1376.49	1424.97
112.5	1019.56	1020.19	1044.96	1097.47	1161.82	1237.19	1310.23	1362.73	1401.68
135.0	1016.17	1013.21	1031.42	1072.06	1134.30	1211.79	1279.95	1336.27	1387.08
157.5	1008.76	1006.86	1016.17	1059.57	1113.13	1195.48	1255.18	1309.17	1348.33
180.0	1007.07	1000.29	1018.08	1043.06	1100.22	1181.94	1250.53	1304.93	1350.87
202.5	1008.97	1002.62	1012.57	1042.85	1100.85	1158.86	1231.05	1283.76	1332.03
225.0	999.24	993.52	1010.67	1048.35	1102.97	1170.29	1254.13	1313.19	1356.80
247.5	1007.28	997.33	1010.03	1046.66	1103.39	1173.26	1231.90	1289.90	1334.36
270.0	1029.93	1029.30	1054.28	1113.34	1165.85	1238.25	1298.37	1351.09	1387.71
292.5	1019.56	1026.55	1044.96	1105.09	1170.72	1232.32	1291.39	1333.09	1377.13
315.0	1016.17	1021.68	1063.17	1117.15	1188.71	1263.65	1315.73	1352.78	1394.27
337.5	1008.76	1024.43	1059.36	1110.80	1180.24	1252.01	1292.87	1341.35	1380.09
360.0	1007.07	1018.71	1058.30	1123.29	1197.18	1267.04	1317.00	1357.23	1394.48
<i>C/γ</i> (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1419.89	1434.50	1401.47	1364.00	1309.17	1264.92	1217.92	1179.82	1182.78
22.5	1417.56	1416.71	1390.46	1354.90	1319.97	1269.16	1218.35	1180.67	1183.63
45.0	1412.69	1425.61	1396.18	1356.17	1298.58	1256.45	1215.81	1177.07	1181.30
67.5	1410.57	1413.54	1391.10	1352.78	1317.43	1267.25	1222.58	1184.69	1180.24
90.0	1469.22	1488.27	1483.61	1442.96	1398.30	1343.46	1300.70	1257.30	1225.12
112.5	1463.50	1474.51	1458.42	1419.68	1384.75	1336.69	1293.29	1255.82	1212.63
135.0	1428.15	1447.62	1453.76	1427.93	1382.42	1331.19	1285.46	1243.75	1210.09
157.5	1405.07	1438.73	1432.59	1407.40	1364.00	1323.14	1273.39	1231.05	1205.22
180.0	1393.64	1424.55	1442.96	1422.22	1377.55	1319.54	1268.52	1223.85	1199.72
202.5	1375.22	1419.25	1414.17	1387.71	1358.28	1317.21	1265.77	1220.04	1201.41
225.0	1392.37	1408.03	1427.72	1404.22	1363.36	1311.71	1264.92	1218.77	1180.03
247.5	1376.91	1413.96	1404.65	1379.45	1341.98	1304.51	1253.91	1207.97	1184.69
270.0	1428.99	1447.41	1443.60	1411.63	1355.74	1305.36	1263.86	1218.35	1190.62
292.5	1421.79	1444.87	1420.52	1385.17	1345.37	1299.64	1256.88	1216.23	1188.29
315.0	1418.20	1435.34	1429.20	1384.32	1338.60	1286.73	1239.94	1198.24	1184.90
337.5	1418.41	1421.37	1389.62	1365.48	1320.81	1270.85	1224.91	1179.82	1177.28
360.0	1419.89	1434.50	1401.47	1364.00	1309.17	1264.92	1217.92	1179.82	1182.78
<i>C/γ</i> (°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1182.57	1168.39	1161.19	1129.65	1089.84	1033.53	958.59	878.35	792.61
22.5	1183.21	1163.09	1153.36	1115.46	1068.04	1011.09	938.27	847.66	770.60
45.0	1178.12	1166.06	1156.95	1123.93	1086.46	1029.51	953.30	871.58	791.77
67.5	1184.90	1164.58	1157.17	1120.97	1076.72	1022.74	955.41	869.04	783.93
90.0	1240.58	1231.90	1232.53	1209.67	1179.40	1128.80	1058.94	975.31	892.11
112.5	1219.20	1214.75	1215.38	1192.31	1146.37	1099.58	1044.75	960.07	870.73
135.0	1208.82	1214.33	1217.29	1196.12	1170.08	1130.07	1066.35	983.78	905.24
157.5	1191.04	1201.20	1199.72	1184.05	1140.23	1090.27	1040.94	968.33	878.35
180.0	1187.23	1201.20	1196.97	1170.50	1140.02	1114.40	1074.60	988.02	898.04
202.5	1170.08	1180.03	1184.69	1168.17	1136.84	1103.61	1055.34	977.85	872.43
225.0	1160.55	1182.57	1192.31	1180.88	1156.74	1116.10	1045.39	961.34	893.39
247.5	1174.31	1184.26	1187.23	1171.99	1138.54	1091.12	1044.54	976.37	884.07
270.0	1202.26	1189.77	1193.58	1169.02	1135.15	1090.69	1022.74	943.98	856.55
292.5	1198.66	1183.84	1180.88	1148.27	1104.66	1053.22	994.58	915.40	821.41
315.0	1195.06	1179.82	1176.01	1146.58	1111.86	1055.97	980.39	902.70	816.96
337.5	1180.03	1162.88	1155.26	1120.54	1075.03	1019.14	951.81	866.29	776.10
360.0	1182.57	1168.39	1161.19	1129.65	1089.84	1033.53	958.59	878.35	792.61



<i>C/γ(°)</i>	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	710.69	621.98	524.39	403.93	285.59	187.36	100.14	35.78	10.59
22.5	684.65	591.07	493.27	393.98	272.04	176.77	93.15	36.84	9.32
45.0	717.46	627.28	523.96	407.53	291.30	190.32	101.19	36.84	10.59
67.5	705.82	614.15	521.21	420.23	297.44	200.27	107.12	43.19	13.13
90.0	807.01	724.45	622.41	499.41	381.28	254.89	154.97	72.61	20.96
112.5	784.99	696.71	597.42	497.29	381.70	261.66	163.22	83.62	19.90
135.0	822.25	741.38	644.85	532.43	407.53	286.01	182.28	95.48	33.24
157.5	788.59	714.71	610.55	509.15	401.81	276.91	184.39	96.33	38.11
180.0	812.09	738.21	638.92	535.82	415.57	299.98	205.14	106.28	41.49
202.5	796.21	720.21	622.62	510.42	418.96	291.09	195.83	103.73	42.98
225.0	808.92	720.42	622.19	523.33	402.45	292.57	195.19	103.95	40.65
247.5	794.31	713.01	618.60	518.46	412.82	287.07	192.65	99.50	39.80
270.0	769.96	687.19	594.04	483.11	363.71	256.80	154.33	68.38	22.65
292.5	733.13	646.96	559.53	455.16	342.96	230.97	131.04	53.35	16.72
315.0	733.55	644.63	551.70	438.01	324.75	211.49	117.92	47.63	12.70
337.5	694.81	604.83	511.69	412.19	291.30	192.44	100.56	40.65	13.97
360.0	710.69	621.98	524.39	403.93	285.59	187.36	100.14	35.78	10.59
<i>C/γ(°)</i>	180.0								
0.0	11.22								
22.5	13.76								
45.0	12.49								
67.5	13.34								
90.0	5.72								
112.5	5.29								
135.0	6.14								
157.5	10.80								
180.0	11.22								
202.5	13.76								
225.0	12.49								
247.5	13.34								
270.0	5.72								
292.5	5.29								
315.0	6.14								
337.5	10.80								
360.0	11.22								

**3.2.2 Model Number: HID-100-EX39-8CCT-BYP/5SP/480V, 3000K at 480V****Electrical data**

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
480.02	60	0.2160	95.81	0.9225

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
13718.18	143.18	30.50	58.63



Zonal Flux Diagram

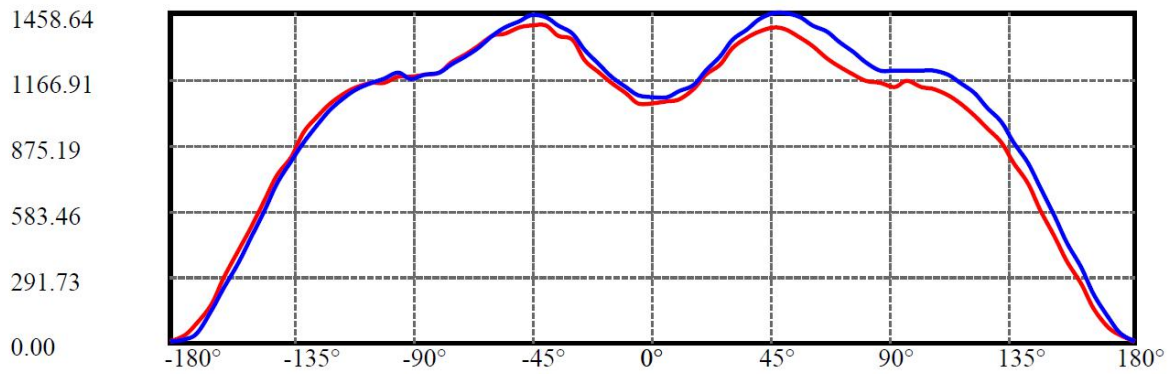
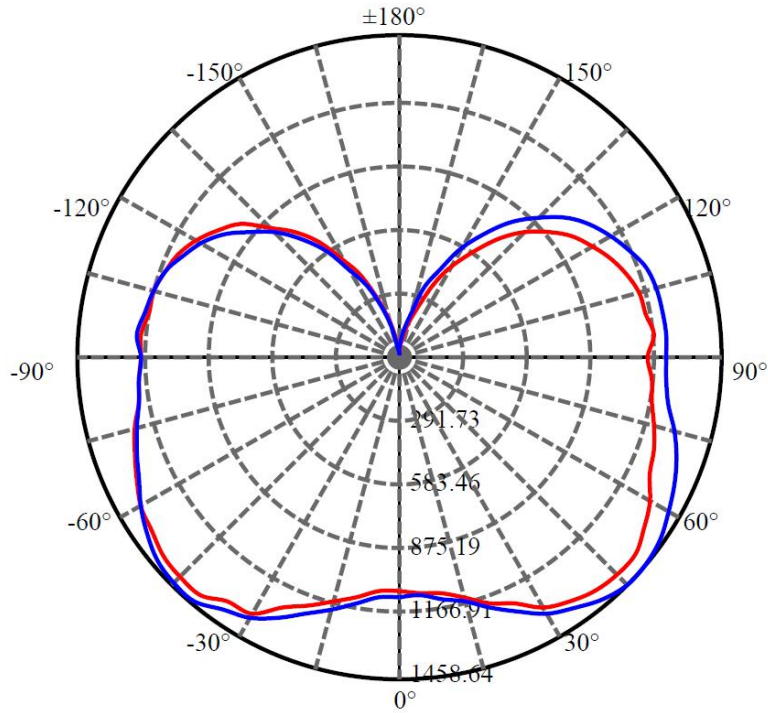
Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1062.849	0.000	0	0.00%	0.00%
5.0	1067.081	25.463	25.463	0.00%	0.19%
10.0	1089.159	77.135	102.598	0.00%	0.75%
15.0	1134.217	131.889	234.487	0.00%	1.71%
20.0	1190.953	191.627	426.114	0.00%	3.11%
25.0	1246.180	255.610	681.724	0.00%	4.97%
30.0	1317.777	324.471	1006.195	0.00%	7.33%
35.0	1361.998	394.616	1400.811	0.00%	10.21%
40.0	1397.346	460.376	1861.186	0.00%	13.57%
45.0	1412.502	520.266	2381.452	0.00%	17.36%
50.0	1401.430	568.596	2950.048	0.00%	21.50%
55.0	1378.663	604.485	3554.533	0.00%	25.91%
60.0	1343.742	629.276	4183.809	0.00%	30.50%
65.0	1298.586	642.355	4826.164	0.00%	35.18%
70.0	1261.270	648.172	5474.337	0.00%	39.91%
75.0	1224.381	649.709	6124.046	0.00%	44.64%
80.0	1185.819	644.902	6768.948	0.00%	49.34%
85.0	1166.562	639.198	7408.147	0.00%	54.00%
90.0	1152.013	634.844	8042.991	0.00%	58.63%
95.0	1165.873	634.656	8677.647	0.00%	63.26%
100.0	1150.390	629.384	9307.031	0.00%	67.84%
105.0	1143.238	613.711	9920.742	0.00%	72.32%
110.0	1118.159	591.093	10511.834	0.00%	76.63%
115.0	1081.483	556.963	11068.798	0.00%	80.69%
120.0	1033.423	514.138	11582.935	0.00%	84.43%
125.0	973.669	463.934	12046.869	0.00%	87.82%
130.0	905.106	408.508	12455.377	0.00%	90.79%
135.0	820.174	348.618	12803.995	0.00%	93.34%
140.0	727.320	286.531	13090.527	0.00%	95.42%
145.0	620.244	224.831	13315.357	0.00%	97.06%
150.0	497.029	164.526	13479.884	0.00%	98.26%
155.0	387.033	111.879	13591.762	0.00%	99.08%
160.0	278.449	69.797	13661.559	0.00%	99.59%
165.0	169.717	36.935	13698.494	0.00%	99.86%
170.0	83.653	15.030	13713.524	0.00%	99.97%
175.0	32.903	4.170	13717.694	0.00%	100.00%
180.0	7.939	0.488	13718.182	0.00%	100.00%



Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]



C0/C180: —

C90/C270: —

Field angle(10%Imax):C0/180Left:167.1 Right:166.1

:C90/270Left:165.1 Right:168.6

Beam Angle(50%Imax):C0/180Left:141.8 Right:140.1

:C90/270Left:138.7 Right:143.2

**Luminous Intensity Distribution Data**

$C/\gamma(^{\circ})$	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1058.68	1070.76	1080.47	1125.87	1189.90	1227.69	1308.00	1347.11	1378.86
22.5	1058.42	1056.85	1069.71	1117.21	1166.55	1219.82	1283.07	1333.72	1367.84
45.0	1037.69	1058.42	1076.53	1115.11	1162.08	1213.26	1308.79	1343.96	1401.17
67.5	1053.70	1050.02	1071.28	1116.16	1167.60	1226.38	1288.84	1335.82	1377.81
90.0	1087.81	1082.83	1110.65	1140.83	1202.24	1266.54	1342.38	1389.36	1435.55
112.5	1077.84	1079.15	1084.40	1133.48	1195.94	1253.15	1315.09	1373.87	1406.94
135.0	1069.18	1070.23	1085.98	1121.67	1181.51	1257.88	1318.50	1374.14	1407.20
157.5	1059.47	1062.62	1074.95	1116.95	1185.70	1241.34	1312.20	1356.03	1393.56
180.0	1058.68	1059.21	1107.50	1147.13	1196.99	1251.31	1344.74	1355.24	1403.00
202.5	1058.42	1051.07	1075.74	1123.24	1178.88	1254.20	1317.19	1358.91	1387.26
225.0	1037.69	1058.95	1071.54	1119.83	1184.92	1243.70	1306.16	1369.94	1399.86
247.5	1053.70	1058.42	1073.91	1120.36	1193.84	1209.85	1343.69	1341.33	1368.36
270.0	1087.81	1094.90	1133.48	1179.67	1236.09	1297.24	1364.16	1400.64	1443.16
292.5	1077.84	1077.05	1115.90	1164.97	1218.25	1269.69	1328.73	1386.47	1411.67
315.0	1069.18	1074.69	1100.94	1159.46	1196.20	1256.83	1311.41	1371.51	1404.32
337.5	1059.47	1068.13	1093.59	1145.55	1198.56	1250.00	1291.47	1353.93	1370.99
360.0	1058.68	1070.76	1080.47	1125.87	1189.90	1227.69	1308.00	1347.11	1378.86
$C/\gamma(^{\circ})$	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1391.20	1389.10	1353.40	1312.20	1254.99	1222.18	1188.85	1158.41	1147.65
22.5	1386.21	1380.17	1356.55	1317.45	1272.83	1233.73	1192.00	1161.82	1151.59
45.0	1411.93	1370.46	1380.70	1340.28	1250.53	1214.57	1227.43	1188.59	1151.06
67.5	1390.67	1386.73	1360.75	1334.51	1295.14	1256.04	1219.30	1179.14	1161.82
90.0	1458.12	1458.64	1436.07	1408.78	1372.82	1330.57	1287.01	1240.03	1207.75
112.5	1435.02	1430.04	1415.34	1389.36	1355.77	1313.78	1270.74	1216.67	1186.23
135.0	1426.89	1421.11	1400.12	1373.35	1339.76	1301.18	1260.24	1209.85	1179.67
157.5	1410.62	1404.58	1385.42	1351.04	1313.51	1271.26	1223.76	1175.99	1155.00
180.0	1406.42	1397.23	1368.10	1356.55	1316.66	1277.82	1237.93	1199.61	1182.56
202.5	1404.32	1384.63	1363.90	1332.67	1304.33	1275.72	1228.22	1177.04	1156.31
225.0	1411.40	1399.33	1376.50	1340.81	1305.90	1266.54	1229.01	1187.28	1166.28
247.5	1377.02	1372.04	1363.38	1325.06	1264.70	1238.98	1188.33	1156.57	1143.98
270.0	1447.88	1426.89	1397.76	1354.98	1300.65	1264.17	1229.27	1198.56	1184.13
292.5	1428.20	1408.78	1376.50	1332.15	1289.37	1252.10	1215.89	1187.80	1176.26
315.0	1410.35	1398.02	1364.69	1316.14	1265.22	1225.07	1190.95	1169.70	1155.52
337.5	1403.79	1395.13	1359.44	1314.56	1275.20	1236.62	1201.19	1166.02	1159.20
360.0	1391.20	1389.10	1353.40	1312.20	1254.99	1222.18	1188.85	1158.41	1147.65
$C/\gamma(^{\circ})$	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1128.23	1156.05	1134.00	1122.72	1099.62	1057.11	1008.30	951.35	885.21
22.5	1128.23	1153.95	1134.53	1121.67	1098.84	1055.80	1008.82	951.35	887.57
45.0	1130.85	1156.05	1135.05	1124.56	1103.04	1063.67	1016.96	960.53	893.87
67.5	1139.25	1162.35	1143.45	1133.74	1110.65	1067.61	1018.79	961.84	897.28
90.0	1205.39	1208.01	1207.75	1206.44	1183.08	1148.70	1104.09	1046.09	978.11
112.5	1182.03	1180.19	1173.37	1170.22	1141.35	1112.75	1071.81	1016.17	947.67
135.0	1176.78	1178.09	1164.97	1157.62	1144.76	1119.04	1065.24	995.96	940.59
157.5	1145.29	1140.56	1135.58	1135.58	1095.95	1071.28	1021.42	958.17	895.45
180.0	1174.68	1173.63	1154.74	1152.64	1128.49	1103.30	1061.05	1003.31	933.24
202.5	1140.83	1134.79	1118.78	1136.10	1109.07	1076.27	1033.49	973.39	889.41
225.0	1147.13	1160.77	1157.36	1155.52	1129.80	1094.90	1043.72	978.64	913.03
247.5	1134.79	1143.98	1128.23	1125.87	1097.26	1064.98	1019.32	966.30	895.18
270.0	1166.81	1192.00	1171.80	1154.47	1127.71	1085.45	1031.91	967.35	887.57
292.5	1158.94	1184.13	1161.56	1142.14	1117.21	1069.44	1018.53	954.76	881.54
315.0	1136.89	1165.76	1141.88	1126.92	1098.84	1052.91	1001.47	942.95	872.61
337.5	1136.10	1163.66	1143.19	1125.61	1104.87	1060.52	1009.87	950.56	883.37
360.0	1128.23	1156.05	1134.00	1122.72	1099.62	1057.11	1008.30	951.35	885.21



C/ γ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	801.23	706.49	591.80	470.03	366.63	261.92	158.25	75.58	34.91
22.5	803.33	708.33	601.78	488.40	376.34	271.10	165.08	79.78	31.23
45.0	809.10	718.04	603.35	491.29	380.28	275.56	167.96	83.19	28.08
67.5	810.15	719.87	612.01	492.08	385.79	277.40	167.17	79.26	24.93
90.0	890.98	795.46	692.05	565.03	443.26	331.46	214.94	119.67	43.04
112.5	869.99	777.61	674.47	546.14	421.74	318.08	200.77	109.44	49.08
135.0	866.05	755.57	663.19	540.10	423.05	308.11	194.99	102.88	42.25
157.5	808.84	721.71	620.93	486.04	384.74	281.34	164.81	86.08	38.84
180.0	823.01	740.61	637.47	504.94	408.62	287.11	175.84	90.54	34.38
202.5	810.68	733.00	626.18	493.13	386.05	279.24	167.70	86.61	34.38
225.0	830.89	738.77	624.08	503.10	399.96	290.52	174.52	88.97	34.12
247.5	815.40	724.60	623.56	501.26	383.95	276.09	166.91	88.97	38.32
270.0	802.54	704.39	590.75	464.78	354.29	245.64	147.23	47.50	22.57
292.5	792.04	699.93	587.87	466.36	357.44	244.86	143.29	66.14	15.48
315.0	788.37	686.28	579.21	459.80	351.15	245.64	147.23	64.30	23.36
337.5	800.18	706.49	595.21	480.00	369.25	261.13	158.78	69.55	31.49
360.0	801.23	706.49	591.80	470.03	366.63	261.92	158.25	75.58	34.91
C/ γ (°)	180.0								
0.0	7.35								
22.5	7.35								
45.0	6.56								
67.5	6.56								
90.0	8.66								
112.5	7.87								
135.0	9.19								
157.5	9.97								
180.0	7.35								
202.5	7.35								
225.0	6.56								
247.5	6.56								
270.0	8.66								
292.5	7.87								
315.0	9.19								
337.5	9.97								
360.0	7.35								

**3.2.3 Model Number: HID-100-EX39-8CCT-BYP/5SP/480V, 4000K at 277V****Electrical data**

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.06	60	0.3440	93.95	0.9860

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
14716.42	156.64	30.17	58.60



Zonal Flux Diagram

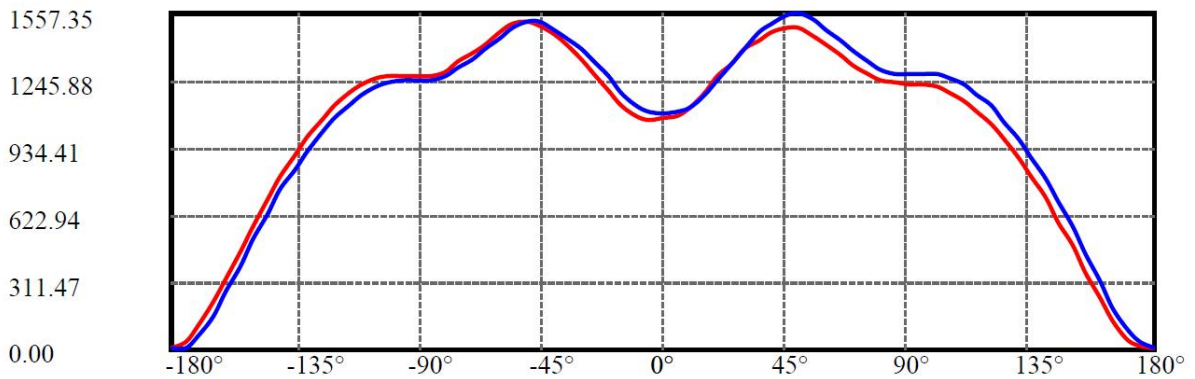
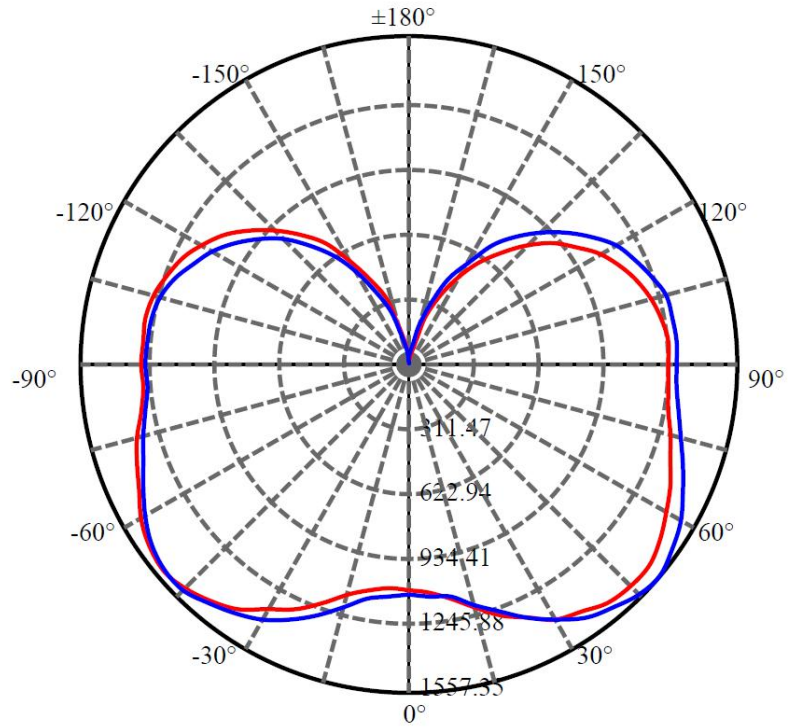
Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1076.085	0.000	0	0.00%	0.00%
5.0	1081.774	25.797	25.797	0.00%	0.18%
10.0	1107.473	78.316	104.113	0.00%	0.71%
15.0	1162.108	134.630	238.743	0.00%	1.62%
20.0	1233.530	197.434	436.177	0.00%	2.96%
25.0	1304.699	266.213	702.391	0.00%	4.77%
30.0	1371.991	338.737	1041.128	0.00%	7.07%
35.0	1430.264	412.652	1453.779	0.00%	9.88%
40.0	1474.068	484.566	1938.345	0.00%	13.17%
45.0	1507.667	552.092	2490.438	0.00%	16.92%
50.0	1517.126	611.204	3101.642	0.00%	21.08%
55.0	1497.263	655.429	3757.07	0.00%	25.53%
60.0	1456.842	682.833	4439.903	0.00%	30.17%
65.0	1407.269	696.271	5136.174	0.00%	34.90%
70.0	1361.360	701.035	5837.208	0.00%	39.66%
75.0	1322.631	701.552	6538.76	0.00%	44.43%
80.0	1285.182	697.778	7236.539	0.00%	49.17%
85.0	1266.650	693.394	7929.932	0.00%	53.88%
90.0	1265.598	693.349	8623.282	0.00%	58.60%
95.0	1266.504	693.309	9316.591	0.00%	63.31%
100.0	1259.656	686.418	10003.009	0.00%	67.97%
105.0	1241.311	669.189	10672.198	0.00%	72.52%
110.0	1208.271	640.281	11312.479	0.00%	76.87%
115.0	1162.441	600.280	11912.759	0.00%	80.95%
120.0	1104.995	551.218	12463.977	0.00%	84.69%
125.0	1033.213	494.241	12958.217	0.00%	88.05%
130.0	949.894	431.194	13389.411	0.00%	90.98%
135.0	860.620	365.841	13755.252	0.00%	93.47%
140.0	763.766	300.768	14056.02	0.00%	95.51%
145.0	651.124	236.064	14292.084	0.00%	97.12%
150.0	530.968	174.071	14466.155	0.00%	98.30%
155.0	410.107	119.094	14585.249	0.00%	99.11%
160.0	287.473	73.163	14658.412	0.00%	99.61%
165.0	175.750	38.176	14696.588	0.00%	99.87%
170.0	84.118	15.415	14712.003	0.00%	99.97%
175.0	27.618	3.997	14716.001	0.00%	100.00%
180.0	7.541	0.420	14716.421	0.00%	100.00%



Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]



C0/C180: —

C90/C270: —

Field angle(10%Imax):C0/180Left:168.2 Right:164.2

:C90/270Left:165.2 Right:167.2

Beam Angle(50%Imax):C0/180Left:142.1 Right:137.1

:C90/270Left:138.0 Right:140.7

**Luminous Intensity Distribution Data**

<i>C/γ</i> (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1072.41	1081.15	1124.63	1186.88	1263.61	1327.35	1392.36	1432.22	1472.30
22.5	1073.90	1078.38	1118.02	1181.76	1253.59	1321.81	1385.54	1437.55	1475.28
45.0	1066.01	1074.11	1112.27	1179.63	1246.13	1319.03	1378.93	1424.98	1461.64
67.5	1063.24	1072.62	1103.96	1163.64	1231.00	1303.05	1366.36	1418.58	1464.20
90.0	1093.72	1102.25	1121.22	1176.64	1250.61	1326.07	1393.00	1466.54	1508.53
112.5	1084.56	1088.61	1105.24	1154.05	1228.65	1300.06	1367.85	1438.19	1488.28
135.0	1079.66	1082.64	1100.76	1147.44	1221.41	1292.60	1365.50	1432.22	1482.10
157.5	1075.18	1074.75	1089.89	1135.08	1201.80	1272.99	1348.02	1414.96	1467.39
180.0	1072.41	1068.36	1088.18	1127.40	1202.44	1275.76	1343.12	1412.19	1458.87
202.5	1073.90	1069.21	1083.49	1124.63	1192.20	1265.53	1338.22	1407.71	1457.38
225.0	1066.01	1069.85	1081.36	1125.27	1200.94	1270.22	1339.07	1403.45	1448.00
247.5	1063.24	1069.21	1082.43	1130.81	1199.24	1273.84	1346.53	1407.92	1463.13
270.0	1093.72	1104.17	1131.24	1193.27	1265.11	1334.38	1396.20	1443.52	1477.63
292.5	1084.56	1095.22	1127.83	1190.71	1254.87	1329.91	1394.07	1446.08	1486.79
315.0	1079.66	1091.38	1124.42	1189.01	1263.40	1334.17	1401.53	1448.42	1482.32
337.5	1075.18	1086.48	1124.63	1187.51	1261.48	1328.41	1395.56	1449.70	1491.27
360.0	1072.41	1081.15	1124.63	1186.88	1263.61	1327.35	1392.36	1432.22	1472.30
<i>C/γ</i> (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1493.61	1485.09	1455.46	1410.48	1364.86	1320.10	1279.60	1247.63	1238.03
22.5	1502.99	1505.34	1480.61	1434.99	1386.61	1342.06	1309.02	1278.32	1267.88
45.0	1493.40	1492.76	1461.00	1414.32	1364.86	1322.02	1283.44	1252.10	1241.23
67.5	1493.61	1500.86	1477.84	1437.13	1390.66	1345.04	1311.79	1277.26	1266.60
90.0	1547.12	1557.35	1529.85	1484.45	1432.86	1385.75	1338.86	1295.37	1272.78
112.5	1526.44	1542.85	1533.47	1496.81	1447.57	1400.25	1361.67	1323.94	1303.26
135.0	1520.90	1538.38	1520.04	1482.10	1432.86	1386.18	1347.81	1303.69	1278.11
157.5	1506.19	1523.03	1517.70	1489.14	1440.11	1395.13	1355.27	1318.18	1293.67
180.0	1497.66	1520.47	1506.62	1468.25	1416.24	1372.11	1333.53	1289.19	1264.68
202.5	1497.02	1519.83	1512.80	1481.89	1432.22	1386.82	1346.53	1310.72	1283.44
225.0	1488.28	1509.17	1495.96	1459.93	1408.99	1362.73	1322.02	1279.60	1253.81
247.5	1497.88	1514.50	1508.32	1476.13	1425.61	1372.75	1332.25	1290.26	1261.48
270.0	1514.72	1518.55	1491.91	1444.80	1392.15	1344.83	1303.47	1265.53	1248.69
292.5	1516.63	1522.82	1498.30	1453.11	1400.67	1355.27	1320.74	1281.73	1270.65
315.0	1516.21	1510.03	1477.63	1430.30	1383.62	1339.28	1300.70	1268.30	1254.23
337.5	1510.03	1513.01	1488.71	1445.65	1396.41	1351.43	1315.41	1281.09	1267.88
360.0	1493.61	1485.09	1455.46	1410.48	1364.86	1320.10	1279.60	1247.63	1238.03
<i>C/γ</i> (°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1233.13	1231.00	1217.36	1191.56	1154.26	1105.24	1046.40	973.50	888.24
22.5	1264.68	1264.04	1251.46	1222.90	1189.01	1138.27	1073.05	996.95	911.05
45.0	1237.82	1237.61	1224.39	1199.24	1161.94	1112.91	1053.86	980.75	895.06
67.5	1266.38	1264.25	1252.32	1228.65	1196.68	1142.33	1077.31	1003.56	918.51
90.0	1273.63	1275.98	1273.42	1259.56	1228.23	1184.74	1129.54	1057.06	976.70
112.5	1304.33	1305.18	1305.18	1294.09	1262.76	1222.69	1167.69	1093.72	1012.51
135.0	1280.03	1284.72	1284.29	1273.21	1241.44	1197.75	1145.31	1075.61	993.97
157.5	1297.72	1298.36	1297.08	1286.85	1257.22	1218.00	1163.64	1093.30	1015.92
180.0	1264.89	1269.37	1269.37	1256.79	1229.72	1186.45	1131.88	1065.59	984.16
202.5	1283.01	1287.27	1287.70	1278.32	1248.05	1207.34	1154.05	1084.56	1004.20
225.0	1253.17	1257.01	1255.09	1244.00	1215.65	1175.36	1124.85	1059.19	979.68
247.5	1261.48	1265.11	1257.86	1246.56	1213.95	1171.53	1116.53	1043.85	961.14
270.0	1250.82	1246.13	1236.33	1218.85	1177.50	1132.73	1078.38	1006.33	921.06
292.5	1266.60	1267.88	1257.43	1230.15	1197.53	1149.36	1083.71	1010.59	923.62
315.0	1248.27	1246.99	1233.34	1208.19	1170.04	1116.32	1061.11	986.93	898.68
337.5	1263.61	1263.19	1251.89	1222.05	1188.37	1138.06	1072.62	999.93	913.82
360.0	1233.13	1231.00	1217.36	1191.56	1154.26	1105.24	1046.40	973.50	888.24



C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	800.42	705.56	594.08	483.45	361.31	245.56	134.29	49.24	18.55
22.5	818.11	714.30	598.34	484.09	358.32	239.17	137.92	53.50	17.05
45.0	813.63	717.07	601.75	493.68	366.21	246.63	136.21	52.86	19.61
67.5	827.49	722.19	613.47	493.04	371.96	254.09	149.64	66.51	23.87
90.0	886.32	793.81	685.52	565.94	447.00	318.25	197.81	99.97	40.93
112.5	923.84	826.63	713.45	584.27	457.23	325.28	206.34	106.79	37.52
135.0	899.75	810.43	701.51	577.88	461.49	335.51	215.51	112.12	42.42
157.5	929.38	829.62	716.86	588.32	465.12	334.87	216.36	116.60	44.34
180.0	895.06	805.75	696.82	574.89	458.72	333.38	217.85	114.89	37.30
202.5	919.15	820.03	703.85	575.75	456.59	328.48	214.87	114.25	36.66
225.0	891.22	802.55	692.77	569.78	452.33	328.91	215.08	113.61	37.73
247.5	871.19	775.90	660.58	534.82	417.79	294.80	187.37	98.27	30.91
270.0	835.37	740.31	627.76	513.72	390.30	270.07	158.59	71.84	10.66
292.5	828.98	726.24	611.13	486.43	368.34	251.74	143.46	62.67	14.50
315.0	812.35	717.28	604.74	492.19	372.39	255.79	144.31	59.26	12.15
337.5	817.68	712.59	595.36	477.27	356.62	237.03	136.42	53.50	17.69
360.0	800.42	705.56	594.08	483.45	361.31	245.56	134.29	49.24	18.55
C/γ(°)	180.0								
0.0	8.31								
22.5	6.82								
45.0	5.54								
67.5	5.97								
90.0	6.18								
112.5	7.67								
135.0	9.81								
157.5	10.02								
180.0	8.31								
202.5	6.82								
225.0	5.54								
247.5	5.97								
270.0	6.18								
292.5	7.67								
315.0	9.81								
337.5	10.02								
360.0	8.31								

**3.2.4 Model Number: HID-100-EX39-8CCT-BYP/5SP/480V, 4000K at 480V****Electrical data**

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
480.04	60	0.2130	94.03	0.9214

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
14719.17	156.54	30.15	58.56



Zonal Flux Diagram

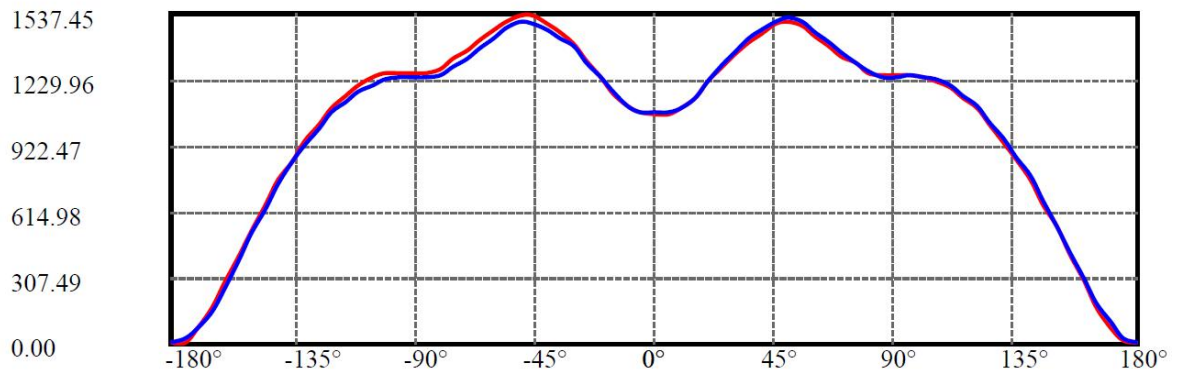
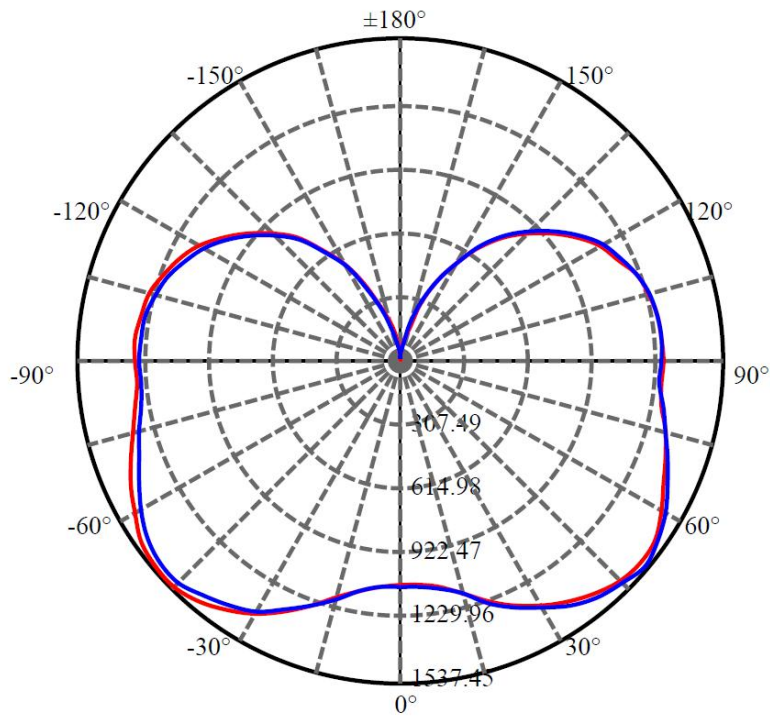
Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1073.408	0.000	0	0.00%	0.00%
5.0	1078.264	25.723	25.723	0.00%	0.17%
10.0	1104.533	78.086	103.808	0.00%	0.71%
15.0	1156.896	134.146	237.955	0.00%	1.62%
20.0	1229.098	196.639	434.594	0.00%	2.95%
25.0	1301.570	265.420	700.014	0.00%	4.76%
30.0	1370.074	338.099	1038.113	0.00%	7.05%
35.0	1427.440	411.954	1450.067	0.00%	9.85%
40.0	1473.952	484.075	1934.142	0.00%	13.14%
45.0	1508.574	552.239	2486.381	0.00%	16.89%
50.0	1518.433	611.651	3098.032	0.00%	21.05%
55.0	1498.701	656.026	3754.058	0.00%	25.50%
60.0	1457.099	683.225	4437.283	0.00%	30.15%
65.0	1406.901	696.244	5133.527	0.00%	34.88%
70.0	1360.712	700.778	5834.304	0.00%	39.64%
75.0	1322.580	701.369	6535.674	0.00%	44.40%
80.0	1283.587	697.338	7233.011	0.00%	49.14%
85.0	1267.190	693.107	7926.118	0.00%	53.85%
90.0	1267.029	693.889	8620.008	0.00%	58.56%
95.0	1267.970	694.103	9314.11	0.00%	63.28%
100.0	1260.586	687.069	10001.18	0.00%	67.95%
105.0	1242.159	669.665	10670.845	0.00%	72.50%
110.0	1209.447	640.810	11311.655	0.00%	76.85%
115.0	1163.137	600.754	11912.409	0.00%	80.93%
120.0	1107.828	552.076	12464.484	0.00%	84.68%
125.0	1033.823	495.037	12959.521	0.00%	88.05%
130.0	952.138	431.814	13391.335	0.00%	90.98%
135.0	862.194	366.612	13757.948	0.00%	93.47%
140.0	764.530	301.201	14059.149	0.00%	95.52%
145.0	652.352	236.396	14295.545	0.00%	97.12%
150.0	531.028	174.261	14469.806	0.00%	98.31%
155.0	409.462	119.020	14588.825	0.00%	99.11%
160.0	286.900	73.036	14661.861	0.00%	99.61%
165.0	173.714	37.961	14699.822	0.00%	99.87%
170.0	83.232	15.242	14715.064	0.00%	99.97%
175.0	22.422	3.780	14718.844	0.00%	100.00%
180.0	5.084	0.329	14719.172	0.00%	100.00%



Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]



C0/C180: —

C90/C270: —

Field angle(10%Imax):C0/180Left:166.0 Right:166.1
:C90/270Left:165.1 Right:167.3

Beam Angle(50%Imax):C0/180Left:140.0 Right:139.9
:C90/270Left:139.5 Right:140.9

**Luminous Intensity Distribution Data**

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1069.80	1073.89	1098.00	1146.85	1221.74	1284.80	1348.93	1404.02	1446.42
22.5	1074.97	1073.68	1099.07	1146.20	1214.42	1283.08	1355.39	1409.19	1460.84
45.0	1074.54	1074.75	1096.71	1150.51	1223.25	1291.04	1355.39	1404.02	1447.07
67.5	1073.46	1078.41	1105.74	1157.18	1229.27	1296.20	1363.35	1418.66	1468.59
90.0	1076.91	1079.70	1100.36	1145.34	1226.69	1296.63	1359.69	1424.25	1465.14
112.5	1072.60	1079.06	1102.73	1158.25	1224.75	1300.72	1368.73	1436.95	1485.16
135.0	1071.31	1078.20	1110.91	1159.76	1233.79	1316.43	1384.01	1447.50	1487.31
157.5	1073.68	1079.92	1110.69	1163.42	1238.74	1315.57	1388.10	1447.93	1501.73
180.0	1069.80	1082.50	1111.12	1168.58	1242.83	1316.86	1390.25	1447.93	1493.77
202.5	1074.97	1080.56	1108.33	1162.34	1233.58	1314.93	1382.72	1449.00	1498.72
225.0	1074.54	1078.84	1106.82	1167.08	1240.03	1316.22	1388.31	1448.79	1493.34
247.5	1073.46	1078.63	1101.65	1152.66	1223.68	1297.28	1365.50	1434.80	1484.08
270.0	1076.91	1082.72	1111.34	1171.38	1238.10	1311.91	1380.35	1421.02	1463.21
292.5	1072.60	1080.56	1104.45	1158.90	1229.27	1302.01	1371.96	1425.76	1468.16
315.0	1071.31	1076.91	1105.74	1156.32	1228.63	1295.56	1363.35	1410.48	1453.95
337.5	1073.68	1073.89	1098.86	1145.56	1216.79	1285.87	1355.17	1408.76	1465.79
360.0	1069.80	1073.89	1098.00	1146.85	1221.74	1284.80	1348.93	1404.02	1446.42
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1486.88	1499.58	1477.84	1434.80	1383.79	1341.18	1304.38	1264.57	1250.15
22.5	1500.65	1515.07	1504.96	1465.57	1414.78	1371.10	1336.88	1301.80	1286.95
45.0	1485.59	1500.22	1478.49	1436.74	1383.58	1339.46	1301.37	1262.63	1248.00
67.5	1498.93	1512.49	1500.01	1458.26	1403.38	1358.40	1320.31	1276.83	1264.57
90.0	1501.51	1517.22	1496.35	1455.89	1400.36	1353.02	1309.98	1268.87	1241.76
112.5	1518.08	1526.91	1510.55	1469.45	1420.16	1369.37	1331.28	1288.03	1267.58
135.0	1520.67	1524.76	1502.37	1459.55	1410.69	1362.49	1322.89	1283.72	1261.77
157.5	1527.34	1537.45	1519.81	1476.76	1430.92	1382.50	1341.61	1301.80	1283.51
180.0	1526.69	1526.69	1501.51	1457.40	1410.48	1362.70	1322.67	1278.56	1261.77
202.5	1526.69	1534.66	1514.43	1470.95	1422.53	1374.11	1334.30	1295.34	1279.63
225.0	1531.43	1536.59	1511.41	1466.65	1414.14	1363.78	1325.26	1282.22	1265.00
247.5	1519.81	1528.41	1512.92	1475.04	1427.70	1379.49	1336.88	1298.79	1277.05
270.0	1493.34	1496.78	1467.94	1421.24	1372.82	1325.90	1286.95	1252.30	1239.17
292.5	1503.88	1517.65	1498.93	1461.48	1409.19	1367.65	1335.37	1300.72	1292.33
315.0	1495.27	1505.60	1479.13	1438.67	1390.03	1345.27	1309.55	1274.47	1262.20
337.5	1500.44	1514.86	1502.59	1465.14	1415.86	1374.97	1341.61	1306.75	1293.62
360.0	1486.88	1499.58	1477.84	1434.80	1383.79	1341.18	1304.38	1264.57	1250.15
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1251.66	1250.79	1242.83	1222.39	1193.55	1146.85	1093.48	1022.24	940.25
22.5	1287.81	1286.30	1278.34	1256.17	1227.98	1179.78	1119.95	1049.36	963.49
45.0	1246.49	1245.41	1236.16	1216.36	1184.08	1138.03	1085.94	1015.79	933.79
67.5	1263.28	1258.54	1248.43	1226.69	1191.61	1143.84	1086.38	1011.27	928.20
90.0	1245.41	1250.79	1243.91	1231.43	1199.79	1154.81	1111.12	1035.37	959.40
112.5	1265.21	1269.30	1264.14	1251.66	1216.36	1171.60	1116.72	1041.61	960.05
135.0	1259.40	1262.20	1256.82	1238.31	1204.96	1160.62	1107.90	1035.37	954.45
157.5	1280.49	1285.01	1277.48	1261.99	1225.83	1179.35	1121.02	1042.69	960.69
180.0	1261.12	1263.28	1257.47	1238.74	1203.45	1157.82	1102.73	1025.69	945.84
202.5	1279.85	1283.29	1276.83	1260.26	1227.12	1183.86	1125.97	1048.50	964.14
225.0	1266.07	1267.37	1260.05	1243.48	1210.55	1159.76	1107.25	1028.05	949.72
247.5	1278.56	1282.65	1280.49	1265.43	1232.93	1190.54	1134.15	1056.68	974.25
270.0	1239.17	1239.39	1229.49	1206.89	1174.40	1128.34	1076.48	1006.53	926.26
292.5	1291.90	1289.96	1281.14	1260.26	1228.84	1178.70	1113.92	1040.11	954.24
315.0	1262.20	1262.42	1254.02	1231.64	1201.08	1155.67	1101.44	1032.14	952.73
337.5	1293.84	1290.82	1281.78	1262.85	1228.63	1180.64	1120.81	1049.79	966.72
360.0	1251.66	1250.79	1242.83	1222.39	1193.55	1146.85	1093.48	1022.24	940.25



C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	856.75	761.62	653.59	540.17	419.44	294.41	173.03	79.84	20.88
22.5	871.60	769.16	660.48	540.61	419.44	297.85	182.28	85.87	14.63
45.0	850.08	752.37	638.74	523.60	405.67	286.23	170.45	80.06	15.28
67.5	833.29	730.20	621.31	499.72	383.07	269.66	159.69	73.82	11.41
90.0	867.94	779.49	668.65	548.35	430.85	308.18	194.33	101.58	33.14
112.5	866.22	768.30	654.02	527.05	404.38	286.44	179.92	86.94	23.89
135.0	861.48	770.66	658.54	538.45	420.95	295.91	181.21	89.53	15.07
157.5	863.85	767.65	650.79	521.45	396.42	276.97	169.59	82.43	19.37
180.0	854.60	763.35	647.99	527.69	406.53	284.08	170.23	80.49	8.61
202.5	869.87	773.68	660.26	526.40	400.29	278.48	168.72	80.27	23.67
225.0	856.53	760.55	640.89	529.20	410.40	288.60	171.95	84.15	29.70
247.5	883.43	784.01	674.25	544.91	422.89	297.20	182.50	90.39	34.22
270.0	847.92	749.36	634.44	518.22	386.95	259.76	153.44	71.67	27.98
292.5	866.65	760.33	652.94	529.84	406.10	275.47	170.02	79.20	27.55
315.0	870.74	772.39	658.11	538.88	417.72	293.12	171.31	78.55	28.19
337.5	874.18	769.37	662.63	541.90	420.30	298.06	180.78	86.94	25.18
360.0	856.75	761.62	653.59	540.17	419.44	294.41	173.03	79.84	20.88
C/γ(°)	180.0								
0.0	5.17								
22.5	4.74								
45.0	4.95								
67.5	5.17								
90.0	5.38								
112.5	5.17								
135.0	5.17								
157.5	4.95								
180.0	5.17								
202.5	4.74								
225.0	4.95								
247.5	5.17								
270.0	5.38								
292.5	5.17								
315.0	5.17								
337.5	4.95								
360.0	5.17								

**3.2.5 Model Number: HID-100-EX39-8CCT-BYP/5SP/480V, 5000K at 277V****Electrical data**

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.07	60	0.3500	95.69	0.9863

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
13907.21	145.34	29.92	58.00



Zonal Flux Diagram

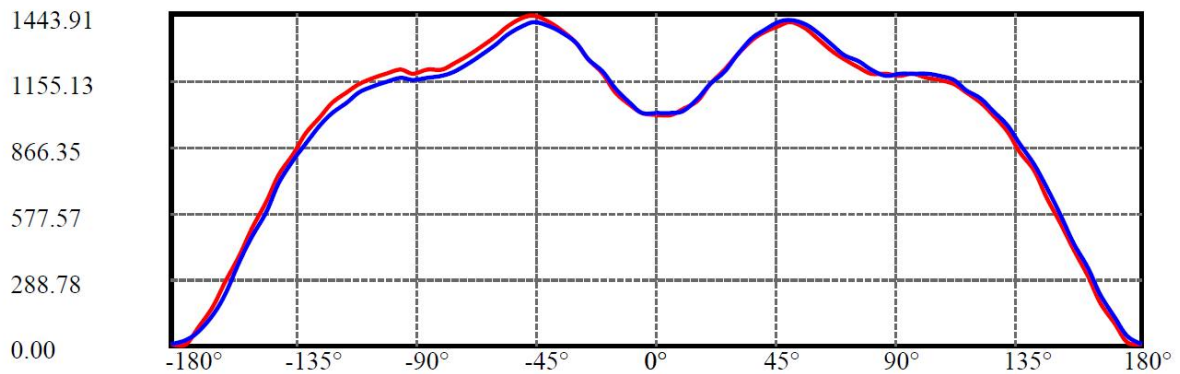
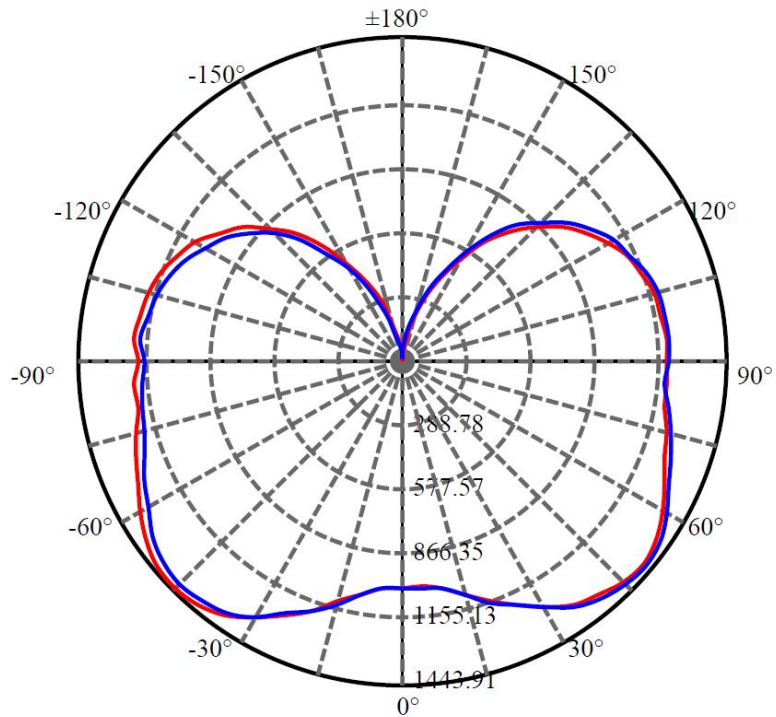
Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1008.222	0.000	0	0.00%	0.00%
5.0	1013.732	24.172	24.172	0.00%	0.17%
10.0	1039.474	73.450	97.622	0.00%	0.70%
15.0	1089.229	126.273	223.895	0.00%	1.61%
20.0	1157.027	185.123	409.018	0.00%	2.94%
25.0	1221.543	249.468	658.486	0.00%	4.73%
30.0	1289.841	317.818	976.304	0.00%	7.02%
35.0	1349.563	388.671	1364.974	0.00%	9.81%
40.0	1393.267	457.621	1822.595	0.00%	13.11%
45.0	1416.348	520.223	2342.818	0.00%	16.85%
50.0	1417.902	572.702	2915.52	0.00%	20.96%
55.0	1393.065	611.198	3526.717	0.00%	25.36%
60.0	1349.968	634.044	4160.762	0.00%	29.92%
65.0	1302.888	644.914	4805.676	0.00%	34.56%
70.0	1262.114	649.475	5455.151	0.00%	39.23%
75.0	1233.658	652.355	6107.506	0.00%	43.92%
80.0	1204.891	652.488	6759.993	0.00%	48.61%
85.0	1196.936	652.634	7412.627	0.00%	53.30%
90.0	1188.211	653.072	8065.699	0.00%	58.00%
95.0	1198.921	653.616	8719.315	0.00%	62.70%
100.0	1186.050	648.054	9367.369	0.00%	67.36%
105.0	1175.989	632.016	9999.385	0.00%	71.90%
110.0	1147.262	607.261	10606.645	0.00%	76.27%
115.0	1107.934	571.030	11177.676	0.00%	80.37%
120.0	1062.501	527.637	11705.313	0.00%	84.17%
125.0	1002.563	477.334	12182.646	0.00%	87.60%
130.0	931.969	420.632	12603.278	0.00%	90.62%
135.0	845.668	359.198	12962.476	0.00%	93.21%
140.0	749.981	295.447	13257.923	0.00%	95.33%
145.0	635.872	231.219	13489.142	0.00%	96.99%
150.0	517.995	169.915	13659.057	0.00%	98.22%
155.0	405.236	116.836	13775.893	0.00%	99.06%
160.0	287.076	72.611	13848.503	0.00%	99.58%
165.0	178.018	38.330	13886.834	0.00%	99.85%
170.0	89.448	15.866	13902.7	0.00%	99.97%
175.0	26.025	4.131	13906.83	0.00%	100.00%
180.0	5.483	0.377	13907.207	0.00%	100.00%



Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]



C0/C180: —

C90/C270: —

Field angle(10%Imax):C0/180Left:166.4 Right:167.5
:C90/270Left:164.7 Right:169.2

Beam Angle(50%Imax):C0/180Left:141.4 Right:141.9
:C90/270Left:140.2 Right:144.0

**Luminous Intensity Distribution Data**

C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1007.63	1008.49	1029.45	1071.37	1136.42	1197.79	1262.83	1326.58	1362.23
22.5	1006.12	1010.87	1020.81	1070.29	1136.85	1198.22	1265.21	1323.77	1372.17
45.0	1009.36	1012.81	1024.05	1074.18	1135.12	1193.25	1253.97	1323.12	1361.37
67.5	1005.47	1019.95	1023.83	1078.29	1140.31	1206.65	1267.80	1330.25	1384.06
90.0	1016.06	1013.89	1026.00	1076.56	1140.52	1195.41	1264.99	1333.28	1375.41
112.5	1011.95	1008.92	1035.72	1077.86	1146.79	1212.05	1281.41	1344.08	1399.18
135.0	1000.06	1023.40	1043.28	1082.61	1161.70	1240.36	1297.40	1366.12	1417.33
157.5	1009.14	1013.03	1045.88	1097.31	1169.91	1237.98	1306.26	1369.58	1421.87
180.0	1007.63	1015.62	1051.28	1103.36	1180.93	1248.57	1318.15	1375.85	1411.50
202.5	1006.12	1013.03	1055.17	1106.60	1175.10	1243.60	1317.50	1375.85	1423.60
225.0	1009.36	1015.19	1054.09	1112.65	1177.47	1245.76	1330.03	1381.90	1425.55
247.5	1005.47	1011.52	1051.49	1096.01	1160.19	1234.95	1302.16	1367.63	1409.56
270.0	1016.06	1016.06	1055.38	1123.02	1188.93	1242.30	1320.09	1365.69	1386.87
292.5	1011.95	1018.43	1042.20	1096.44	1163.86	1229.12	1290.27	1341.49	1387.51
315.0	1000.06	1012.38	1043.28	1088.66	1156.08	1216.37	1292.43	1337.81	1374.77
337.5	1009.14	1006.12	1029.67	1072.46	1142.25	1202.33	1266.94	1330.03	1379.30
360.0	1007.63	1008.49	1029.45	1071.37	1136.42	1197.79	1262.83	1326.58	1362.23
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1392.05	1403.72	1381.68	1334.36	1285.30	1242.52	1214.64	1181.80	1180.93
22.5	1412.15	1412.58	1403.29	1365.69	1322.04	1282.06	1255.48	1231.07	1221.34
45.0	1389.03	1405.45	1382.33	1343.65	1298.05	1252.03	1226.10	1194.98	1182.01
67.5	1411.28	1416.04	1400.70	1364.39	1312.75	1269.31	1241.22	1213.99	1201.24
90.0	1405.88	1415.39	1399.83	1361.15	1310.15	1268.45	1239.06	1201.03	1175.75
112.5	1422.09	1429.87	1407.39	1368.50	1320.09	1273.85	1242.95	1210.32	1188.28
135.0	1429.65	1422.74	1402.21	1358.34	1307.99	1264.78	1239.71	1201.03	1194.11
157.5	1435.49	1434.19	1409.56	1363.74	1318.37	1277.96	1249.00	1213.56	1208.59
180.0	1431.60	1423.60	1392.48	1343.86	1300.65	1260.45	1226.10	1198.22	1197.36
202.5	1440.24	1437.22	1405.02	1357.05	1305.40	1264.78	1237.76	1212.05	1212.05
225.0	1443.91	1437.22	1405.67	1352.72	1306.48	1263.69	1228.69	1202.76	1200.81
247.5	1432.68	1433.54	1401.13	1359.64	1310.80	1271.47	1243.60	1213.78	1208.38
270.0	1405.67	1391.62	1358.56	1307.13	1265.64	1228.04	1193.47	1172.72	1163.86
292.5	1405.02	1410.20	1378.01	1340.84	1291.14	1258.94	1240.57	1218.96	1211.18
315.0	1401.78	1400.05	1369.80	1328.95	1282.28	1240.57	1210.10	1184.39	1182.01
337.5	1403.07	1413.01	1391.40	1349.48	1309.07	1274.93	1250.08	1227.61	1223.07
360.0	1392.05	1403.72	1381.68	1334.36	1285.30	1242.52	1214.64	1181.80	1180.93
C/ γ (°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1174.88	1182.23	1169.26	1160.40	1139.66	1102.49	1056.68	1001.36	930.70
22.5	1213.56	1219.40	1207.51	1200.60	1173.15	1137.07	1092.12	1035.29	960.95
45.0	1179.20	1184.61	1171.86	1162.78	1139.23	1104.22	1061.87	1010.22	935.67
67.5	1195.19	1192.17	1177.47	1174.23	1148.09	1104.44	1060.79	998.12	928.97
90.0	1183.31	1186.77	1185.90	1178.12	1153.27	1112.86	1079.15	1025.13	960.30
112.5	1190.87	1194.76	1189.79	1187.20	1151.54	1115.67	1075.48	1015.41	946.04
135.0	1185.90	1196.71	1186.33	1174.67	1150.90	1117.40	1071.59	1010.87	949.07
157.5	1195.84	1209.46	1197.79	1190.66	1154.35	1115.67	1067.27	1003.52	930.27
180.0	1181.36	1198.65	1184.61	1169.70	1143.33	1101.41	1059.06	991.21	924.43
202.5	1192.17	1213.99	1195.19	1185.25	1149.17	1108.97	1059.71	994.01	924.22
225.0	1185.47	1203.62	1185.69	1173.59	1143.98	1101.63	1053.87	988.83	915.79
247.5	1196.06	1208.59	1199.73	1185.90	1153.71	1113.08	1065.76	1004.82	936.32
270.0	1153.92	1168.40	1148.73	1133.39	1104.00	1061.22	1012.81	956.85	881.22
292.5	1202.76	1214.64	1199.08	1184.39	1152.62	1113.30	1059.92	995.53	919.25
315.0	1169.05	1185.90	1171.64	1158.89	1133.61	1092.98	1046.09	990.56	920.54
337.5	1211.83	1222.85	1206.21	1196.06	1165.59	1124.53	1077.86	1019.30	947.77
360.0	1174.88	1182.23	1169.26	1160.40	1139.66	1102.49	1056.68	1001.36	930.70



C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	843.18	758.91	647.84	533.31	419.22	303.17	188.21	98.11	21.83
22.5	875.17	773.17	664.69	546.92	439.53	318.73	200.96	103.08	25.07
45.0	853.12	761.93	656.27	536.12	421.38	304.04	194.91	98.75	25.28
67.5	842.54	740.76	624.28	515.16	410.14	295.18	184.33	91.62	23.99
90.0	875.60	792.40	686.09	565.29	451.20	339.05	221.06	127.06	44.95
112.5	857.23	762.58	651.51	524.67	410.14	302.09	195.99	102.43	36.52
135.0	861.34	775.12	662.96	537.85	430.24	313.98	195.78	100.91	24.42
157.5	838.21	738.16	625.36	497.44	383.13	272.92	170.71	89.68	16.64
180.0	836.92	747.89	631.42	509.54	398.47	279.84	169.42	78.44	13.40
202.5	830.00	731.68	610.24	490.09	374.70	255.63	156.23	73.90	18.37
225.0	825.68	731.25	607.21	492.47	382.05	266.01	158.18	73.04	26.58
247.5	844.91	744.21	625.58	510.62	393.50	272.71	161.85	78.44	29.39
270.0	809.47	712.88	586.47	478.21	363.25	223.65	136.14	65.91	27.01
292.5	835.62	725.85	618.02	505.65	387.88	265.14	160.12	75.85	27.44
315.0	844.70	747.02	626.01	510.84	397.39	277.24	168.12	81.47	26.58
337.5	857.01	755.88	650.00	533.74	421.59	303.82	186.27	92.49	28.96
360.0	843.18	758.91	647.84	533.31	419.22	303.17	188.21	98.11	21.83
C/γ(°)	180.0								
0.0	4.75								
22.5	4.75								
45.0	4.75								
67.5	4.75								
90.0	5.40								
112.5	8.43								
135.0	6.27								
157.5	4.75								
180.0	4.75								
202.5	4.75								
225.0	4.75								
247.5	4.75								
270.0	5.40								
292.5	8.43								
315.0	6.27								
337.5	4.75								
360.0	4.75								

**3.2.6 Model Number: HID-100-EX39-8CCT-BYP/5SP/480V, 5000K at 480V****Electrical data**

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
480.04	60	0.2160	95.50	0.9228

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
13914.11	145.70	29.91	58.01



Zonal Flux Diagram

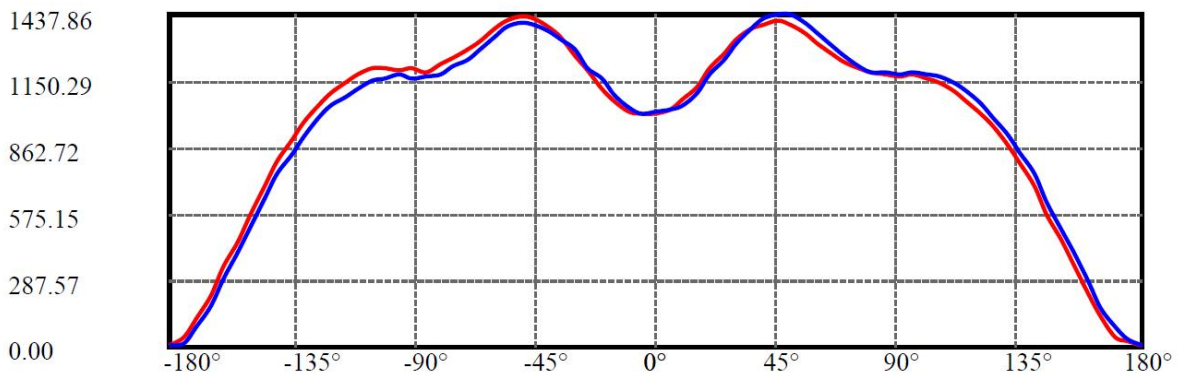
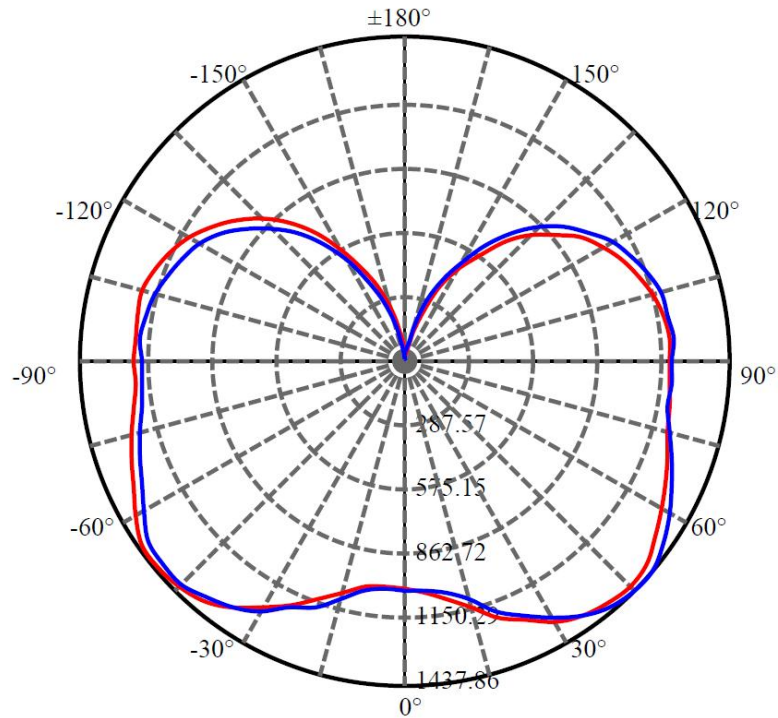
Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1011.031	0.000	0	0.00%	0.00%
5.0	1016.866	24.243	24.243	0.00%	0.17%
10.0	1042.958	73.686	97.929	0.00%	0.70%
15.0	1091.687	126.626	224.555	0.00%	1.61%
20.0	1158.999	185.488	410.043	0.00%	2.95%
25.0	1223.556	249.886	659.929	0.00%	4.74%
30.0	1293.569	318.544	978.473	0.00%	7.03%
35.0	1350.711	389.389	1367.862	0.00%	9.83%
40.0	1390.985	457.431	1825.293	0.00%	13.12%
45.0	1415.389	519.623	2344.916	0.00%	16.85%
50.0	1416.686	572.262	2917.178	0.00%	20.97%
55.0	1392.552	610.822	3528	0.00%	25.36%
60.0	1351.116	634.191	4162.191	0.00%	29.91%
65.0	1304.319	645.541	4807.733	0.00%	34.55%
70.0	1264.464	650.432	5458.165	0.00%	39.23%
75.0	1235.292	653.396	6111.561	0.00%	43.92%
80.0	1207.957	653.745	6765.306	0.00%	48.62%
85.0	1194.519	652.810	7418.116	0.00%	53.31%
90.0	1191.804	653.394	8071.51	0.00%	58.01%
95.0	1196.706	653.993	8725.503	0.00%	62.71%
100.0	1187.225	647.771	9373.274	0.00%	67.37%
105.0	1176.475	632.460	10005.735	0.00%	71.91%
110.0	1147.127	607.352	10613.087	0.00%	76.28%
115.0	1109.109	571.294	11184.381	0.00%	80.38%
120.0	1062.731	527.978	11712.359	0.00%	84.18%
125.0	1003.711	477.652	12190.011	0.00%	87.61%
130.0	931.159	420.705	12610.716	0.00%	90.63%
135.0	844.682	358.835	12969.551	0.00%	93.21%
140.0	748.225	294.940	13264.491	0.00%	95.33%
145.0	635.656	230.890	13495.381	0.00%	96.99%
150.0	518.197	169.913	13665.294	0.00%	98.21%
155.0	405.574	116.904	13782.198	0.00%	99.05%
160.0	288.818	72.829	13855.027	0.00%	99.58%
165.0	178.166	38.486	13893.513	0.00%	99.85%
170.0	88.732	15.832	13909.345	0.00%	99.97%
175.0	31.603	4.305	13913.65	0.00%	100.00%
180.0	6.888	0.460	13914.11	0.00%	100.00%



Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]



C0/C180: 

C90/C270: 

Field angle(10%Imax):C0/180Left:169.0 Right:164.4
:C90/270Left:167.0 Right:166.6

Beam Angle(50%Imax):C0/180Left:144.1 Right:139.0
:C90/270Left:141.3 Right:141.2

**Luminous Intensity Distribution Data**

<i>C/γ</i> (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1010.01	1025.56	1068.57	1124.75	1204.70	1266.07	1333.28	1373.04	1397.02
22.5	1009.79	1027.08	1072.67	1128.21	1201.68	1264.56	1329.60	1379.74	1406.96
45.0	1010.44	1027.29	1070.29	1125.40	1196.49	1259.81	1329.82	1370.88	1403.29
67.5	1008.92	1021.03	1061.87	1118.05	1179.85	1246.41	1317.72	1363.10	1395.51
90.0	1014.98	1024.05	1046.09	1094.50	1179.20	1238.84	1310.80	1378.01	1416.90
112.5	1005.90	1017.78	1038.31	1086.93	1148.09	1213.99	1285.52	1345.38	1392.27
135.0	1014.98	1006.98	1031.40	1084.99	1143.98	1210.10	1295.68	1355.97	1399.18
157.5	1013.25	1010.01	1025.35	1064.24	1132.31	1198.65	1264.34	1329.60	1377.57
180.0	1010.01	1006.55	1017.14	1060.14	1120.21	1194.76	1259.59	1335.22	1384.27
202.5	1009.79	1011.95	1022.32	1059.71	1114.38	1183.53	1249.00	1315.12	1371.74
225.0	1010.44	1008.06	1021.03	1053.44	1112.22	1183.96	1248.35	1317.93	1370.88
247.5	1008.92	1007.41	1020.81	1065.76	1118.70	1187.85	1267.58	1321.39	1379.09
270.0	1014.98	1010.87	1035.72	1087.15	1157.81	1205.78	1283.79	1330.68	1364.39
292.5	1005.90	1017.14	1045.44	1094.06	1158.46	1226.96	1288.55	1344.73	1384.06
315.0	1014.98	1030.32	1041.34	1103.36	1184.17	1241.22	1314.26	1371.52	1402.21
337.5	1013.25	1017.78	1069.00	1116.32	1191.74	1254.40	1319.23	1379.09	1410.42
360.0	1010.01	1025.56	1068.57	1124.75	1204.70	1266.07	1333.28	1373.04	1397.02
<i>C/γ</i> (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1407.18	1393.78	1354.45	1309.94	1271.69	1236.04	1207.94	1185.90	1179.64
22.5	1414.74	1407.18	1373.25	1326.79	1280.12	1247.27	1224.80	1202.97	1194.76
45.0	1409.34	1397.24	1362.88	1308.64	1264.34	1231.50	1202.11	1182.23	1174.23
67.5	1412.58	1402.42	1375.20	1328.09	1286.82	1253.75	1224.80	1206.00	1195.19
90.0	1437.86	1436.78	1401.13	1354.45	1304.10	1256.35	1217.24	1185.25	1187.63
112.5	1424.90	1428.14	1406.31	1365.91	1314.04	1277.74	1249.00	1221.13	1215.29
135.0	1432.89	1435.70	1411.28	1367.85	1325.50	1286.60	1251.59	1206.86	1198.22
157.5	1410.64	1426.19	1413.45	1378.01	1333.49	1290.71	1261.32	1232.58	1217.02
180.0	1416.90	1428.14	1415.17	1374.12	1325.06	1281.85	1252.03	1221.99	1190.87
202.5	1410.20	1424.47	1414.96	1389.03	1343.00	1300.65	1271.69	1248.35	1217.88
225.0	1407.39	1418.85	1413.66	1378.22	1329.82	1282.71	1253.97	1228.04	1196.27
247.5	1415.82	1426.41	1416.25	1389.24	1335.44	1290.06	1261.53	1234.31	1201.03
270.0	1396.16	1403.07	1385.14	1335.87	1284.22	1242.73	1215.94	1177.04	1170.99
292.5	1410.20	1411.72	1384.92	1341.49	1293.95	1249.43	1223.29	1192.82	1189.79
315.0	1419.71	1416.25	1373.90	1332.63	1283.14	1246.84	1219.61	1195.63	1185.04
337.5	1419.71	1410.64	1378.87	1337.60	1294.38	1257.21	1227.82	1206.21	1198.44
360.0	1407.18	1393.78	1354.45	1309.94	1271.69	1236.04	1207.94	1185.90	1179.64
<i>C/γ</i> (°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1168.83	1180.50	1159.76	1142.04	1105.52	1063.60	1011.73	951.44	871.49
22.5	1186.98	1199.08	1177.69	1155.22	1124.10	1079.59	1022.75	959.87	880.57
45.0	1167.53	1176.39	1155.00	1134.69	1099.03	1056.46	1005.25	942.37	866.09
67.5	1190.01	1199.08	1180.50	1160.84	1126.05	1081.53	1028.37	961.60	884.02
90.0	1179.20	1191.09	1178.56	1173.15	1143.12	1105.52	1056.68	992.50	922.06
112.5	1207.94	1218.32	1215.72	1206.00	1178.34	1145.06	1102.06	1041.34	971.33
135.0	1202.54	1208.59	1202.33	1201.89	1171.64	1134.04	1088.01	1027.08	960.30
157.5	1223.50	1222.42	1224.15	1218.96	1193.03	1161.27	1119.13	1062.73	995.96
180.0	1203.19	1198.00	1202.97	1202.54	1178.12	1141.39	1094.93	1044.58	975.21
202.5	1228.47	1216.37	1224.58	1223.93	1196.49	1164.94	1126.69	1072.02	1007.41
225.0	1204.05	1195.41	1201.03	1195.41	1174.45	1141.82	1099.68	1050.85	983.21
247.5	1208.81	1198.22	1191.30	1194.76	1172.29	1136.85	1091.90	1034.42	965.06
270.0	1163.65	1176.39	1161.27	1148.95	1115.46	1078.29	1044.80	988.18	912.76
292.5	1175.96	1186.12	1174.67	1157.16	1129.29	1091.69	1047.82	987.75	912.55
315.0	1171.21	1183.09	1165.16	1149.82	1117.83	1076.99	1029.45	971.76	896.99
337.5	1186.98	1198.22	1180.93	1158.24	1129.29	1086.72	1034.42	970.89	893.53
360.0	1168.83	1180.50	1159.76	1142.04	1105.52	1063.60	1011.73	951.44	871.49



<i>C/γ(°)</i>	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	791.97	693.43	573.72	462.87	355.68	235.32	130.95	46.68	23.34
22.5	785.92	677.44	560.32	449.04	333.21	216.31	125.55	45.81	15.99
45.0	780.52	672.90	556.65	455.52	348.34	224.30	118.63	47.76	18.58
67.5	789.38	682.63	573.50	463.08	346.18	231.87	134.62	57.26	21.83
90.0	836.92	746.59	629.04	512.35	407.98	287.62	171.79	84.92	37.60
112.5	883.16	783.76	674.42	556.00	437.58	303.61	192.10	103.29	35.44
135.0	868.90	781.81	675.07	551.03	438.45	322.62	204.21	105.24	44.08
157.5	914.71	820.28	706.18	583.23	468.70	344.02	221.92	119.50	46.89
180.0	890.08	801.26	694.51	569.61	457.68	346.61	226.89	122.09	46.46
202.5	922.70	833.03	718.93	593.17	477.78	358.28	237.48	135.71	52.51
225.0	902.39	815.31	703.81	583.66	467.84	357.41	234.03	137.00	52.51
247.5	885.32	787.00	670.96	554.06	436.29	322.84	211.34	122.31	46.03
270.0	831.95	745.73	638.76	517.10	408.41	296.91	182.16	88.38	20.75
292.5	815.31	715.04	609.37	486.20	379.02	267.30	161.64	77.79	14.26
315.0	815.31	719.36	609.16	493.98	381.40	267.74	159.91	69.37	15.78
337.5	800.40	696.03	576.10	460.27	344.66	238.35	137.43	56.62	13.61
360.0	791.97	693.43	573.72	462.87	355.68	235.32	130.95	46.68	23.34
<i>C/γ(°)</i>	180.0								
0.0	7.78								
22.5	6.05								
45.0	6.92								
67.5	7.56								
90.0	5.40								
112.5	4.97								
135.0	8.21								
157.5	8.21								
180.0	7.78								
202.5	6.05								
225.0	6.92								
247.5	7.56								
270.0	5.40								
292.5	4.97								
315.0	8.21								
337.5	8.21								
360.0	7.78								



4 Additional Test

Model Number	CCT(K)	Test Voltage (V)	Frequency (Hz)	Power Factor	THD
HID-100-EX39-8CCT-BYP/5SP/480V	3000	277	60	0.987	12.4%
		480	60	0.923	15.7%
	4000	480	60	0.921	15.9%
	5000	480	60	0.923	15.0%



Photo Document



****End of test report****