Date of issue	2021-10-11
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:

Northvale, New Jersey, 07647, USA

For Product:

LED Corn Lamp

Model No.:

HIDFA-80S-EX39-8CCT-BYP/3SP

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.

Jaky Li

Jason zhou

Complied by: Jaky Li **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 use 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	Northvale, New Jersey, 07647, USA
Brand Name	RAB
Luminaire Type	LED Corn Lamp
Model Number	HIDFA-80S-EX39-8CCT-BYP/3SP
Rated Inputs	AC 100-277V, 50/60Hz
Rated Power	80 W
Color-Tunable Product	Yes, CCT setting: 3000K / 4000K / 5000K
Date of Receipt Samples	2021-08-16
Date of test	2021-08-17 to 2021-08-27
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 HIDFA-80S-EX39-8CCT-BYP/3SP are the same to the product in the report BL210817012-9 and is authorized by original applicant to use their test data.
- Note:All the data in previous report BL210817012-9 is shared in report.

1.4 Equipment list

Device	Manufacture	Model No.	Serial No.	Calibration due date
Goniophotometric System	SENSING	GMS-3000	N.A	2022-03-31
AC Power Source	ALL POWER	APW-110N	992257	2022-03-31
Total Luminous Flux Standard Lamp	SENSING	110V/100W	S1510065	2022-04-07
Total Spectral Radiant Flux Standard Lamp	SENSING	12V/20W	LSD12201731	2022-04-07
Digital Power Meter	YOKOGAWA	WT310	C2QM02030V	2022-03-31
Integral Sphere	SENSING	SPR-600M	N.A	2022-03-31
Digital Power Meter	YOKOGAWA	WT210	91L929742	2022-03-31
Optical Color and Electrical Measurement System	SENSING	SPR-3000	S1101108	2022-03-31
Environment Measurer	XUYAO	HS-1	N/A	2022-04-03
Environment Measurer	XUYAO	HS-1	N/A	2022-04-03
Stop watch	KISLO	K610	N/A	2022-04-22
Digital Anemometer	TECMAN	TD8901	026141	2021-09-09

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°C ±1°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=20K (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: HIDFA-80S-EX39-8CCT-BYP/3SP, 3000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.01	60	0.652	77.44	0.990

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
10299.51	133.0	3017

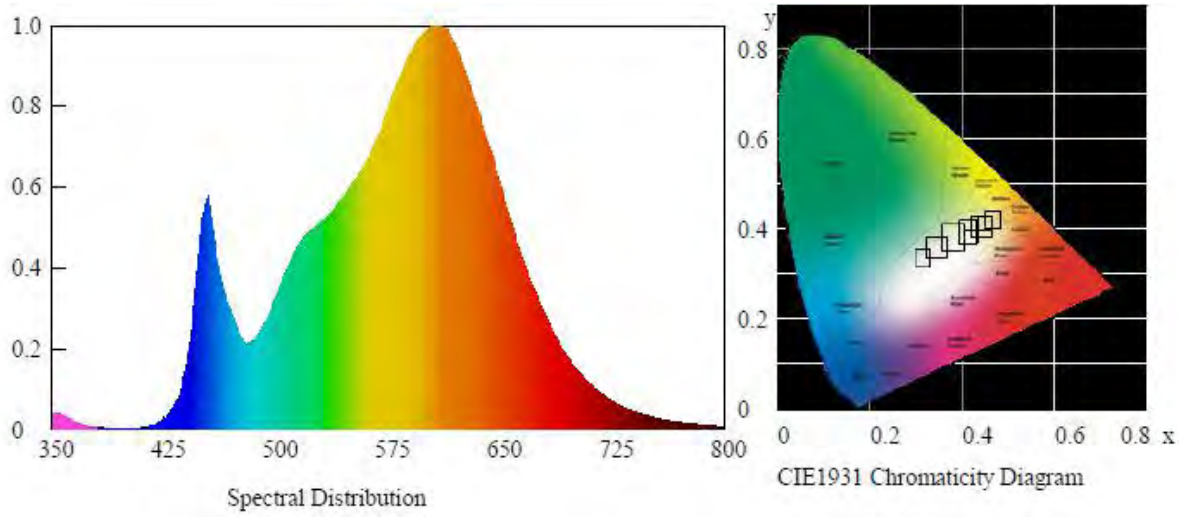
Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00082	0.4346	0.4012	0.2503	0.5199

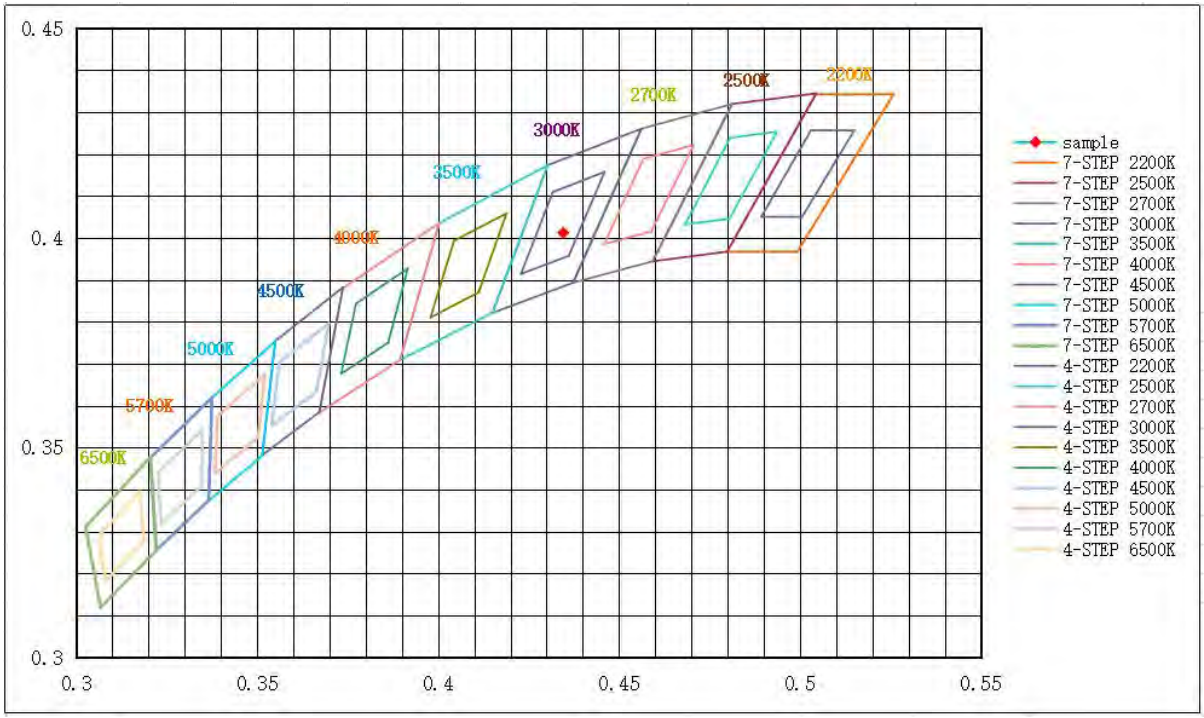
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
85.5	19	86	96	-10

Spectral Distribution

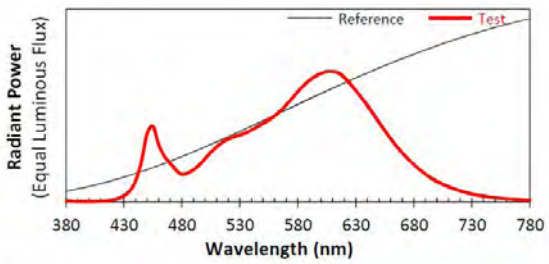


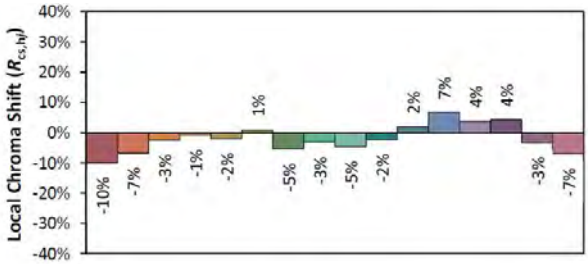
7/4 Step Quadrangle

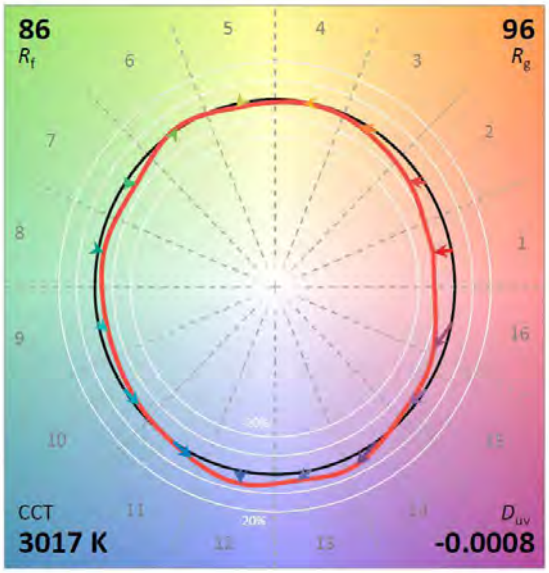


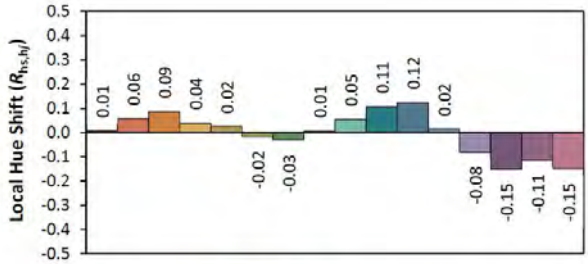
ANSI/IES TM-30-18 Color Rendition Report

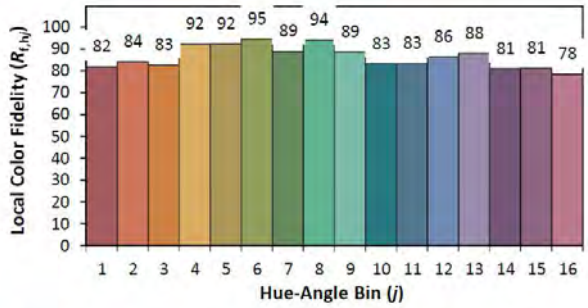
Source:	BL210817028-9	**Manufacturer:**	RAB Lighting Inc
Date:	2021-10-11	**Model:**	HIDFA-80S-EX39-8CCT-BYP/3SP, 3000K at 120V

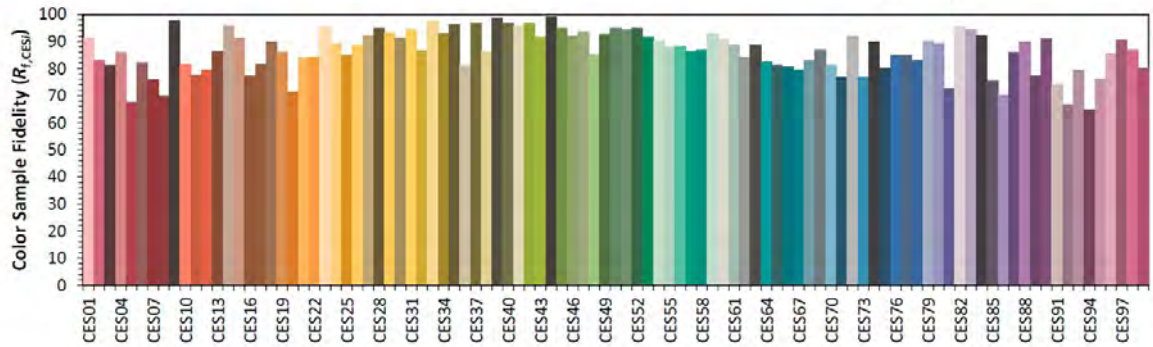












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.4346
y	0.4012
u'	0.2503
v'	0.5199

CIE 13.3-1995 (CRI)

R_a	85
R_9	19

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

3.1.2 Model Number: HIDFA-80S-EX39-8CCT-BYP/3SP, 4000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.02	60	0.635	75.43	0.990

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
11276.74	149.5	3945

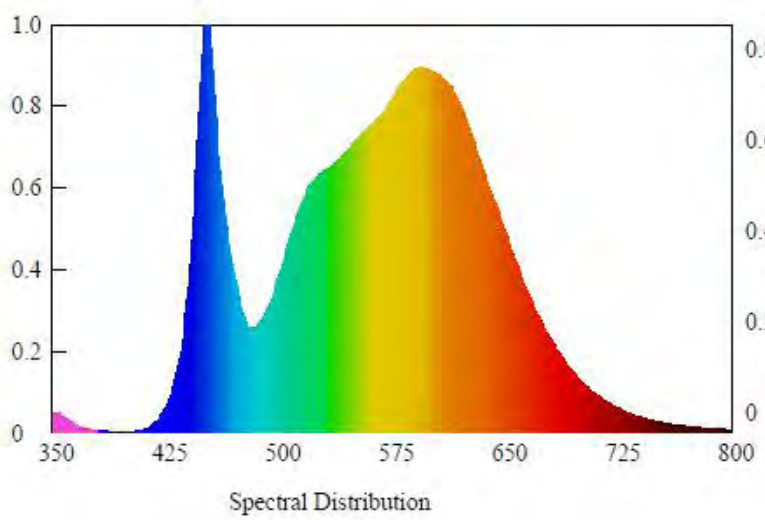
Chromaticity Coordinate

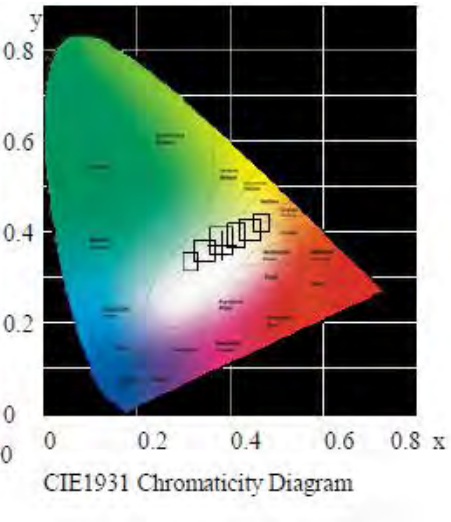
Duv	x	y	u'	v'
-0.00175	0.3816	0.3738	0.2271	0.5004

Color Rendering

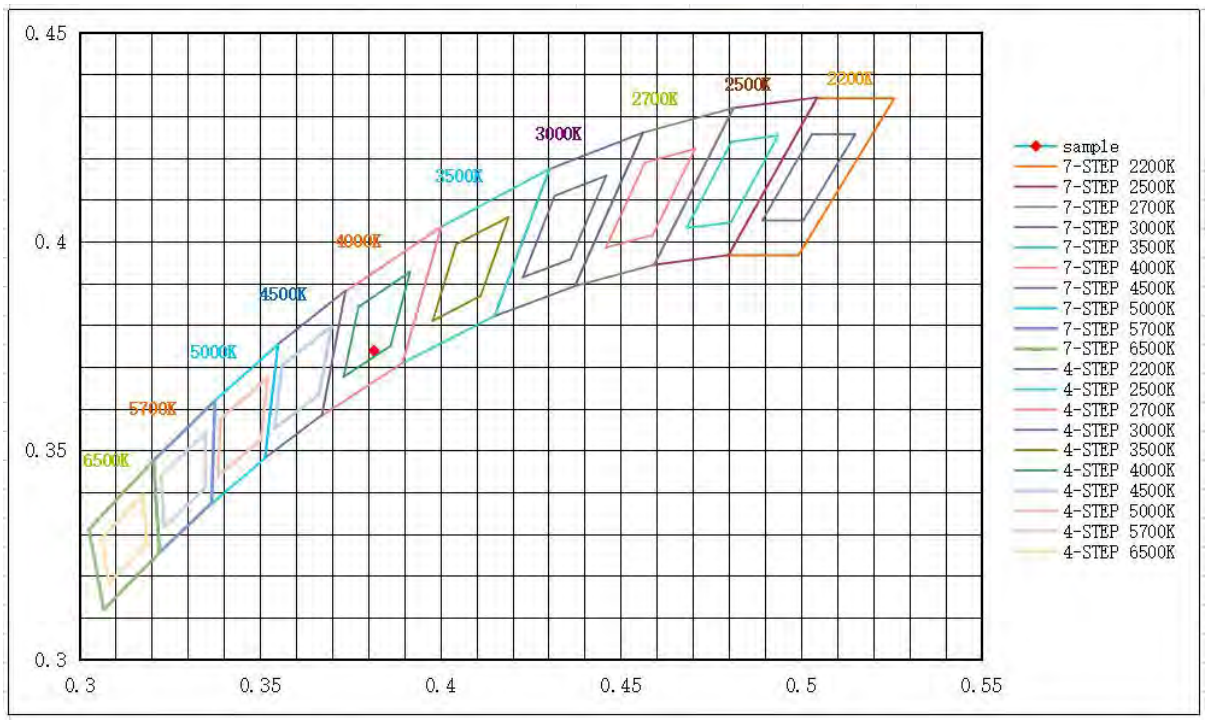
CRI	R9	Rf	Rg	Rcs,h1(%)
85.2	21	85	97	-10

Spectral Distribution



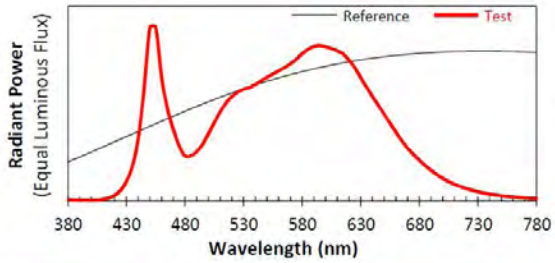


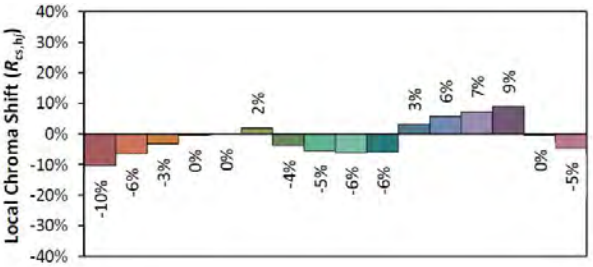
7/4 Step Quadrangle

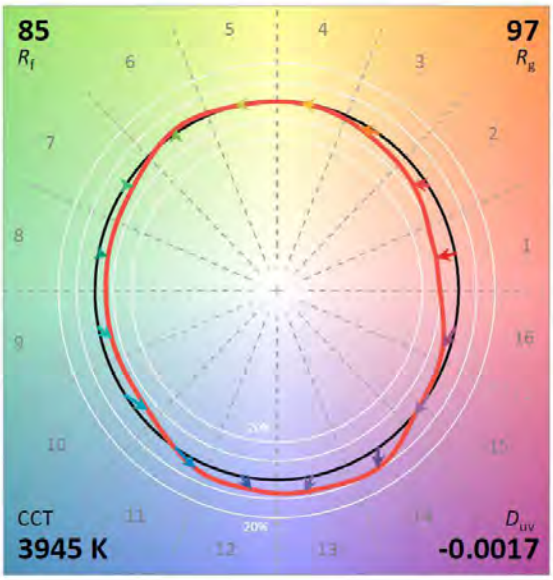


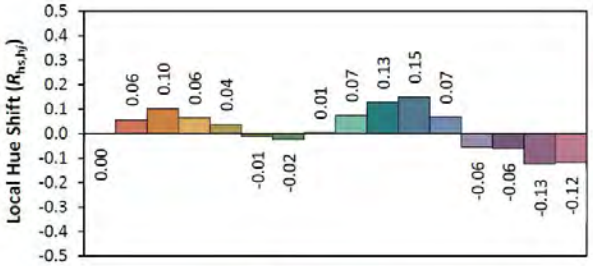
ANSI/IES TM-30-18 Color Rendition Report

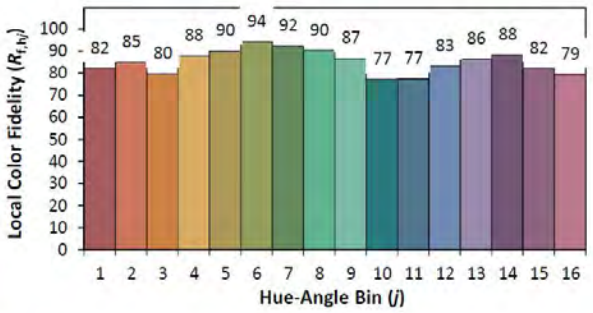
Source:	BL210817028-9	**Manufacturer:**	RAB Lighting Inc
Date:	2021-10-11	**Model:**	HIDFA-80S-EX39-8CCT-BYP/3SP, 4000K at 120V

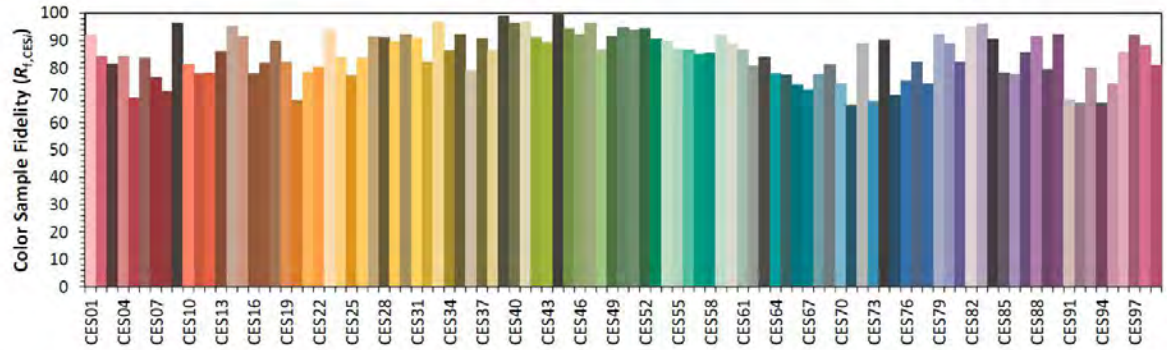












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3816
y	0.3738
u'	0.2271
v'	0.5004

CIE 13.3-1995 (CRI)

R_a	85
R_9	21

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

3.1.3 Model Number: HIDFA-80S-EX39-8CCT-BYP/3SP, 5000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.01	60	0.648	76.93	0.990

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
11047.15	143.6	4861

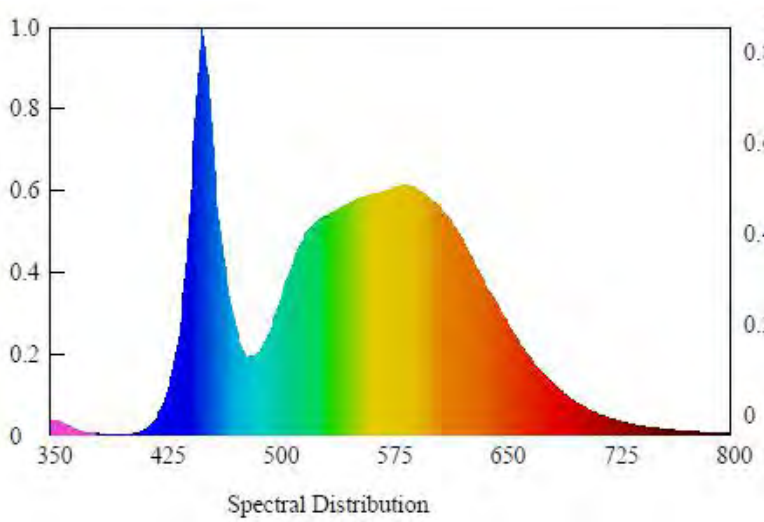
Chromaticity Coordinate

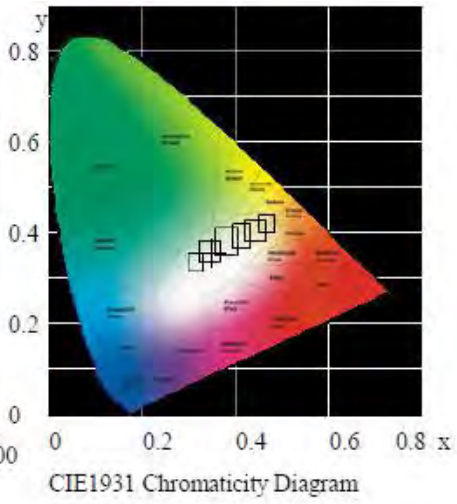
Duv	x	y	u'	v'
+0.0011	0.3494	0.3572	0.2122	0.4880

Color Rendering

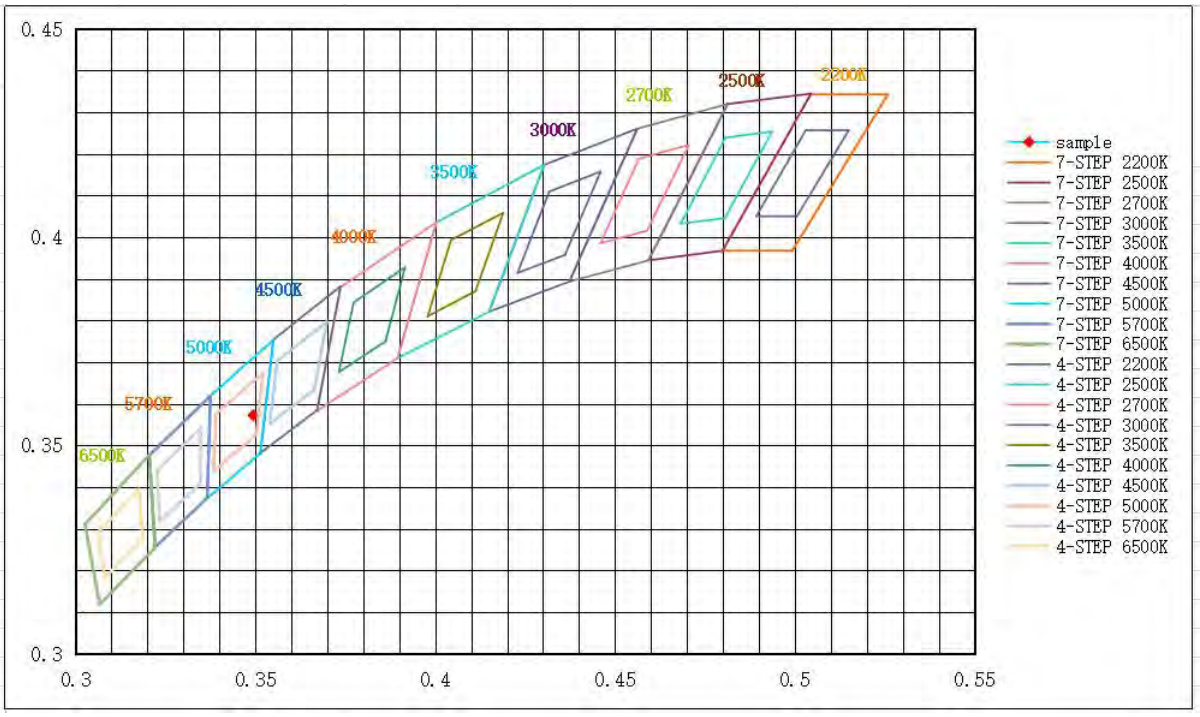
CRI	R9	Rf	Rg	Rcs,h1(%)
81.7	9	82	97	-12

Spectral Distribution



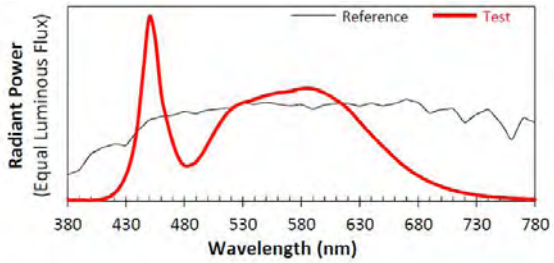


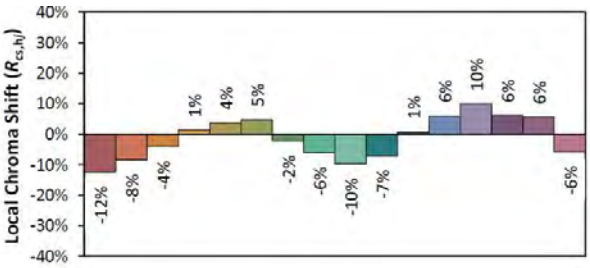
7/4 Step Quadrangle

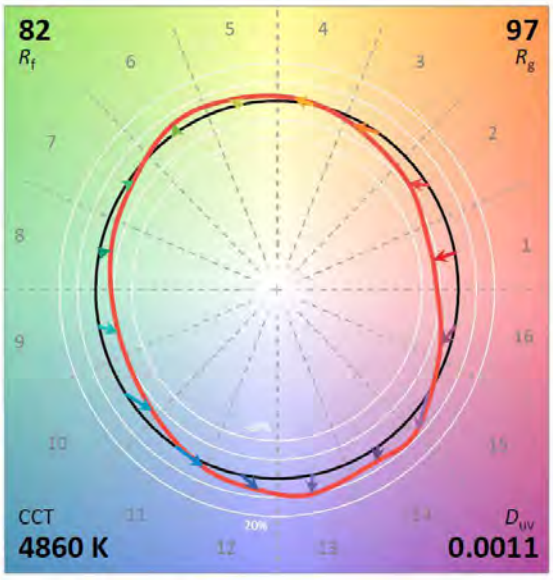


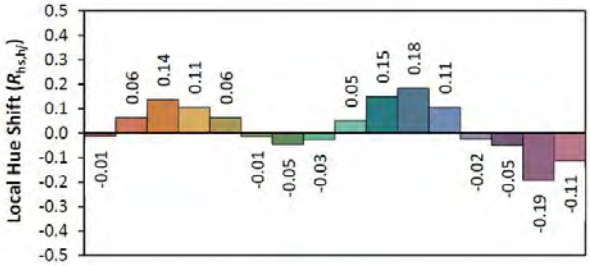
ANSI/IES TM-30-18 Color Rendition Report

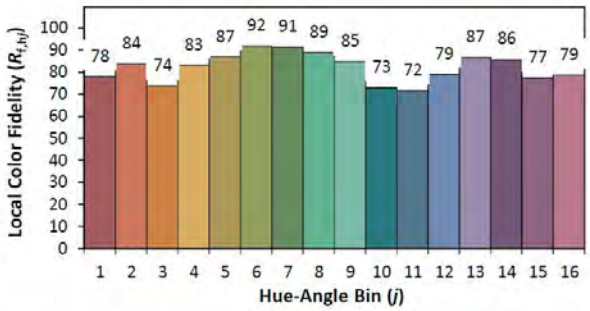
Source:	BL210817028-9	**Manufacturer:**	RAB Lighting Inc
Date:	2021-10-11	**Model:**	HIDFA-80S-EX39-8CCT-BYP/3SP, 5000K at 120V

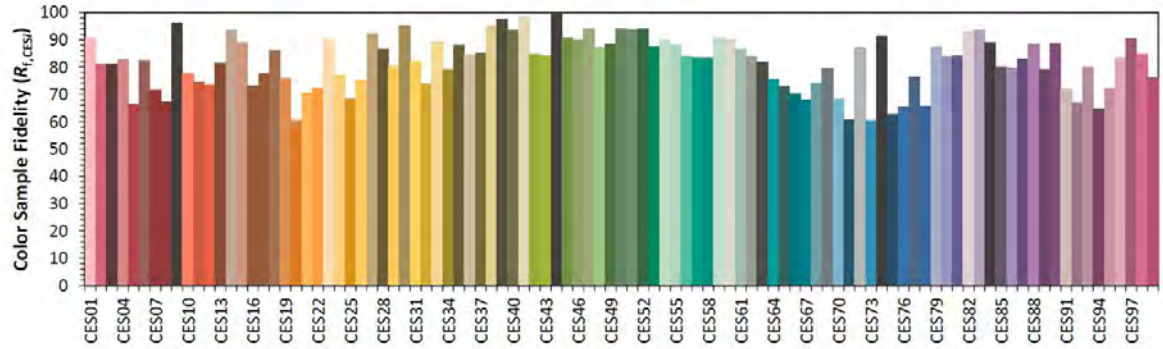












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3494
y	0.3572
u'	0.2122
v'	0.4880

CIE 13.3-1995 (CRI)

R_a	82
R_9	9

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

3.1.4 Model Number: HIDFA-80S-EX39-8CCT-BYP/3SP, 3000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.07	60	0.317	79.12	0.900

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
10309.37	130.3	3021

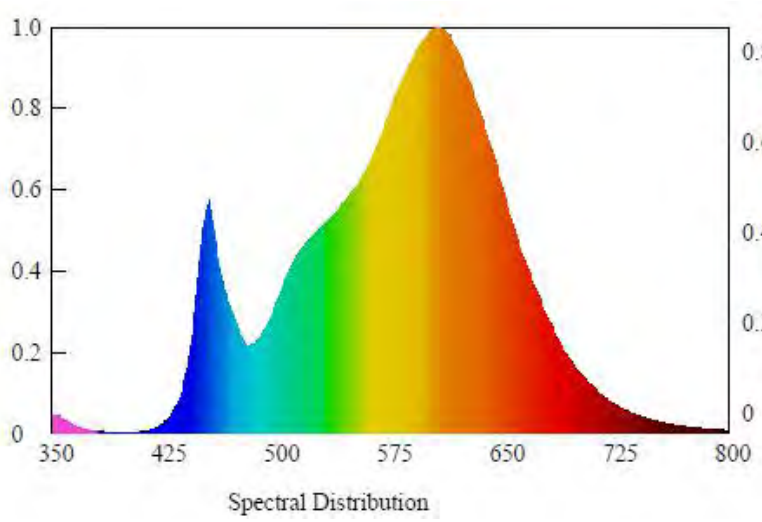
Chromaticity Coordinate

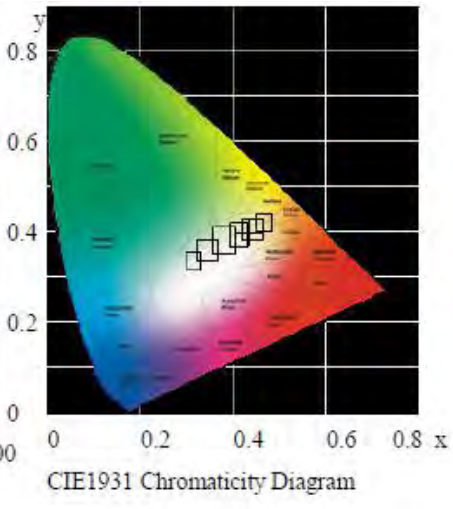
Duv	x	y	u'	v'
-0.00095	0.4341	0.4007	0.2502	0.5196

Color Rendering

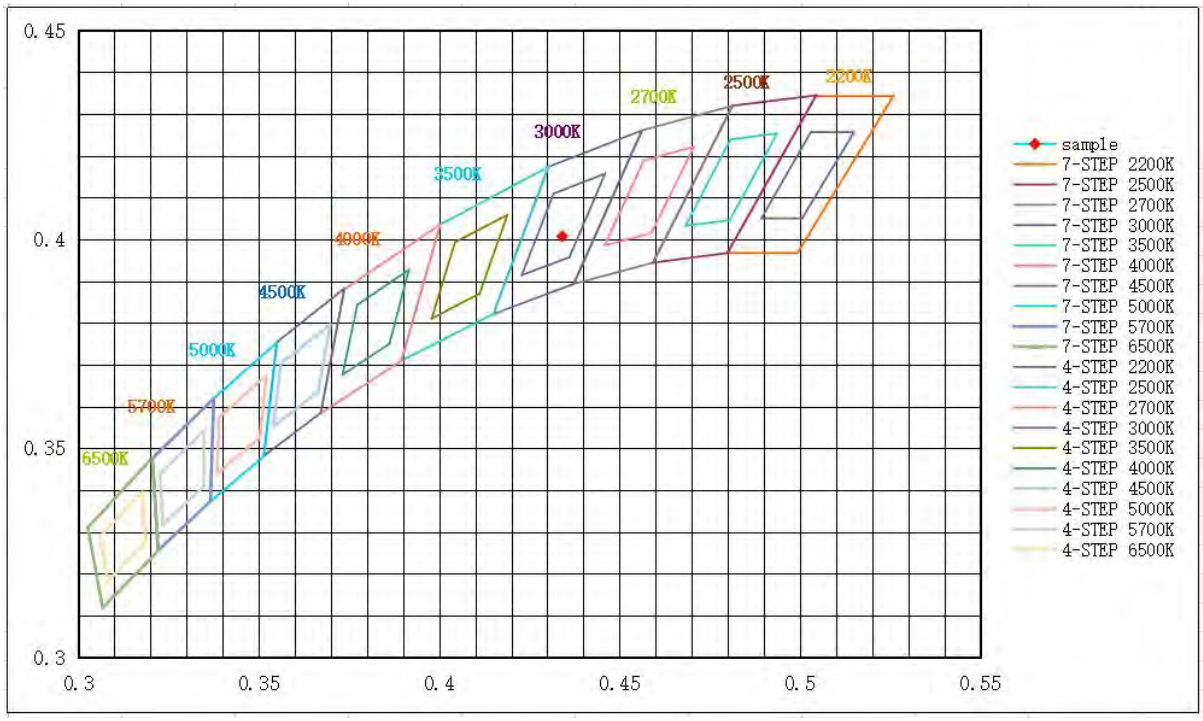
CRI	R9	Rf	Rg	Rcs,h1(%)
85.4	18	86	96	-10

Spectral Distribution



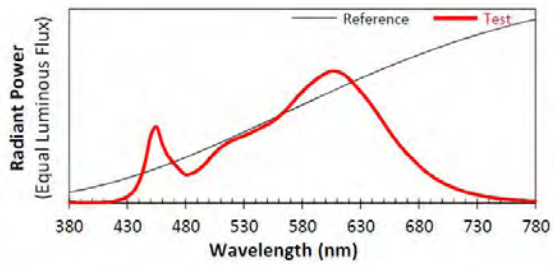


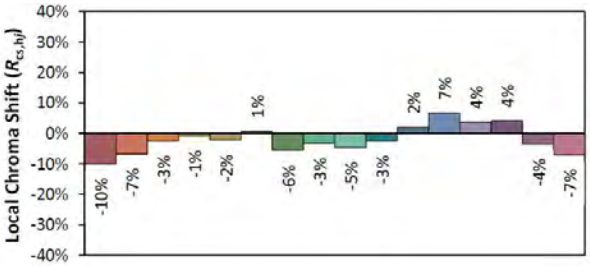
7/4 Step Quadrangle

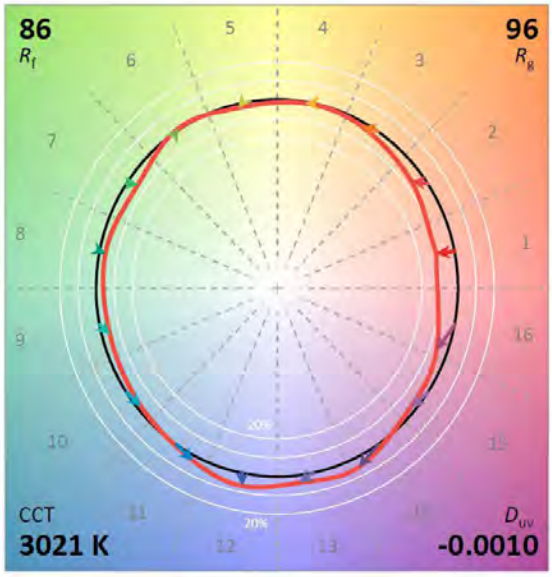


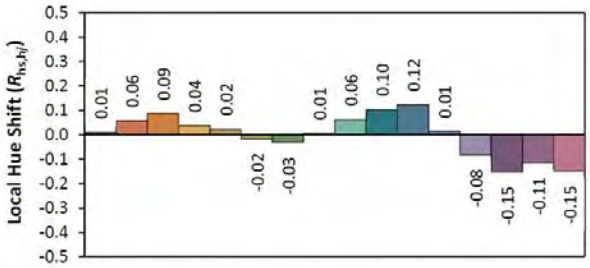
ANSI/IES TM-30-18 Color Rendition Report

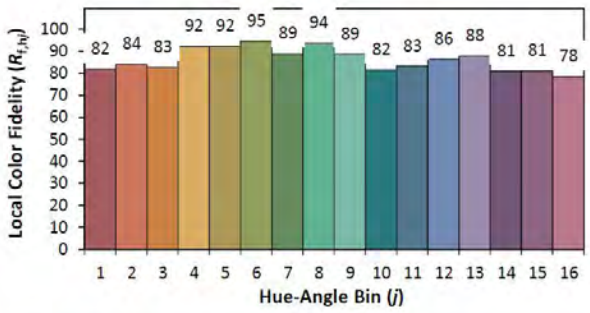
Source:	BL210817028-9	**Manufacturer:**	RAB Lighting Inc
Date:	2021-10-11	**Model:**	HIDFA-80S-EX39-8CCT-BYP/3SP, 3000K at 277V

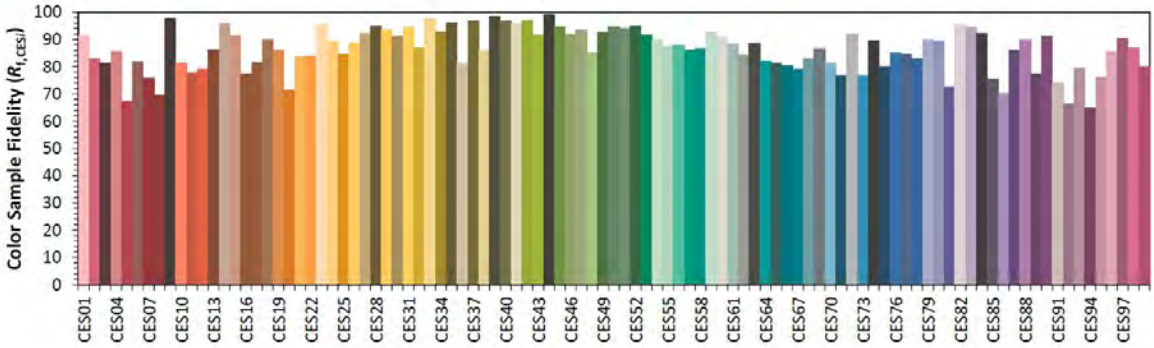












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.4341
y	0.4007
u'	0.2502
v'	0.5196

CIE 13.3-1995 (CRI)

R_a	85
R_9	18

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

3.1.5 Model Number: HIDFA-80S-EX39-8CCT-BYP/3SP, 4000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.07	60	0.310	76.88	0.896

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
11247.55	146.3	3945

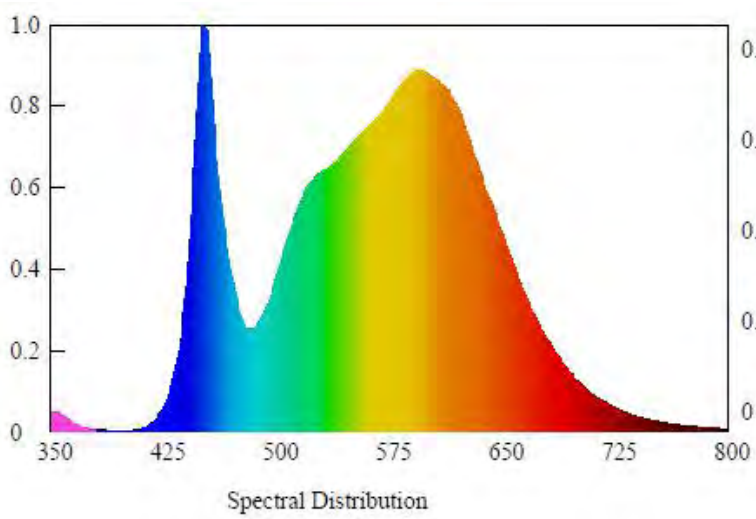
Chromaticity Coordinate

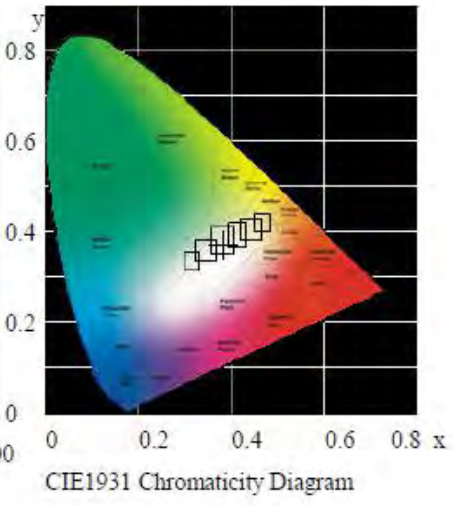
Duv	x	y	u'	v'
-0.00165	0.3817	0.3740	0.2270	0.5006

Color Rendering

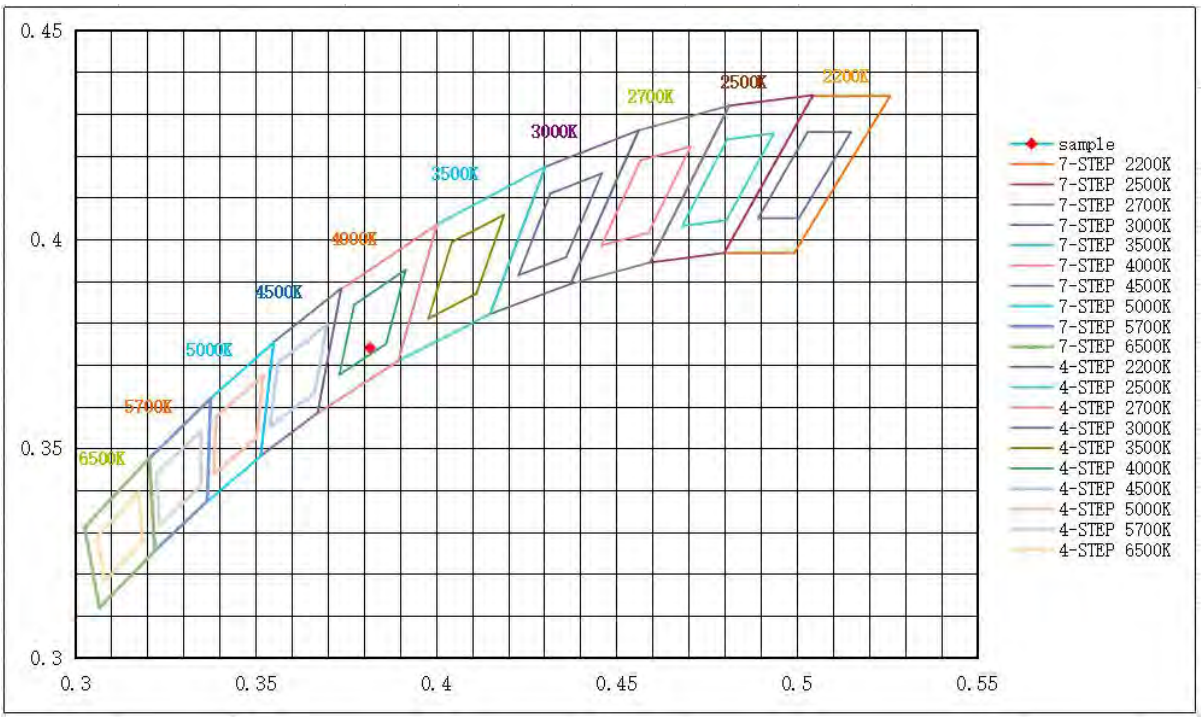
CRI	R9	Rf	Rg	Rcs,h1(%)
85.1	21	85	97	-10

Spectral Distribution



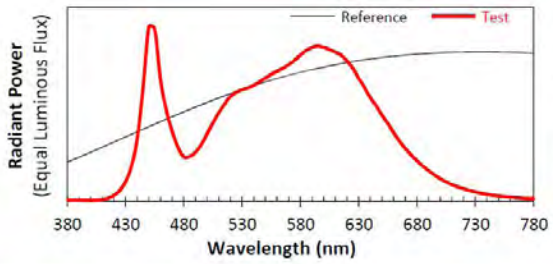


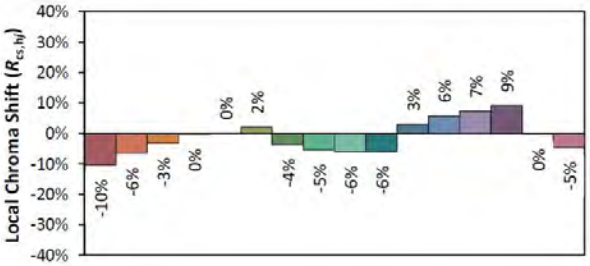
7/4 Step Quadrangle

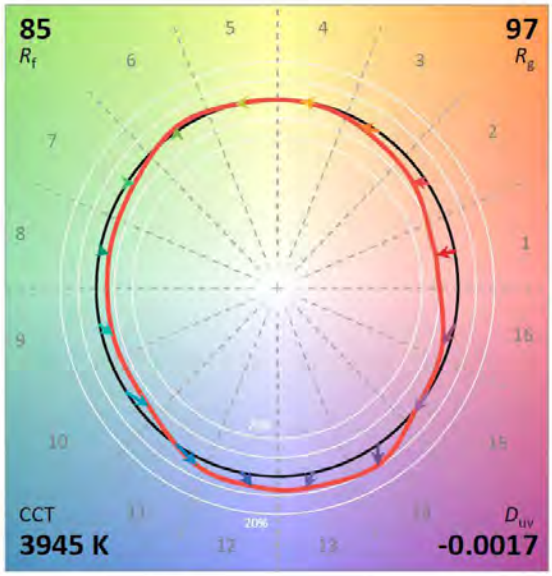


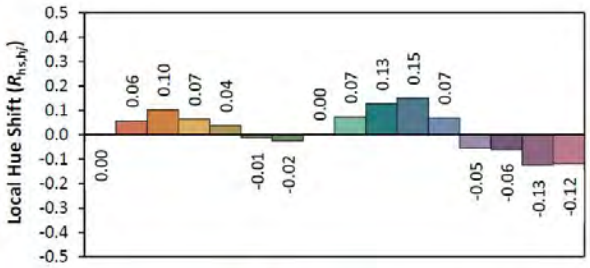
ANSI/IES TM-30-18 Color Rendition Report

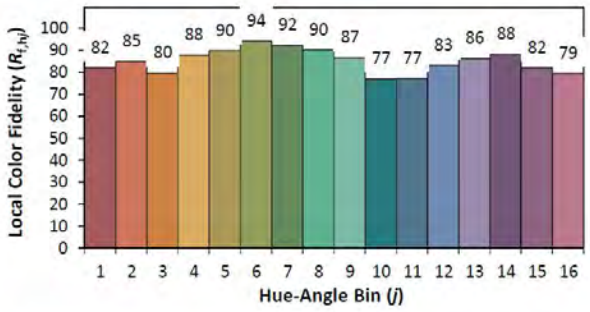
Source:	BL210817028-9	**Manufacturer:**	RAB Lighting Inc
Date:	2021-10-11	**Model:**	HIDFA-80S-EX39-8CCT-BYP/3SP, 4000K at 277V

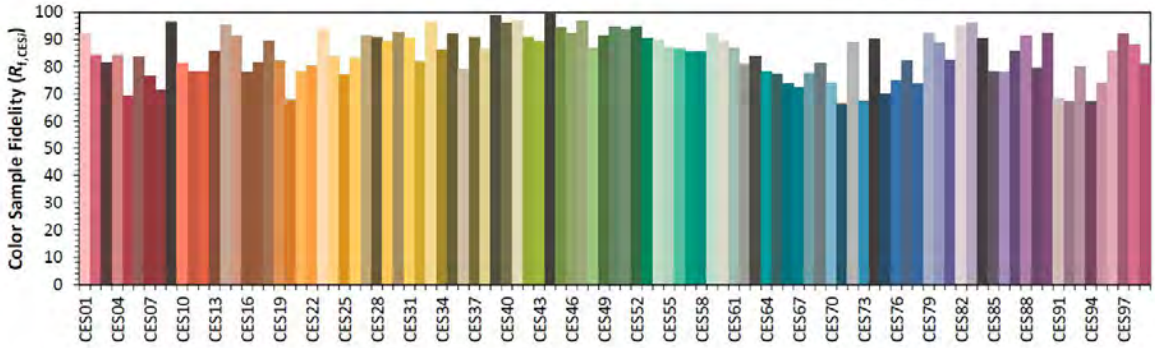












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3817
y	0.3740
u'	0.2270
v'	0.5006

CIE 13.3-1995 (CRI)

R_a	85
R_9	21

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

3.1.6 Model Number: HIDFA-80S-EX39-8CCT-BYP/3SP, 5000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.02	60	0.316	78.82	0.900

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
11019.29	139.8	4872

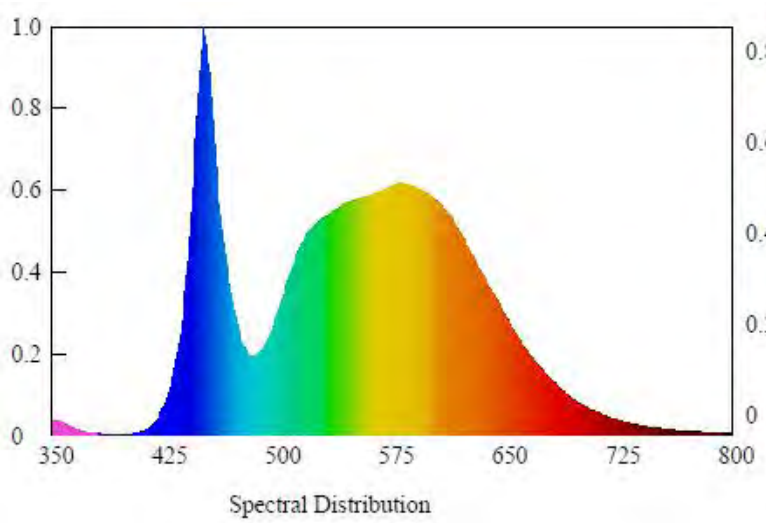
Chromaticity Coordinate

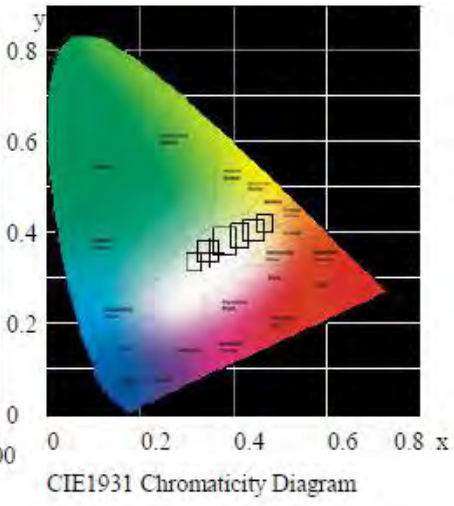
Duv	x	y	u'	v'
+0.00099	0.3491	0.3568	0.2121	0.4877

Color Rendering

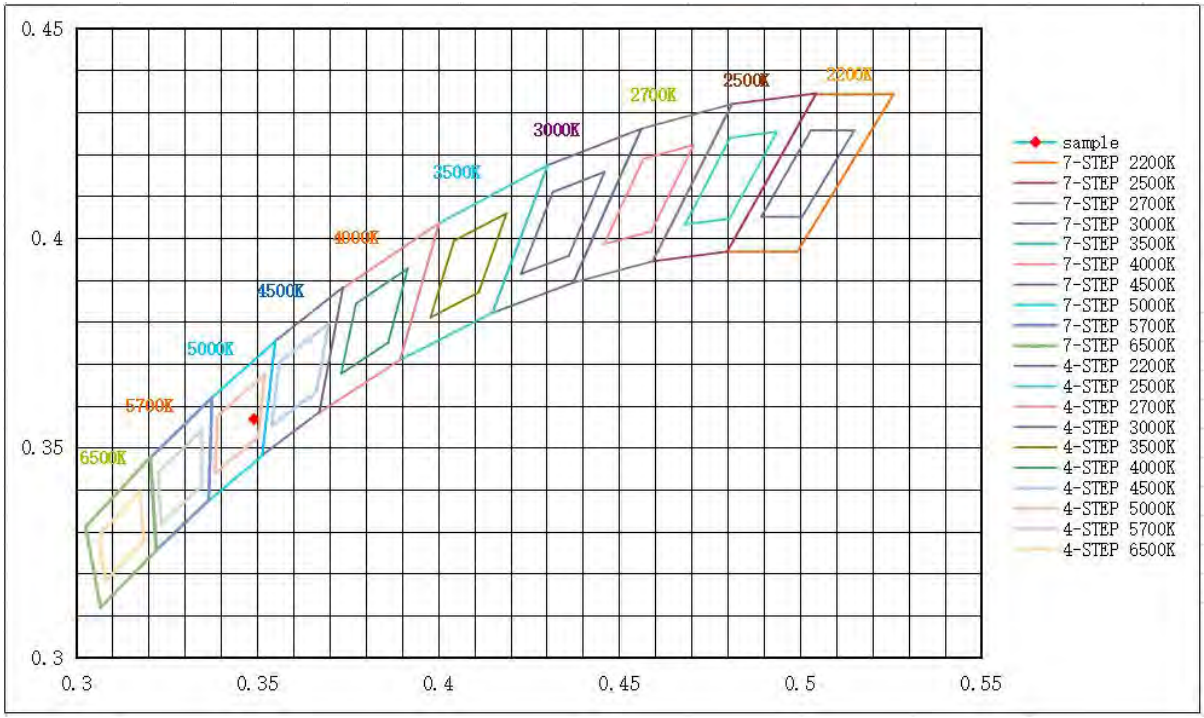
CRI	R9	Rf	Rg	Rcs,h1(%)
81.7	9	82	97	-12

Spectral Distribution



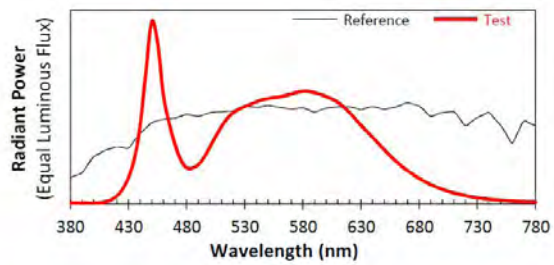


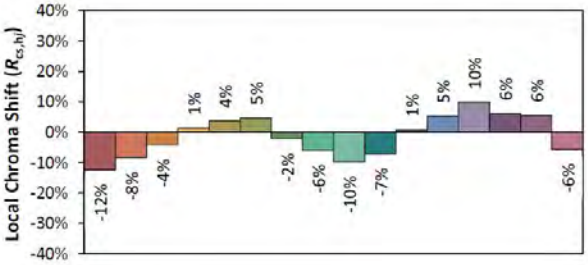
7/4 Step Quadrangle

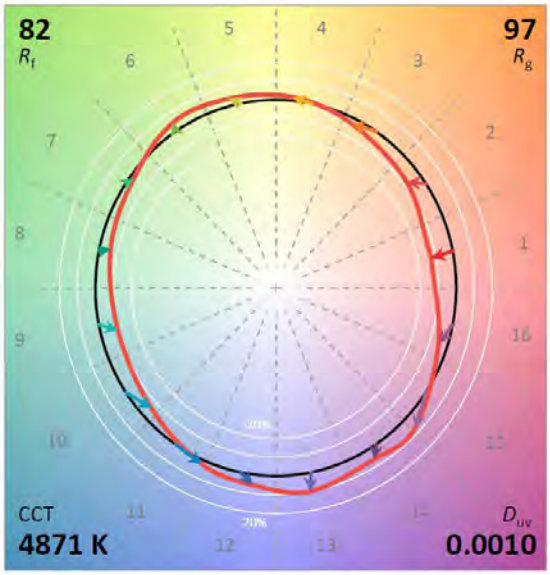


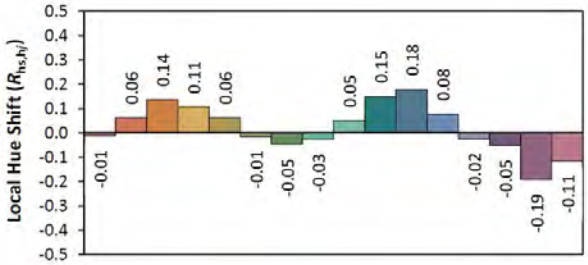
ANSI/IES TM-30-18 Color Rendition Report

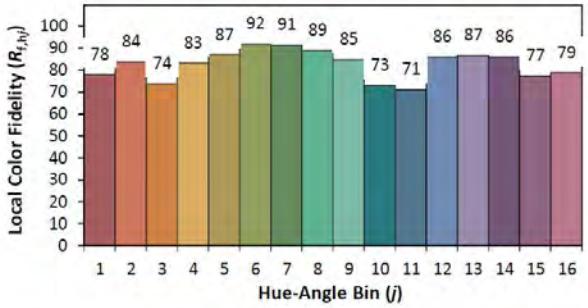
Source:	BL210817028-9	**Manufacturer:**	RAB Lighting Inc
Date:	2021-10-11	**Model:**	HIDFA-80S-EX39-8CCT-BYP/3SP, 5000K at 277V

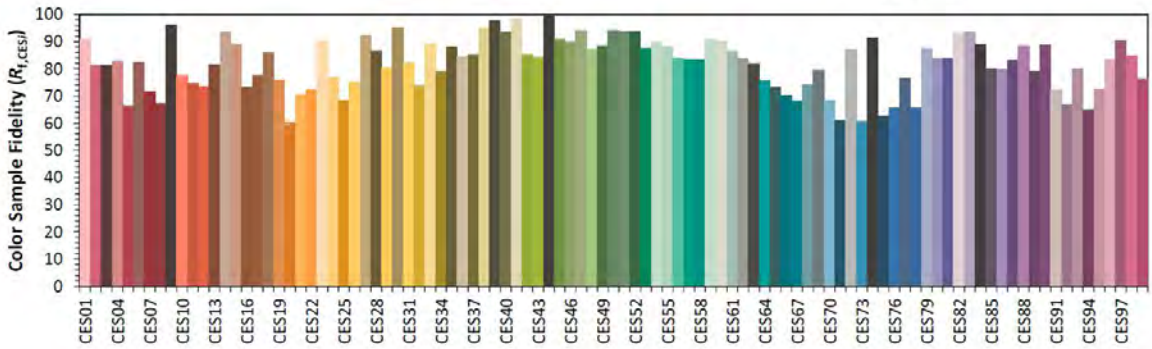












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3491
y	0.3568
u'	0.2121
v'	0.4877

CIE 13.3-1995 (CRI)

R_a	82
R_9	9

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: HIDFA-80S-EX39-8CCT-BYP/3SP, 3000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.200	60	0.645	76.770	0.990

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
10222.18	133.15	30.69	60.08

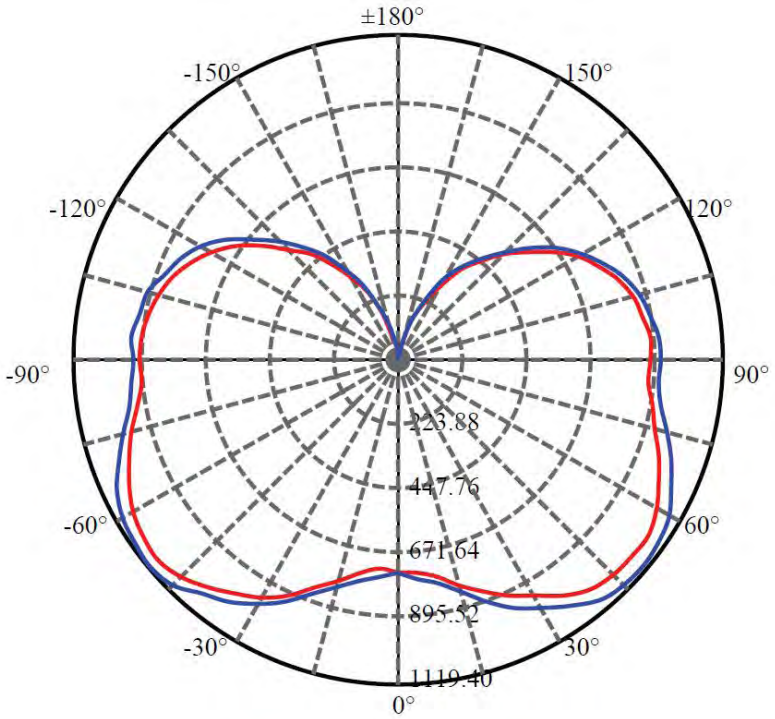
Zonal Flux Diagram

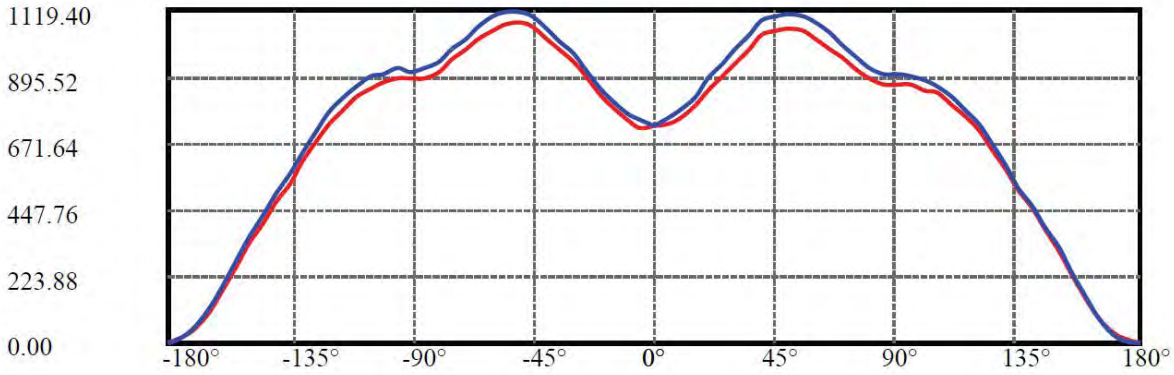
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	732.115	0.000	0	0.00%	0.00%
5.0	736.173	17.553	17.553	0.00%	0.17%
10.0	756.006	53.380	70.933	0.00%	0.69%
15.0	796.882	92.116	163.049	0.00%	1.60%
20.0	849.109	135.653	298.702	0.00%	2.92%
25.0	904.167	183.886	482.588	0.00%	4.72%
30.0	952.250	234.931	717.519	0.00%	7.02%
35.0	997.193	287.069	1004.588	0.00%	9.83%
40.0	1039.716	339.843	1344.431	0.00%	13.15%
45.0	1071.351	390.881	1735.312	0.00%	16.98%
50.0	1085.083	435.739	2171.051	0.00%	21.24%
55.0	1080.862	470.949	2642	0.00%	25.85%
60.0	1060.655	495.006	3137.005	0.00%	30.69%
65.0	1027.283	507.582	3644.587	0.00%	35.65%
70.0	987.849	510.244	4154.831	0.00%	40.65%
75.0	948.299	506.078	4660.909	0.00%	45.60%
80.0	916.497	498.967	5159.877	0.00%	50.48%
85.0	894.708	492.148	5652.024	0.00%	55.29%
90.0	894.759	489.970	6141.994	0.00%	60.08%
95.0	893.356	489.600	6631.594	0.00%	64.87%
100.0	876.960	481.037	7112.632	0.00%	69.58%
105.0	859.302	464.575	7577.207	0.00%	74.13%
110.0	828.902	441.269	8018.476	0.00%	78.44%
115.0	790.318	409.997	8428.473	0.00%	82.45%
120.0	740.703	372.194	8800.667	0.00%	86.09%
125.0	677.537	327.822	9128.49	0.00%	89.30%
130.0	605.193	278.908	9407.398	0.00%	92.03%
135.0	533.906	230.172	9637.569	0.00%	94.28%
140.0	468.216	185.551	9823.12	0.00%	96.10%
145.0	400.751	144.981	9968.101	0.00%	97.51%
150.0	325.203	106.902	10075.003	0.00%	98.56%
155.0	246.837	72.392	10147.395	0.00%	99.27%
160.0	164.236	43.114	10190.509	0.00%	99.69%
165.0	95.715	21.424	10211.932	0.00%	99.90%
170.0	40.605	8.086	10220.019	0.00%	99.98%
175.0	14.234	1.962	10221.981	0.00%	100.00%
180.0	2.168	0.196	10222.177	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:164.9 Right:163.1

:C90/270Left:165.4 Right:163.0

Beam Angle(50%Imax):C0/180Left:134.9 Right:133.0

:C90/270Left:136.0 Right:132.6

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	732.12	733.70	761.09	802.48	847.99	898.44	941.68	990.08	1034.35
22.5	732.12	726.08	750.38	795.07	847.17	902.97	945.60	991.11	1023.44
45.0	732.12	724.44	748.73	797.13	847.37	893.50	935.71	982.66	1022.41
67.5	732.12	728.55	750.59	791.77	844.28	894.12	934.27	983.28	1022.82
90.0	732.12	760.27	784.98	829.04	888.76	940.45	988.02	1034.56	1081.71
112.5	732.12	752.65	771.59	818.95	878.05	928.71	981.63	1030.64	1073.89
135.0	732.12	742.35	761.71	802.48	859.32	914.71	963.51	1007.79	1055.97
157.5	732.12	733.08	753.27	795.48	845.72	900.29	948.89	995.22	1044.03
180.0	732.12	724.64	748.12	789.51	836.25	893.91	942.92	985.13	1025.29
202.5	732.12	728.35	738.85	776.53	824.10	884.85	936.74	985.34	1028.58
225.0	732.12	723.20	739.47	771.39	824.31	889.17	934.68	971.75	1015.61
247.5	732.12	722.79	734.11	769.74	825.54	883.82	937.98	980.40	1019.93
270.0	732.12	753.88	775.09	812.78	857.67	921.09	972.98	1014.79	1054.74
292.5	732.12	745.85	762.33	801.45	861.17	911.83	969.69	1012.11	1057.21
315.0	732.12	740.29	760.06	798.57	848.40	900.71	951.57	992.34	1043.20
337.5	732.12	738.64	755.74	797.74	849.64	908.12	950.13	997.90	1032.29
360.0	732.12	733.70	761.09	802.48	847.99	898.44	941.68	990.08	1034.35

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1051.03	1053.91	1052.47	1025.08	989.66	956.51	915.53	890.00	868.38
22.5	1055.97	1068.33	1058.44	1034.14	996.46	957.95	920.27	891.03	868.58
45.0	1038.47	1041.97	1036.82	1012.73	978.34	942.92	900.09	873.32	854.58
67.5	1048.15	1058.65	1050.21	1027.97	990.69	949.92	913.47	887.73	863.43
90.0	1099.42	1103.54	1098.19	1077.59	1041.97	999.75	958.36	922.12	904.82
112.5	1100.24	1111.98	1106.63	1083.98	1058.65	1022.61	979.99	948.48	927.48
135.0	1083.77	1099.83	1092.83	1068.94	1034.35	991.31	952.60	914.91	892.67
157.5	1080.06	1094.68	1092.63	1074.92	1045.06	1009.43	969.07	937.15	915.74
180.0	1063.38	1080.27	1073.89	1053.29	1023.02	984.10	950.54	912.65	889.79
202.5	1067.30	1087.27	1091.80	1073.68	1039.29	1007.37	971.54	934.48	913.88
225.0	1060.71	1080.06	1079.45	1062.77	1031.26	989.46	954.86	922.74	898.03
247.5	1058.44	1086.45	1089.95	1073.47	1048.97	1008.81	964.34	931.59	907.50
270.0	1101.69	1114.45	1109.51	1096.54	1066.27	1022.82	984.52	944.77	925.83
292.5	1093.04	1119.40	1114.66	1099.63	1060.30	1013.76	965.16	939.62	917.18
315.0	1071.21	1079.24	1076.77	1059.68	1023.23	980.81	941.27	912.44	891.64
337.5	1068.74	1081.30	1069.56	1046.09	1009.02	968.04	931.18	900.91	875.79
360.0	1051.03	1053.91	1052.47	1025.08	989.66	956.51	915.53	890.00	868.38

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	869.20	871.88	851.28	839.75	802.89	766.24	717.23	651.75	581.32
22.5	877.02	872.91	855.81	837.28	807.22	768.30	713.52	644.95	575.76
45.0	859.11	858.90	839.75	825.13	787.24	748.32	701.37	637.95	563.40
67.5	870.23	867.96	851.08	832.55	800.83	764.18	706.31	641.24	578.02
90.0	905.85	899.06	881.97	860.76	827.40	783.74	734.11	673.57	597.38
112.5	928.92	919.86	906.06	881.55	852.73	810.92	758.21	690.87	617.56
135.0	898.44	890.20	875.79	855.61	824.31	786.01	735.97	678.31	603.15
157.5	918.62	911.62	898.65	875.17	850.87	809.07	761.09	697.46	622.30
180.0	889.59	886.91	873.94	853.96	826.16	787.24	740.29	682.43	609.53
202.5	910.18	905.24	893.50	871.26	847.58	810.92	761.30	697.87	624.36
225.0	897.62	891.23	880.73	860.96	836.05	794.45	750.18	692.11	618.39
247.5	905.24	900.09	884.64	866.52	843.87	805.98	758.41	693.14	622.92
270.0	912.44	923.77	904.62	895.35	860.14	827.19	779.01	719.29	642.27
292.5	910.38	920.68	900.50	885.88	855.40	819.78	770.15	702.20	632.18
315.0	886.50	893.50	873.73	861.79	826.99	787.04	739.67	679.34	605.82
337.5	876.82	879.91	859.32	845.31	812.78	775.71	724.44	658.13	588.73
360.0	869.20	871.88	851.28	839.75	802.89	766.24	717.23	651.75	581.32

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	512.54	451.38	380.96	307.85	229.19	148.26	83.19	33.77	11.12
22.5	506.16	444.18	376.84	297.76	221.16	142.29	76.40	30.27	9.68
45.0	499.36	437.59	367.78	297.15	216.63	140.44	73.51	26.56	9.06
67.5	508.22	442.73	374.57	299.21	219.93	141.47	77.63	22.03	9.06
90.0	520.57	458.38	391.25	317.53	236.81	153.41	82.58	30.68	10.09
112.5	540.34	471.97	401.34	323.30	240.93	158.35	88.55	30.68	10.30
135.0	532.52	466.62	401.14	325.56	247.93	160.83	95.34	39.95	13.59
157.5	549.81	478.56	410.20	335.24	251.64	173.39	101.31	44.89	14.42
180.0	538.49	470.12	403.81	331.54	260.08	173.59	106.05	49.22	17.92
202.5	552.08	483.30	420.70	344.30	264.41	181.42	111.40	52.51	18.74
225.0	548.17	480.01	413.90	341.21	265.85	185.95	114.70	53.95	19.15
247.5	550.02	482.07	416.17	345.13	264.61	182.04	113.05	53.95	20.18
270.0	571.44	503.69	431.41	354.81	279.64	187.39	116.76	53.54	19.97
292.5	557.43	492.36	427.08	342.04	261.32	176.27	103.58	48.19	17.09
315.0	536.22	471.97	401.96	326.59	253.49	166.39	98.02	42.21	14.83
337.5	519.13	456.53	392.90	314.03	235.78	156.30	89.37	37.27	12.56
360.0	512.54	451.38	380.96	307.85	229.19	148.26	83.19	33.77	11.12

C/γ(°)	180.0
0.0	2.17
22.5	2.17
45.0	2.17
67.5	2.17
90.0	2.17
112.5	2.17
135.0	2.17
157.5	2.17
180.0	2.17
202.5	2.17
225.0	2.17
247.5	2.17
270.0	2.17
292.5	2.17
315.0	2.17
337.5	2.17
360.0	2.17

3.2.2 Model Number: HIDFA-80S-EX39-8CCT-BYP/3SP, 3000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.170	60	0.315	78.410	0.897

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
10224.55	130.40	30.65	60.04

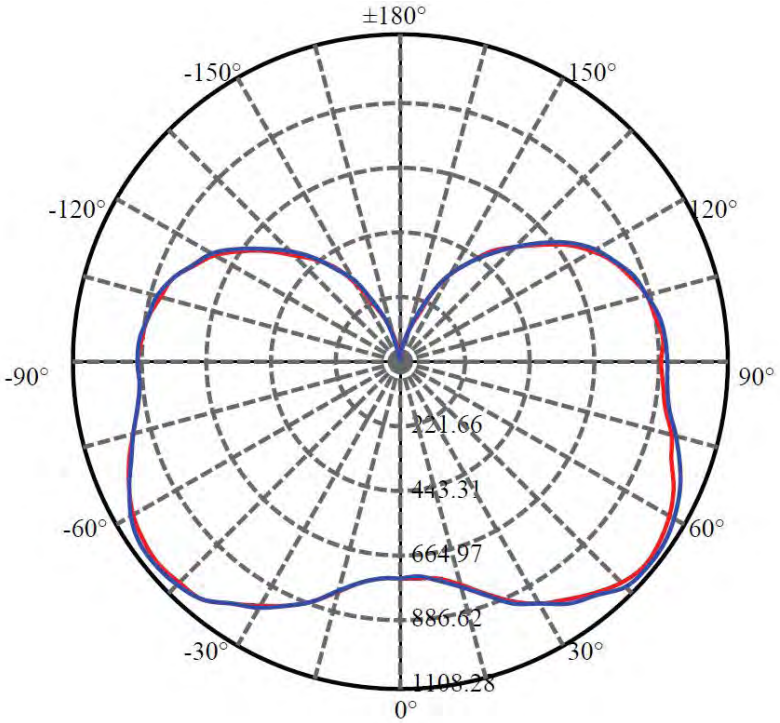
Zonal Flux Diagram

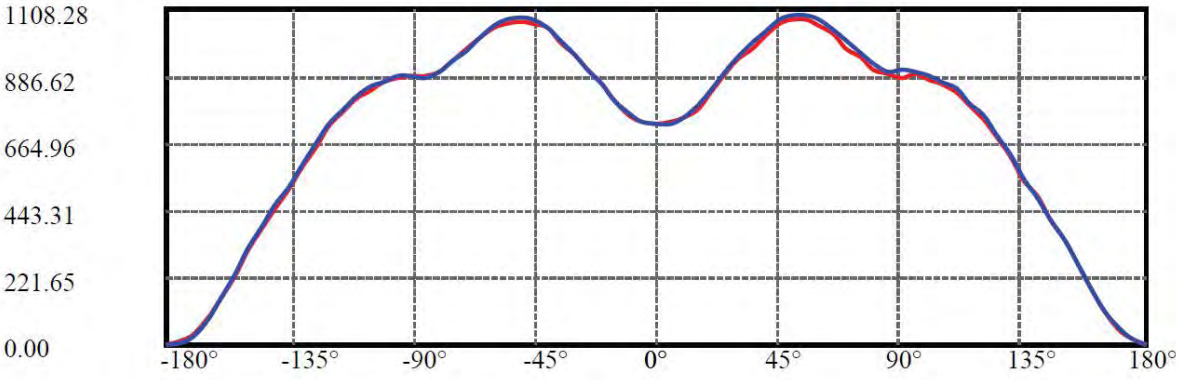
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	732.466	0.000	0	0.00%	0.00%
5.0	735.427	17.548	17.548	0.00%	0.17%
10.0	754.243	53.290	70.838	0.00%	0.69%
15.0	795.775	91.946	162.784	0.00%	1.59%
20.0	849.070	135.558	298.343	0.00%	2.92%
25.0	904.322	183.898	482.241	0.00%	4.72%
30.0	950.461	234.724	716.965	0.00%	7.01%
35.0	995.893	286.614	1003.58	0.00%	9.82%
40.0	1038.248	339.381	1342.961	0.00%	13.13%
45.0	1070.051	390.369	1733.329	0.00%	16.95%
50.0	1083.925	435.242	2168.571	0.00%	21.21%
55.0	1080.965	470.719	2639.29	0.00%	25.81%
60.0	1060.128	494.907	3134.198	0.00%	30.65%
65.0	1028.042	507.638	3641.836	0.00%	35.62%
70.0	987.206	510.274	4152.11	0.00%	40.61%
75.0	947.488	505.698	4657.808	0.00%	45.56%
80.0	915.390	498.454	5156.262	0.00%	50.43%
85.0	896.458	492.323	5648.584	0.00%	55.25%
90.0	893.318	490.055	6138.639	0.00%	60.04%
95.0	894.476	489.512	6628.151	0.00%	64.83%
100.0	877.706	481.544	7109.695	0.00%	69.54%
105.0	860.396	465.068	7574.763	0.00%	74.08%
110.0	830.730	442.033	8016.796	0.00%	78.41%
115.0	790.472	410.499	8427.295	0.00%	82.42%
120.0	741.424	372.407	8799.702	0.00%	86.06%
125.0	678.566	328.227	9127.929	0.00%	89.27%
130.0	606.069	279.322	9407.251	0.00%	92.01%
135.0	535.000	230.570	9637.82	0.00%	94.26%
140.0	469.941	186.073	9823.893	0.00%	96.08%
145.0	401.948	145.468	9969.361	0.00%	97.50%
150.0	326.928	107.332	10076.693	0.00%	98.55%
155.0	247.596	72.706	10149.4	0.00%	99.27%
160.0	164.931	43.266	10192.666	0.00%	99.69%
165.0	96.230	21.523	10214.19	0.00%	99.90%
170.0	41.249	8.155	10222.345	0.00%	99.98%
175.0	14.749	2.003	10224.348	0.00%	100.00%
180.0	1.817	0.198	10224.546	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:163.4 Right:165.0

:C90/270Left:163.0 Right:165.2

Beam Angle(50%Imax):C0/180Left:133.3 Right:135.8

:C90/270Left:133.6 Right:135.4

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	732.47	735.76	747.50	779.21	834.60	894.73	942.10	980.81	1022.20
22.5	732.47	732.88	745.03	782.92	829.25	888.97	932.01	979.37	1024.26
45.0	732.47	729.58	745.23	777.98	831.10	895.56	937.36	980.60	1018.91
67.5	732.47	736.79	747.71	780.04	830.07	889.38	940.65	986.37	1028.38
90.0	732.47	732.88	749.35	791.57	840.16	901.12	949.51	996.05	1030.02
112.5	732.47	729.17	751.21	795.48	852.73	906.27	960.42	1005.52	1047.94
135.0	732.47	736.59	754.29	792.60	848.20	905.65	953.01	995.43	1046.09
157.5	732.47	740.50	762.12	800.42	852.93	914.50	960.22	1004.49	1042.17
180.0	732.47	739.06	759.03	804.54	861.79	908.53	956.51	1000.99	1046.29
202.5	732.47	736.38	759.44	804.54	865.90	916.15	959.39	1010.46	1043.41
225.0	732.47	737.00	758.41	808.66	863.23	916.36	956.92	1003.26	1037.23
247.5	732.47	735.35	761.91	807.63	860.76	913.06	959.60	1010.46	1053.71
270.0	732.47	738.85	761.30	805.16	861.58	909.97	958.78	1002.43	1048.56
292.5	732.47	737.00	757.80	803.51	858.90	906.27	952.80	999.55	1048.15
315.0	732.47	737.00	753.27	798.98	852.11	907.09	950.13	995.84	1043.82
337.5	732.47	732.06	754.29	799.19	841.81	895.56	937.98	982.66	1030.85
360.0	732.47	735.76	747.50	779.21	834.60	894.73	942.10	980.81	1022.20

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1060.91	1074.50	1072.65	1051.65	1023.64	979.16	946.63	908.94	892.88
22.5	1062.77	1083.56	1093.24	1068.33	1031.05	992.55	953.42	920.47	903.38
45.0	1063.38	1082.12	1083.56	1064.41	1030.44	986.99	952.60	918.21	902.56
67.5	1068.12	1094.48	1094.68	1074.30	1045.47	998.93	954.04	928.09	905.85
90.0	1075.33	1090.77	1084.59	1071.83	1041.97	1005.31	963.72	928.09	903.59
112.5	1080.48	1108.28	1106.42	1090.57	1056.38	1016.43	970.51	936.74	915.53
135.0	1071.62	1076.98	1075.95	1057.41	1029.00	988.84	945.18	916.77	892.47
157.5	1076.36	1092.42	1085.01	1060.09	1027.55	987.60	951.57	917.59	897.20
180.0	1062.35	1067.91	1061.12	1043.62	1012.52	976.28	933.45	902.15	885.06
202.5	1075.53	1088.92	1080.48	1060.09	1030.02	991.31	949.72	919.44	901.12
225.0	1055.77	1059.47	1056.38	1033.32	1000.58	961.86	918.00	881.35	871.05
247.5	1080.27	1085.83	1080.27	1061.12	1031.67	986.78	944.36	915.33	899.68
270.0	1070.59	1078.83	1073.47	1053.09	1010.26	970.93	934.89	903.18	883.00
292.5	1075.53	1084.59	1079.86	1051.65	1027.35	984.72	948.07	916.36	895.76
315.0	1074.92	1090.98	1082.12	1059.68	1020.14	976.49	943.95	909.77	892.67
337.5	1066.89	1083.15	1085.62	1060.91	1030.64	991.11	949.72	923.77	901.53
360.0	1060.91	1074.50	1072.65	1051.65	1023.64	979.16	946.63	908.94	892.88

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	883.20	891.64	874.55	863.23	832.75	794.45	746.88	691.28	618.39
22.5	889.17	902.97	882.58	876.82	844.28	808.66	762.74	700.75	626.21
45.0	890.00	903.18	881.76	873.73	840.58	804.33	757.18	700.55	629.92
67.5	894.53	904.41	886.09	873.94	843.25	808.66	762.74	699.31	627.86
90.0	906.06	899.26	887.94	865.29	844.90	801.04	757.59	698.49	626.42
112.5	913.47	911.00	893.91	874.76	847.78	807.83	755.74	691.28	620.03
135.0	895.97	890.82	879.70	854.99	831.72	784.98	738.85	679.96	605.82
157.5	896.59	894.12	877.85	854.37	824.10	782.51	730.20	663.48	592.03
180.0	886.09	879.50	865.29	842.22	815.45	772.21	721.96	657.31	583.58
202.5	901.74	894.73	880.11	855.40	824.72	784.15	728.55	657.31	584.41
225.0	871.05	867.35	848.81	826.78	796.92	754.71	704.87	641.24	567.32
247.5	900.91	892.67	876.20	853.34	822.87	778.59	726.70	657.92	587.91
270.0	886.70	886.70	868.17	853.55	817.51	775.50	729.58	670.48	592.03
292.5	893.50	898.23	880.73	865.08	833.16	795.07	742.76	675.63	603.77
315.0	887.53	894.12	873.52	861.79	828.22	789.10	743.38	685.93	609.33
337.5	896.59	900.91	886.09	871.05	843.46	805.78	753.06	686.13	622.09
360.0	883.20	891.64	874.55	863.23	832.75	794.45	746.88	691.28	618.39

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	546.93	486.39	415.55	341.63	266.46	176.27	107.90	47.16	18.74
22.5	557.64	493.80	427.29	349.86	266.05	183.48	110.37	52.72	18.53
45.0	556.81	491.95	422.55	348.01	275.73	184.30	115.32	55.19	20.39
67.5	559.08	492.36	427.08	350.07	265.85	186.15	113.67	52.51	18.53
90.0	551.26	483.09	415.35	344.10	267.49	180.18	110.99	53.13	18.53
112.5	540.14	477.53	411.02	335.86	258.64	175.03	104.61	49.22	18.12
135.0	537.87	469.92	402.37	328.45	252.26	168.86	99.46	44.27	15.44
157.5	518.51	453.65	387.75	315.27	238.46	156.91	92.05	39.95	14.21
180.0	513.78	449.12	383.84	309.30	228.78	151.97	86.08	34.80	11.94
202.5	515.22	451.59	381.16	303.53	225.07	145.79	79.07	32.33	10.30
225.0	499.57	435.73	368.60	299.82	219.10	142.29	75.16	29.65	9.68
247.5	510.89	445.20	379.52	302.50	222.60	145.59	78.25	23.27	9.47
270.0	526.54	460.86	390.84	316.09	232.69	150.12	80.72	28.83	10.09
292.5	536.02	469.50	400.31	322.06	239.90	158.15	88.75	30.68	12.36
315.0	539.52	475.27	405.46	327.21	248.96	159.80	95.55	40.36	13.59
337.5	550.23	483.09	412.46	337.10	253.49	174.01	101.73	45.92	16.06
360.0	546.93	486.39	415.55	341.63	266.46	176.27	107.90	47.16	18.74

C/γ(°)	180.0
0.0	1.82
22.5	1.82
45.0	1.82
67.5	1.82
90.0	1.82
112.5	1.82
135.0	1.82
157.5	1.82
180.0	1.82
202.5	1.82
225.0	1.82
247.5	1.82
270.0	1.82
292.5	1.82
315.0	1.82
337.5	1.82
360.0	1.82

3.2.3 Model Number: HIDFA-80S-EX39-8CCT-BYP/3SP, 4000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.150	60	0.631	75.047	0.990

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
11193.32	149.15	29.67	58.84

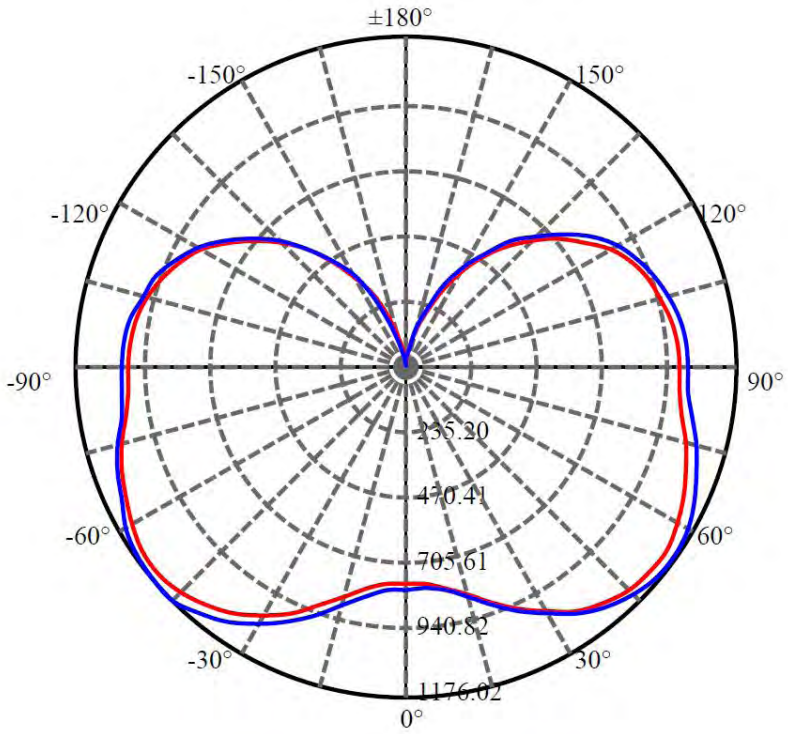
Zonal Flux Diagram

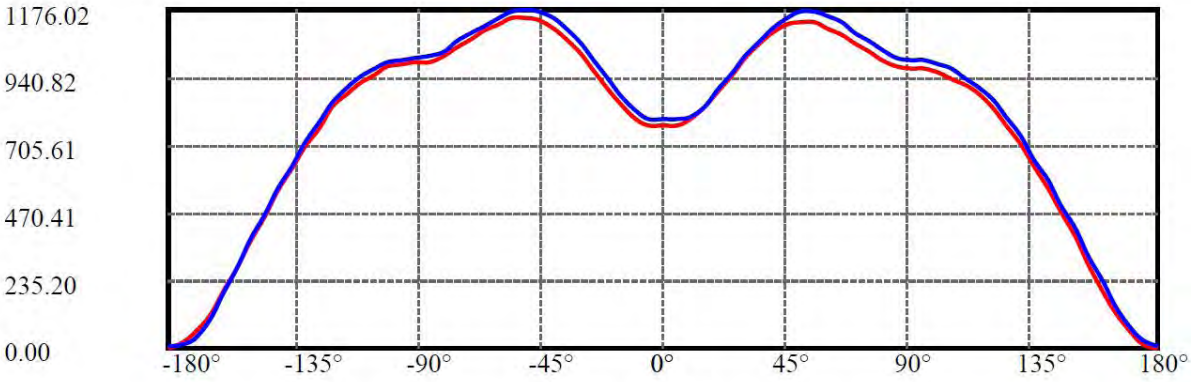
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	774.148	0.000	0	0.00%	0.00%
5.0	777.944	18.555	18.555	0.00%	0.17%
10.0	797.882	56.372	74.927	0.00%	0.67%
15.0	841.579	97.252	172.179	0.00%	1.54%
20.0	897.877	143.356	315.534	0.00%	2.82%
25.0	957.269	194.571	510.105	0.00%	4.56%
30.0	1014.769	249.563	759.668	0.00%	6.79%
35.0	1063.744	306.076	1065.744	0.00%	9.52%
40.0	1105.729	361.960	1427.704	0.00%	12.75%
45.0	1133.207	414.557	1842.261	0.00%	16.46%
50.0	1143.534	460.049	2302.31	0.00%	20.57%
55.0	1138.268	496.140	2798.449	0.00%	25.00%
60.0	1122.484	522.566	3321.016	0.00%	29.67%
65.0	1098.047	539.815	3860.831	0.00%	34.49%
70.0	1067.374	548.299	4409.13	0.00%	39.39%
75.0	1037.007	550.051	4959.181	0.00%	44.30%
80.0	1005.094	546.409	5505.591	0.00%	49.19%
85.0	987.086	541.323	6046.914	0.00%	54.02%
90.0	983.329	539.515	6586.429	0.00%	58.84%
95.0	979.443	537.422	7123.851	0.00%	63.64%
100.0	970.267	529.783	7653.634	0.00%	68.38%
105.0	949.882	513.778	8167.412	0.00%	72.97%
110.0	922.109	489.308	8656.72	0.00%	77.34%
115.0	884.726	457.502	9114.223	0.00%	81.43%
120.0	838.486	418.916	9533.139	0.00%	85.17%
125.0	778.340	373.725	9906.863	0.00%	88.51%
130.0	706.245	322.798	10229.662	0.00%	91.39%
135.0	631.567	270.324	10499.986	0.00%	93.81%
140.0	554.705	219.648	10719.634	0.00%	95.77%
145.0	472.807	171.432	10891.067	0.00%	97.30%
150.0	380.249	125.618	11016.685	0.00%	98.42%
155.0	291.539	85.015	11101.7	0.00%	99.18%
160.0	201.627	51.724	11153.424	0.00%	99.64%
165.0	119.933	26.501	11179.925	0.00%	99.88%
170.0	55.404	10.401	11190.326	0.00%	99.97%
175.0	20.449	2.714	11193.04	0.00%	100.00%
180.0	3.016	0.281	11193.32	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:165.3 Right:165.5

:C90/270Left:164.1 Right:167.0

Beam Angle(50%Imax):C0/180Left:138.4 Right:138.7

:C90/270Left:137.9 Right:139.7

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	773.18	777.06	794.85	836.98	894.44	949.45	1006.30	1056.40	1097.09
22.5	768.47	771.75	787.29	824.10	879.72	935.54	992.60	1036.36	1076.44
45.0	765.61	767.86	786.26	825.53	879.31	936.16	992.80	1041.06	1082.37
67.5	763.36	767.25	782.38	825.73	879.10	930.63	985.85	1028.79	1070.71
90.0	792.60	792.81	805.49	843.32	897.92	957.63	1015.29	1067.44	1112.84
112.5	780.74	781.97	796.69	837.18	890.76	947.61	1007.11	1058.85	1103.02
135.0	775.22	778.29	796.28	838.61	897.10	954.97	1017.75	1073.16	1114.06
157.5	774.00	777.06	797.72	840.25	897.92	955.17	1014.27	1059.46	1101.79
180.0	773.18	776.86	797.51	845.77	902.01	963.15	1020.61	1071.32	1108.95
202.5	768.47	773.79	796.28	839.43	895.46	953.95	1013.45	1060.69	1106.70
225.0	765.61	769.50	791.58	837.59	894.03	957.01	1014.88	1067.23	1107.31
247.5	763.36	767.45	790.56	836.16	891.58	950.67	1008.34	1056.80	1105.27
270.0	792.60	798.94	826.75	877.67	938.41	1002.00	1055.99	1107.93	1145.14
292.5	780.74	787.08	813.87	861.52	920.41	988.30	1041.47	1089.93	1133.28
315.0	775.22	781.36	804.87	853.75	908.14	973.78	1034.11	1086.66	1125.72
337.5	774.00	778.08	797.72	841.68	899.76	960.29	1015.50	1057.83	1100.97
360.0	773.18	777.06	794.85	836.98	894.44	949.45	1006.30	1056.40	1097.09

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1123.26	1134.31	1131.85	1112.02	1088.30	1057.83	1030.43	997.71	981.14
22.5	1105.47	1114.47	1110.38	1092.59	1065.19	1032.47	1003.02	971.94	955.17
45.0	1112.02	1128.79	1123.67	1103.43	1075.62	1045.97	1017.54	987.07	965.60
67.5	1097.91	1105.06	1096.07	1084.00	1062.53	1026.54	994.84	964.58	948.22
90.0	1148.01	1167.84	1167.84	1154.96	1133.08	1096.68	1066.62	1034.72	1004.66
112.5	1137.58	1152.92	1148.62	1137.58	1116.11	1085.43	1057.83	1024.70	1004.05
135.0	1144.74	1159.87	1157.82	1141.67	1114.88	1087.27	1058.03	1024.70	1001.80
157.5	1132.47	1140.44	1133.49	1119.58	1098.11	1066.82	1035.13	1006.50	987.28
180.0	1136.56	1148.62	1144.53	1127.97	1102.00	1072.35	1043.10	1012.02	995.46
202.5	1130.01	1135.33	1131.85	1116.72	1092.59	1061.51	1027.77	1001.59	983.60
225.0	1136.96	1152.30	1144.33	1124.90	1104.25	1081.34	1046.99	1014.48	1000.37
247.5	1126.13	1132.26	1128.17	1114.68	1094.84	1064.58	1031.45	1002.00	982.78
270.0	1171.73	1176.02	1167.23	1148.21	1119.79	1093.82	1063.35	1028.99	1016.93
292.5	1152.30	1156.80	1145.96	1132.26	1104.04	1073.16	1040.65	1008.95	995.25
315.0	1150.67	1158.85	1155.37	1140.44	1108.75	1079.09	1051.08	1015.70	1001.18
337.5	1125.51	1132.67	1125.10	1108.75	1088.71	1053.12	1024.29	985.85	969.90
360.0	1123.26	1134.31	1131.85	1112.02	1088.30	1057.83	1030.43	997.71	981.14

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	973.58	969.08	958.65	938.41	915.30	880.33	835.75	774.40	705.49
22.5	954.36	950.06	945.15	926.14	899.14	859.27	818.57	765.82	694.24
45.0	959.06	954.76	948.43	929.00	904.26	872.35	827.37	769.29	700.58
67.5	945.36	942.70	934.52	917.96	890.76	850.68	809.58	755.18	682.18
90.0	1001.80	998.32	989.32	968.26	938.61	905.07	864.99	805.49	734.53
112.5	1000.77	998.32	991.37	972.76	945.97	907.94	864.99	807.12	732.07
135.0	996.48	995.25	981.76	962.33	932.88	899.96	852.31	787.90	718.17
157.5	984.62	981.76	971.33	954.36	925.52	888.31	842.70	783.40	708.35
180.0	990.96	988.30	975.42	951.70	921.23	885.03	836.98	770.11	698.95
202.5	981.35	978.89	966.22	947.61	916.73	876.85	826.55	766.84	695.27
225.0	995.87	992.19	980.73	958.65	930.43	896.08	843.52	777.47	706.72
247.5	980.94	976.03	966.83	945.77	917.14	878.08	829.41	769.29	692.61
270.0	1011.20	1003.84	994.84	968.87	944.95	903.23	851.29	787.90	715.10
292.5	993.00	989.12	979.92	958.45	926.54	887.28	839.43	780.13	703.65
315.0	995.46	989.12	980.73	958.65	935.75	897.30	847.20	784.02	716.74
337.5	968.47	963.35	959.06	939.22	908.55	867.86	825.12	769.09	695.27
360.0	973.58	969.08	958.65	938.41	915.30	880.33	835.75	774.40	705.49

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	633.31	553.35	471.55	387.10	294.26	198.56	121.06	55.42	17.38
22.5	618.99	546.60	468.90	368.70	286.70	197.33	116.97	56.64	20.65
45.0	630.24	550.90	470.12	384.85	292.83	202.45	121.06	56.03	20.86
67.5	608.97	541.29	459.69	369.31	281.99	194.88	116.15	54.60	21.47
90.0	660.91	583.41	495.89	413.48	320.23	231.07	146.62	74.64	30.27
112.5	658.05	579.93	503.45	405.10	315.94	226.37	137.62	68.91	26.38
135.0	645.78	567.26	481.78	395.69	304.69	214.51	129.65	64.41	25.97
157.5	630.85	558.26	481.37	382.60	296.31	204.90	124.94	59.51	22.09
180.0	630.03	547.62	461.53	371.97	287.72	199.58	119.22	55.83	22.49
202.5	618.79	545.17	467.26	369.72	282.40	195.08	114.72	54.19	19.63
225.0	629.83	549.06	464.19	373.60	285.67	199.79	120.85	53.99	18.20
247.5	617.97	544.97	467.67	369.10	287.51	198.36	117.38	54.39	20.25
270.0	638.21	551.92	465.62	376.26	282.20	186.29	102.25	35.38	11.25
292.5	626.35	553.15	466.03	365.83	274.43	185.06	105.11	43.56	13.70
315.0	637.60	554.78	469.71	382.81	289.76	194.88	112.27	48.06	17.79
337.5	619.20	547.62	470.12	367.88	281.99	196.92	113.08	50.92	18.81
360.0	633.31	553.35	471.55	387.10	294.26	198.56	121.06	55.42	17.38

C/γ(°)	180.0
0.0	2.45
22.5	1.84
45.0	1.84
67.5	1.84
90.0	4.29
112.5	5.32
135.0	4.09
157.5	2.45
180.0	2.45
202.5	1.84
225.0	1.84
247.5	1.84
270.0	4.29
292.5	5.32
315.0	4.09
337.5	2.45
360.0	2.45

3.2.4 Model Number: HIDFA-80S-EX39-8CCT-BYP/3SP, 4000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.090	60	0.310	76.730	0.894

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
11256.52	146.70	29.64	58.81

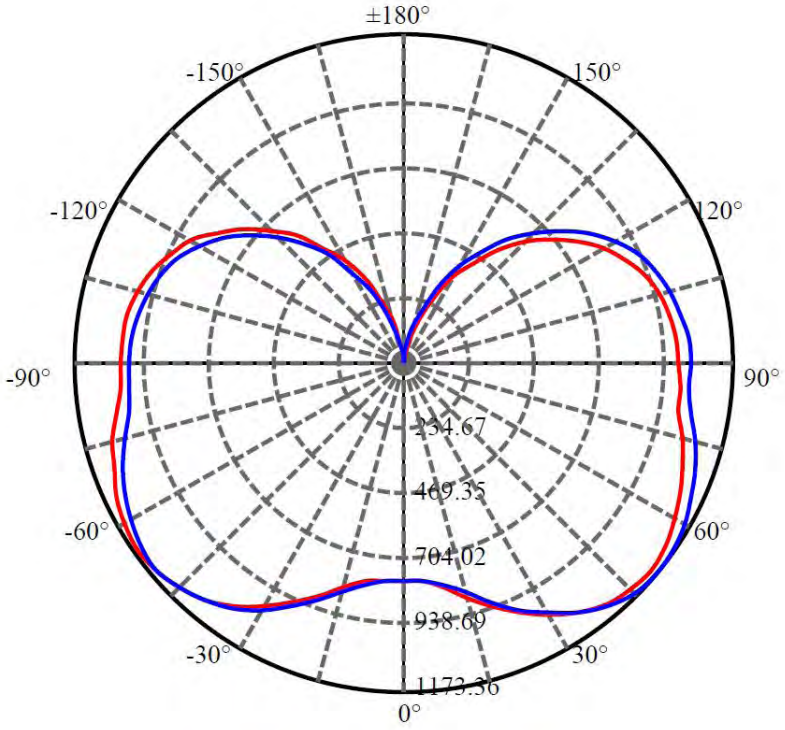
Zonal Flux Diagram

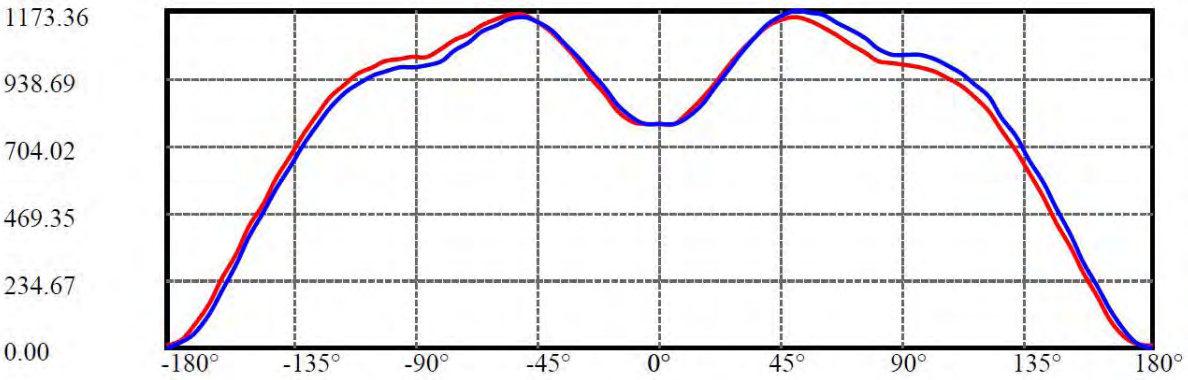
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	778.621	0.000	0	0.00%	0.00%
5.0	782.571	18.664	18.664	0.00%	0.17%
10.0	803.224	56.729	75.392	0.00%	0.67%
15.0	846.078	97.835	173.228	0.00%	1.54%
20.0	901.290	144.008	317.236	0.00%	2.82%
25.0	961.512	195.374	512.609	0.00%	4.55%
30.0	1019.408	250.687	763.296	0.00%	6.78%
35.0	1068.550	307.466	1070.763	0.00%	9.51%
40.0	1110.406	363.542	1434.305	0.00%	12.74%
45.0	1138.153	416.339	1850.644	0.00%	16.44%
50.0	1148.186	461.988	2312.632	0.00%	20.54%
55.0	1143.483	498.285	2810.917	0.00%	24.97%
60.0	1127.801	525.001	3335.918	0.00%	29.64%
65.0	1102.738	542.248	3878.166	0.00%	34.45%
70.0	1072.819	550.865	4429.031	0.00%	39.35%
75.0	1042.937	553.025	4982.055	0.00%	44.26%
80.0	1011.753	549.778	5531.833	0.00%	49.14%
85.0	993.732	544.938	6076.771	0.00%	53.98%
90.0	989.795	543.105	6619.877	0.00%	58.81%
95.0	986.358	541.086	7160.963	0.00%	63.62%
100.0	977.015	533.495	7694.458	0.00%	68.36%
105.0	956.502	517.355	8211.814	0.00%	72.95%
110.0	928.244	492.642	8704.456	0.00%	77.33%
115.0	890.516	460.522	9164.978	0.00%	81.42%
120.0	843.547	421.554	9586.531	0.00%	85.16%
125.0	782.941	375.958	9962.49	0.00%	88.50%
130.0	711.101	324.855	10287.344	0.00%	91.39%
135.0	636.041	272.210	10559.554	0.00%	93.81%
140.0	557.453	220.985	10780.539	0.00%	95.77%
145.0	474.187	172.121	10952.66	0.00%	97.30%
150.0	383.010	126.228	11078.888	0.00%	98.42%
155.0	292.523	85.489	11164.377	0.00%	99.18%
160.0	202.573	51.926	11216.304	0.00%	99.64%
165.0	120.943	26.662	11242.966	0.00%	99.88%
170.0	56.452	10.523	11253.489	0.00%	99.97%
175.0	20.193	2.742	11256.231	0.00%	100.00%
180.0	4.345	0.293	11256.524	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:167.5 Right:163.6

:C90/270Left:164.9 Right:165.9

Beam Angle(50%Imax):C0/180Left:140.7 Right:136.7

:C90/270Left:138.0 Right:139.2

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	776.24	783.40	814.08	865.40	920.61	984.42	1036.76	1085.02	1122.24
22.5	780.54	787.49	815.51	865.61	920.61	984.82	1032.06	1076.44	1116.72
45.0	777.06	785.45	816.73	866.22	924.30	986.66	1042.90	1090.14	1123.88
67.5	779.52	787.90	816.73	867.24	922.25	985.44	1037.79	1079.91	1117.33
90.0	777.68	783.20	803.85	846.59	905.89	971.53	1028.59	1084.41	1128.58
112.5	781.36	784.02	802.01	845.98	904.05	964.38	1026.95	1078.07	1127.56
135.0	776.65	778.08	794.85	836.36	893.83	955.58	1019.18	1075.82	1122.86
157.5	779.93	781.56	795.06	833.50	887.49	947.40	1013.45	1061.92	1109.56
180.0	776.24	777.27	788.10	825.12	879.51	939.22	999.96	1053.94	1100.97
202.5	780.54	781.36	791.99	825.12	875.22	931.66	997.71	1049.24	1091.57
225.0	777.06	777.88	789.54	823.69	873.79	932.27	992.80	1046.38	1093.20
247.5	779.52	780.13	793.42	827.57	878.69	937.59	994.84	1046.17	1087.27
270.0	777.68	781.97	802.42	844.14	901.19	958.45	1014.07	1064.78	1105.68
292.5	781.36	785.24	807.12	848.63	902.41	958.65	1013.86	1055.17	1095.86
315.0	776.65	781.56	807.94	857.02	914.48	974.40	1033.08	1083.18	1116.31
337.5	779.93	784.63	812.23	859.06	916.32	971.74	1026.54	1066.21	1106.90
360.0	776.24	783.40	814.08	865.40	920.61	984.42	1036.76	1085.02	1122.24

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1142.28	1148.83	1138.19	1117.54	1086.25	1058.65	1025.93	996.28	988.30
22.5	1128.99	1130.83	1121.42	1101.38	1073.37	1042.49	1007.52	985.44	976.44
45.0	1147.80	1153.94	1139.62	1119.38	1092.59	1070.91	1032.88	1001.80	993.62
67.5	1131.44	1130.83	1124.90	1105.88	1080.12	1049.85	1014.48	991.37	978.08
90.0	1159.87	1173.36	1168.66	1157.62	1131.24	1106.09	1077.05	1041.67	1023.88
112.5	1157.00	1163.55	1160.48	1146.17	1126.74	1096.48	1069.07	1031.45	1010.18
135.0	1155.98	1170.30	1172.55	1161.30	1136.15	1106.29	1082.16	1048.63	1025.52
157.5	1143.10	1152.51	1150.67	1138.19	1119.17	1087.48	1061.30	1026.34	1002.61
180.0	1135.74	1155.98	1160.48	1146.98	1125.92	1096.27	1072.35	1039.83	1011.82
202.5	1128.79	1143.92	1143.30	1134.10	1107.11	1076.44	1048.42	1017.75	990.75
225.0	1127.15	1149.44	1153.32	1139.42	1114.47	1081.34	1057.62	1025.93	996.07
247.5	1123.67	1138.40	1135.94	1125.92	1105.27	1073.57	1046.99	1010.79	989.32
270.0	1134.10	1151.07	1144.33	1123.67	1098.93	1064.17	1032.47	997.91	981.14
292.5	1126.74	1130.42	1120.20	1107.11	1080.12	1051.90	1017.95	989.73	972.55
315.0	1143.10	1151.28	1142.90	1121.22	1094.64	1063.76	1033.29	1002.41	988.51
337.5	1124.70	1126.33	1118.77	1098.93	1071.73	1039.42	1007.52	980.73	970.92
360.0	1142.28	1148.83	1138.19	1117.54	1086.25	1058.65	1025.93	996.28	988.30

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	982.78	977.05	963.97	940.86	912.84	874.40	821.64	758.66	682.59
22.5	971.12	966.22	955.17	931.86	898.12	852.93	806.71	740.66	670.73
45.0	986.66	980.12	969.08	947.81	915.50	873.17	820.82	757.43	684.22
67.5	974.19	970.92	959.47	938.81	904.05	860.90	813.26	750.68	676.66
90.0	1021.22	1020.20	1005.48	985.64	956.20	920.41	870.92	804.06	734.73
112.5	1005.89	1002.41	996.68	972.15	944.95	904.87	859.68	805.49	725.33
135.0	1023.27	1020.81	1012.02	993.21	963.97	933.09	887.28	820.82	750.68
157.5	997.71	994.84	987.89	965.40	942.49	903.44	856.40	802.83	728.60
180.0	1010.59	1006.91	1000.16	978.89	952.92	917.34	874.60	814.28	744.96
202.5	987.48	984.62	979.10	961.31	937.18	901.60	857.22	804.26	735.14
225.0	993.41	988.51	982.78	964.78	937.79	904.26	860.90	803.65	736.57
247.5	983.60	982.98	977.46	958.85	933.70	898.53	851.29	798.33	726.14
270.0	977.05	973.58	963.15	945.77	918.98	890.55	841.07	778.29	709.99
292.5	971.53	968.06	958.65	940.65	914.07	870.31	827.98	767.45	695.27
315.0	984.01	980.12	969.08	947.81	920.00	885.03	834.12	772.15	702.22
337.5	966.22	964.38	952.11	930.23	899.14	857.43	812.85	748.02	673.80
360.0	982.78	977.05	963.97	940.86	912.84	874.40	821.64	758.66	682.59

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	609.38	523.09	440.88	349.68	261.75	171.36	93.86	37.42	13.29
22.5	594.66	518.18	426.36	338.84	245.18	162.77	88.14	38.04	12.27
45.0	607.34	521.86	438.02	346.00	262.57	171.16	89.36	35.79	11.45
67.5	601.00	524.52	437.61	346.20	255.41	167.89	93.25	39.47	11.04
90.0	658.66	573.80	486.89	395.69	302.24	211.44	129.65	58.89	16.77
112.5	647.01	574.62	495.48	394.87	305.92	216.35	131.49	58.28	14.11
135.0	676.04	594.04	501.00	412.87	321.46	228.82	141.30	68.91	24.13
157.5	650.28	578.71	502.64	407.55	316.14	226.17	142.33	68.71	28.42
180.0	670.93	592.61	503.45	420.64	326.98	240.07	154.59	77.09	28.83
202.5	659.69	584.43	508.77	419.41	325.14	232.91	147.23	78.12	30.06
225.0	662.96	587.50	503.86	419.61	325.75	236.39	152.35	78.93	30.67
247.5	656.21	581.16	508.16	410.62	324.53	231.69	146.62	75.46	31.29
270.0	636.99	552.74	470.74	383.83	291.60	197.54	115.74	52.96	20.25
292.5	618.79	544.15	462.56	366.45	277.29	188.74	107.77	48.87	18.40
315.0	625.33	541.69	460.10	368.70	278.11	184.86	106.13	44.58	16.97
337.5	601.41	526.15	440.47	347.22	260.32	173.00	95.29	41.72	15.13
360.0	609.38	523.09	440.88	349.68	261.75	171.36	93.86	37.42	13.29

C/γ(°)	180.0
0.0	5.11
22.5	6.95
45.0	5.93
67.5	6.54
90.0	2.45
112.5	2.05
135.0	1.84
157.5	3.89
180.0	5.11
202.5	6.95
225.0	5.93
247.5	6.54
270.0	2.45
292.5	2.05
315.0	1.84
337.5	3.89
360.0	5.11

3.2.5 Model Number: HIDFA-80S-EX39-8CCT-BYP/3SP, 5000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.140	60	0.648	77.070	0.990

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
11031.22	143.13	29.22	58.18

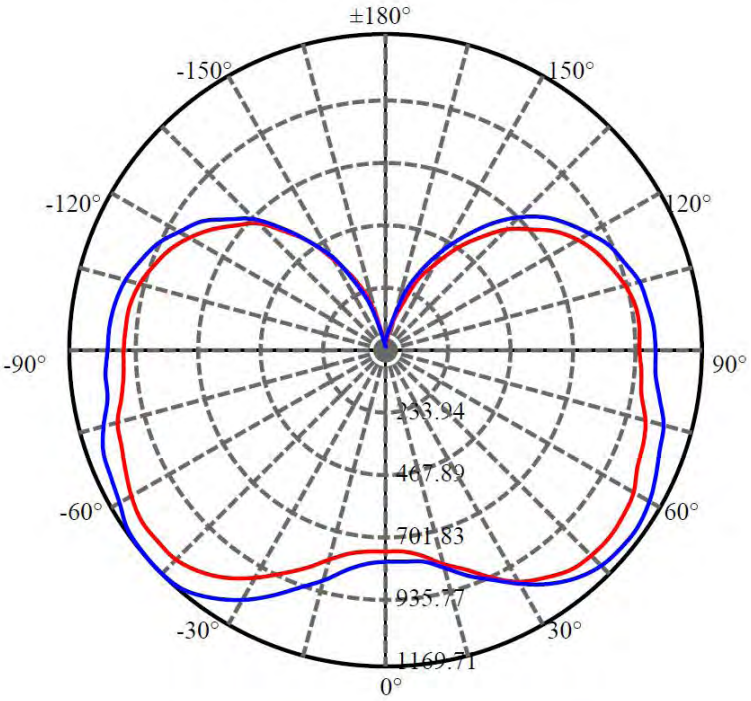
Zonal Flux Diagram

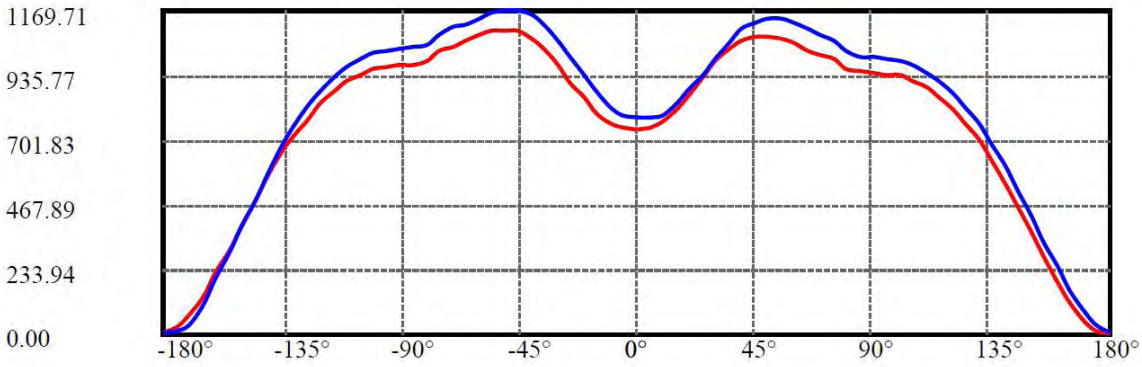
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	751.563	0.000	0	0.00%	0.00%
5.0	755.621	18.018	18.018	0.00%	0.16%
10.0	775.180	54.762	72.779	0.00%	0.66%
15.0	818.016	94.507	167.287	0.00%	1.52%
20.0	872.244	139.301	306.588	0.00%	2.78%
25.0	931.098	189.137	495.725	0.00%	4.49%
30.0	992.182	243.393	739.118	0.00%	6.70%
35.0	1041.458	299.468	1038.586	0.00%	9.41%
40.0	1077.753	353.574	1392.16	0.00%	12.62%
45.0	1098.396	402.932	1795.092	0.00%	16.27%
50.0	1104.874	445.203	2240.295	0.00%	20.31%
55.0	1099.404	479.283	2719.578	0.00%	24.65%
60.0	1081.937	504.211	3223.789	0.00%	29.22%
65.0	1062.252	521.256	3745.046	0.00%	33.95%
70.0	1042.756	533.002	4278.047	0.00%	38.78%
75.0	1019.265	538.979	4817.026	0.00%	43.67%
80.0	986.624	536.720	5353.746	0.00%	48.53%
85.0	972.359	532.303	5886.049	0.00%	53.36%
90.0	968.792	531.502	6417.551	0.00%	58.18%
95.0	964.734	529.415	6946.966	0.00%	62.98%
100.0	958.433	522.571	7469.536	0.00%	67.71%
105.0	940.109	507.997	7977.533	0.00%	72.32%
110.0	914.488	484.762	8462.295	0.00%	76.71%
115.0	879.970	454.368	8916.663	0.00%	80.83%
120.0	836.819	417.354	9334.018	0.00%	84.61%
125.0	785.325	374.954	9708.971	0.00%	88.01%
130.0	722.325	327.813	10036.785	0.00%	90.99%
135.0	652.104	277.723	10314.508	0.00%	93.50%
140.0	574.019	227.027	10541.535	0.00%	95.56%
145.0	487.641	177.130	10718.665	0.00%	97.17%
150.0	389.556	129.173	10847.838	0.00%	98.34%
155.0	300.318	87.304	10935.142	0.00%	99.13%
160.0	212.163	53.750	10988.892	0.00%	99.62%
165.0	126.466	27.908	11016.799	0.00%	99.87%
170.0	60.580	11.095	11027.895	0.00%	99.97%
175.0	23.378	3.003	11030.898	0.00%	100.00%
180.0	3.731	0.324	11031.222	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:165.4
:C90/270Left:164.5 Right:167.8

Beam Angle(50%Imax):C0/180Left:141.4 Right:139.7
:C90/270Left:139.9 Right:141.5

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	742.24	747.68	772.68	814.02	867.46	926.33	986.42	1029.37	1064.05
22.5	744.05	748.49	765.02	805.55	856.97	909.40	970.70	1011.83	1039.45
45.0	734.37	738.20	756.96	795.27	845.68	895.28	952.35	998.32	1035.22
67.5	732.36	736.19	754.74	793.05	847.09	895.08	957.39	996.51	1023.93
90.0	782.77	784.18	795.47	832.57	884.60	937.22	997.51	1052.36	1103.78
112.5	769.26	770.47	780.55	818.26	874.31	925.33	991.06	1046.71	1085.03
135.0	757.36	758.77	772.28	810.19	863.22	924.12	984.00	1042.28	1084.62
157.5	750.10	752.12	767.44	805.15	861.00	914.64	983.40	1030.58	1068.29
180.0	742.24	745.46	760.79	800.51	854.75	911.21	971.10	1030.78	1069.90
202.5	744.05	747.08	765.02	805.15	859.59	913.83	984.81	1034.41	1067.28
225.0	734.37	737.40	754.74	799.50	852.53	917.26	973.92	1029.17	1068.89
247.5	732.36	736.99	756.55	801.72	853.34	917.46	984.21	1030.38	1066.68
270.0	782.77	792.04	823.09	877.34	937.83	1004.97	1064.05	1119.71	1154.19
292.5	769.26	775.31	806.16	860.20	917.87	992.88	1047.12	1091.07	1127.17
315.0	757.36	763.21	789.42	840.23	897.50	963.84	1020.70	1073.33	1104.79
337.5	750.10	756.35	781.96	829.55	882.18	948.72	1006.18	1046.51	1080.79
360.0	742.24	747.68	772.68	814.02	867.46	926.33	986.42	1029.37	1064.05

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1073.13	1077.97	1071.11	1054.38	1026.15	1011.43	993.68	959.20	948.31
22.5	1055.79	1059.22	1051.15	1034.82	1013.04	994.49	964.85	938.43	927.75
45.0	1055.18	1059.01	1054.58	1038.04	1011.23	990.46	971.10	936.42	923.51
67.5	1047.12	1049.94	1039.45	1023.32	1007.39	985.42	954.77	923.91	913.03
90.0	1126.36	1139.87	1141.08	1124.75	1103.78	1080.19	1062.84	1025.74	1000.34
112.5	1114.06	1134.02	1127.97	1111.04	1090.87	1072.32	1051.35	1017.88	992.47
135.0	1108.42	1122.13	1117.89	1101.76	1082.61	1063.85	1045.50	1012.03	986.83
157.5	1092.28	1102.77	1098.13	1079.78	1061.23	1041.87	1017.27	980.78	961.02
180.0	1097.33	1099.95	1100.35	1084.42	1062.24	1037.44	1023.73	990.86	970.29
202.5	1090.87	1098.54	1095.31	1078.17	1063.45	1038.45	1013.85	982.79	965.65
225.0	1090.67	1101.16	1100.15	1080.99	1057.00	1042.88	1025.34	994.29	983.40
247.5	1087.45	1091.48	1083.01	1064.66	1055.79	1034.41	1008.81	977.75	963.44
270.0	1168.50	1169.71	1161.85	1139.87	1121.52	1110.03	1083.01	1045.10	1040.87
292.5	1142.90	1146.12	1139.47	1121.93	1104.79	1083.21	1051.35	1028.77	1022.32
315.0	1124.75	1128.18	1119.71	1104.18	1081.60	1063.05	1039.05	1005.18	998.93
337.5	1099.54	1097.93	1089.26	1068.89	1053.37	1034.62	1001.75	966.86	959.61
360.0	1073.13	1077.97	1071.11	1054.38	1026.15	1011.43	993.68	959.20	948.31

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	941.05	940.05	935.41	916.66	891.45	857.37	816.24	765.02	701.10
22.5	925.73	924.32	920.49	904.56	881.17	846.28	806.36	754.74	696.47
45.0	918.27	912.02	910.20	890.64	870.08	839.63	796.08	750.10	691.42
67.5	910.61	908.79	904.56	889.03	864.83	832.17	796.08	745.26	683.36
90.0	1001.34	993.88	985.82	971.30	944.89	914.84	871.49	820.47	764.22
112.5	991.06	984.81	980.58	962.02	937.42	902.94	857.58	806.56	745.06
135.0	987.63	979.37	975.53	955.98	932.18	900.73	855.76	800.91	743.65
157.5	959.00	954.36	949.52	932.99	909.80	875.92	830.96	782.16	719.86
180.0	972.11	964.24	958.19	937.42	912.22	881.37	835.60	780.95	722.48
202.5	964.04	962.02	949.93	931.98	908.19	874.71	830.15	779.34	715.82
225.0	977.95	971.10	964.85	945.29	916.25	884.19	838.02	790.83	725.30
247.5	959.00	954.36	948.52	928.55	904.36	869.27	825.92	775.10	710.78
270.0	1031.79	1025.74	1016.27	995.09	966.86	928.15	881.37	826.52	755.95
292.5	1016.67	1016.27	1006.79	988.24	955.17	915.04	873.50	818.86	747.28
315.0	989.25	987.43	980.78	959.61	933.39	888.02	844.47	792.04	726.31
337.5	955.17	956.98	947.51	932.38	903.55	868.87	829.55	776.31	708.16
360.0	941.05	940.05	935.41	916.66	891.45	857.37	816.24	765.02	701.10

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	629.52	545.64	463.17	371.82	283.91	191.96	114.73	49.60	17.34
22.5	625.69	553.91	469.02	365.57	277.46	192.97	111.10	53.84	21.58
45.0	624.88	548.06	459.34	371.82	287.34	197.00	116.55	54.24	22.58
67.5	616.01	548.26	468.41	367.79	282.09	198.21	116.75	57.27	22.99
90.0	693.24	612.38	522.25	429.70	336.74	247.01	158.49	84.49	34.28
112.5	676.30	606.74	524.67	421.83	332.71	243.78	151.43	79.04	32.26
135.0	679.33	599.07	508.54	420.42	326.46	236.12	149.01	78.44	31.86
157.5	651.50	581.73	507.53	406.71	315.16	231.68	145.18	73.80	29.44
180.0	659.97	573.87	488.98	395.62	307.10	223.42	138.53	69.57	29.24
202.5	647.06	573.87	492.61	393.60	305.49	221.00	132.07	66.74	26.21
225.0	652.51	568.22	481.32	386.75	300.44	215.96	131.27	65.33	25.21
247.5	643.84	573.46	490.19	387.96	301.86	217.37	129.66	62.91	23.79
270.0	681.75	583.14	489.18	394.61	300.04	200.83	107.88	39.12	12.50
292.5	668.03	590.20	493.62	377.87	283.71	191.56	108.68	43.35	14.52
315.0	651.50	563.18	469.82	375.45	287.94	193.17	104.45	43.76	16.33
337.5	632.55	562.58	473.65	365.37	276.65	192.57	107.68	47.79	13.91
360.0	629.52	545.64	463.17	371.82	283.91	191.96	114.73	49.60	17.34

C/γ(°)	180.0
0.0	4.23
22.5	2.42
45.0	2.42
67.5	1.61
90.0	5.24
112.5	5.85
135.0	5.24
157.5	2.82
180.0	4.23
202.5	2.42
225.0	2.42
247.5	1.61
270.0	5.24
292.5	5.85
315.0	5.24
337.5	2.82
360.0	4.23

3.2.6 Model Number: HIDFA-80S-EX39-8CCT-BYP/3SP, 5000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.130	60	0.317	78.770	0.898

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
11075.71	140.61	29.21%	58.16

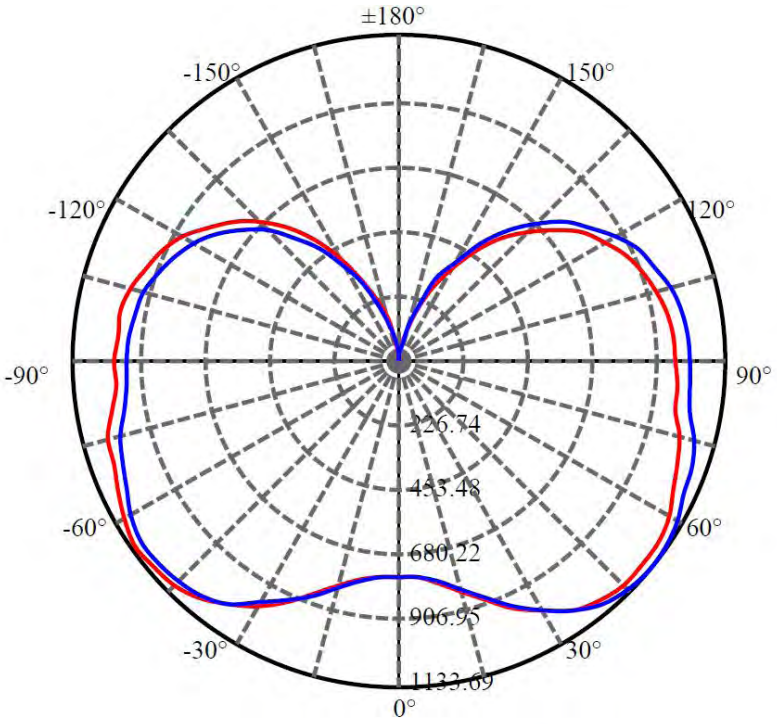
Zonal Flux Diagram

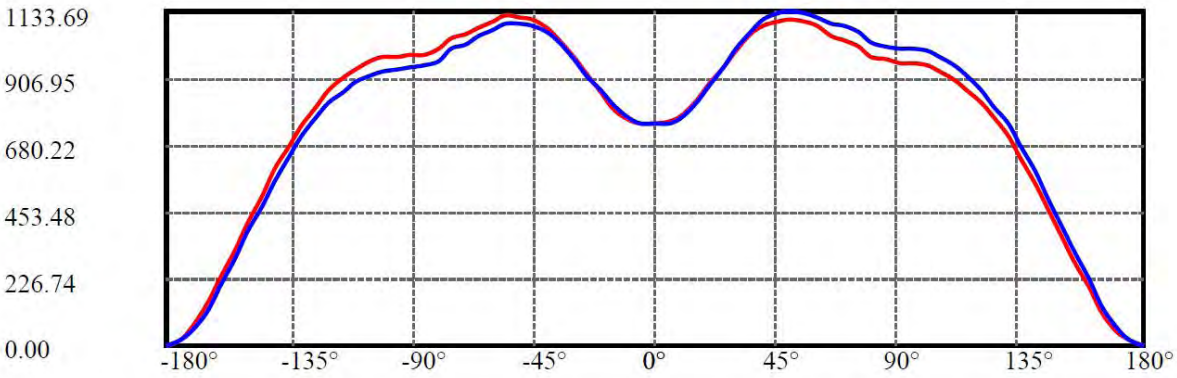
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	754.440	0.000	0	0.00%	0.00%
5.0	757.955	18.080	18.08	0.00%	0.16%
10.0	778.442	54.962	73.042	0.00%	0.66%
15.0	821.679	94.918	167.96	0.00%	1.52%
20.0	876.661	139.967	307.927	0.00%	2.78%
25.0	934.315	189.938	497.865	0.00%	4.50%
30.0	995.202	244.182	742.047	0.00%	6.70%
35.0	1045.174	300.460	1042.507	0.00%	9.41%
40.0	1080.883	354.717	1397.223	0.00%	12.62%
45.0	1102.061	404.190	1801.413	0.00%	16.26%
50.0	1108.655	446.707	2248.121	0.00%	20.30%
55.0	1103.364	480.967	2729.087	0.00%	24.64%
60.0	1087.261	506.357	3235.444	0.00%	29.21%
65.0	1066.083	523.482	3758.926	0.00%	33.94%
70.0	1046.248	534.856	4293.782	0.00%	38.77%
75.0	1023.715	541.055	4834.837	0.00%	43.65%
80.0	990.780	539.023	5373.859	0.00%	48.52%
85.0	975.520	534.291	5908.15	0.00%	53.34%
90.0	972.069	533.265	6441.415	0.00%	58.16%
95.0	968.337	531.298	6972.713	0.00%	62.96%
100.0	962.087	524.542	7497.256	0.00%	67.69%
105.0	943.364	509.846	8007.101	0.00%	72.29%
110.0	918.352	486.622	8493.724	0.00%	76.69%
115.0	884.470	456.486	8950.21	0.00%	80.81%
120.0	841.515	419.590	9369.8	0.00%	84.60%
125.0	788.347	376.738	9746.538	0.00%	88.00%
130.0	726.412	329.359	10075.897	0.00%	90.97%
135.0	655.033	279.141	10355.039	0.00%	93.49%
140.0	576.879	228.098	10583.137	0.00%	95.55%
145.0	490.226	178.038	10761.176	0.00%	97.16%
150.0	391.854	129.892	10891.068	0.00%	98.33%
155.0	302.288	87.844	10978.912	0.00%	99.13%
160.0	214.050	54.154	11033.067	0.00%	99.62%
165.0	127.704	28.165	11061.232	0.00%	99.87%
170.0	60.682	11.175	11072.407	0.00%	99.97%
175.0	22.813	2.987	11075.394	0.00%	100.00%
180.0	3.374	0.313	11075.707	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:167.4 Right:165.0

:C90/270Left:165.7 Right:166.6

Beam Angle(50%Imax):C0/180Left:142.3 Right:139.6

:C90/270Left:139.5 Right:141.4

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	751.71	757.23	784.22	829.41	886.06	946.18	999.55	1053.74	1085.64
22.5	757.64	763.77	790.56	840.25	891.37	958.24	1016.32	1058.85	1087.68
45.0	755.59	761.73	790.97	841.07	899.35	960.49	1015.29	1064.37	1097.50
67.5	758.25	765.20	795.06	847.61	896.89	968.67	1022.04	1065.19	1094.64
90.0	752.32	756.41	776.04	823.69	879.72	941.88	1004.46	1061.51	1102.41
112.5	756.41	761.52	779.72	826.75	883.40	942.70	1010.39	1061.10	1099.95
135.0	746.59	749.05	768.06	812.85	870.72	933.91	998.73	1052.71	1097.50
157.5	757.02	759.07	777.47	816.73	872.56	933.29	1002.82	1047.60	1085.84
180.0	751.71	752.93	768.47	805.69	862.13	920.41	981.35	1034.52	1077.46
202.5	757.64	759.07	772.36	808.76	865.40	916.52	981.14	1032.47	1067.03
225.0	755.59	755.39	768.27	804.26	856.61	907.12	965.19	1016.52	1063.14
247.5	758.25	758.86	770.72	807.12	858.04	907.53	968.47	1023.06	1059.46
270.0	752.32	755.18	775.02	815.30	868.27	914.89	970.71	1027.36	1064.37
292.5	756.41	760.70	781.36	819.60	873.99	924.50	990.14	1032.27	1063.76
315.0	746.59	749.46	771.95	817.96	876.44	932.07	989.73	1046.58	1079.09
337.5	757.02	761.73	784.83	829.82	885.65	940.65	1006.91	1044.94	1068.67
360.0	751.71	757.23	784.22	829.41	886.06	946.18	999.55	1053.74	1085.64

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1100.77	1105.68	1100.16	1084.21	1051.90	1032.68	1011.20	977.67	968.26
22.5	1103.63	1106.50	1100.57	1080.12	1060.08	1032.27	1004.66	981.55	972.35
45.0	1114.06	1120.20	1111.81	1087.48	1060.69	1049.44	1023.68	987.89	985.03
67.5	1106.90	1106.09	1094.64	1079.30	1062.74	1034.72	1003.23	983.60	976.44
90.0	1123.47	1133.69	1128.99	1114.06	1093.61	1081.14	1064.78	1026.34	1011.82
112.5	1127.35	1128.38	1124.29	1113.24	1098.52	1080.93	1054.76	1017.54	1005.48
135.0	1124.08	1127.97	1129.60	1117.74	1099.34	1080.53	1060.89	1026.54	1010.39
157.5	1108.54	1115.29	1108.34	1089.52	1076.44	1058.65	1034.52	997.91	982.37
180.0	1104.25	1115.49	1116.72	1102.00	1076.23	1055.78	1045.56	1009.36	989.12
202.5	1089.11	1098.52	1094.84	1081.34	1061.51	1039.01	1021.02	985.44	963.56
225.0	1089.52	1101.38	1102.61	1086.66	1066.42	1044.33	1026.54	994.84	969.08
247.5	1084.82	1095.66	1090.95	1078.89	1058.03	1038.20	1016.72	978.49	953.95
270.0	1083.18	1094.84	1090.75	1071.53	1046.17	1023.06	1003.43	967.24	950.06
292.5	1087.07	1095.86	1086.25	1071.12	1049.85	1033.08	1005.07	975.21	957.83
315.0	1098.11	1100.77	1093.41	1077.46	1053.33	1034.72	1014.07	978.89	963.56
337.5	1088.09	1092.18	1079.91	1061.51	1042.49	1021.43	989.32	963.97	949.04
360.0	1100.77	1105.68	1100.16	1084.21	1051.90	1032.68	1011.20	977.67	968.26

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	960.90	954.36	947.20	927.36	901.60	868.67	823.28	775.43	709.99
22.5	965.81	965.60	954.15	938.61	911.00	869.90	825.73	773.79	711.01
45.0	978.28	972.76	959.26	940.04	913.25	879.10	834.73	780.54	713.88
67.5	969.49	968.87	959.88	939.02	913.66	872.15	831.87	774.81	711.22
90.0	1009.77	1005.89	998.32	976.85	948.83	914.68	868.27	810.60	751.91
112.5	1000.37	998.53	988.71	971.74	941.06	908.35	865.61	811.42	743.94
135.0	1009.36	1003.02	1001.59	979.10	955.79	923.27	876.65	815.92	756.20
157.5	976.24	977.46	970.31	951.90	927.57	894.24	852.93	799.15	735.76
180.0	987.28	981.55	981.14	963.56	938.41	907.73	864.38	807.94	747.82
202.5	962.13	958.24	953.74	936.36	913.46	883.81	841.07	786.67	727.58
225.0	968.67	963.56	963.35	943.52	920.82	890.35	851.50	798.13	739.44
247.5	954.36	950.06	946.58	927.16	905.48	873.17	831.87	782.99	724.51
270.0	946.18	939.84	932.68	915.91	891.99	861.11	821.23	773.79	713.06
292.5	957.63	955.38	950.88	932.88	906.71	867.86	828.39	777.06	713.26
315.0	958.24	953.13	945.36	927.16	904.87	876.44	827.16	777.68	715.92
337.5	948.43	945.15	940.25	922.66	899.14	860.70	819.60	767.66	707.13
360.0	960.90	954.36	947.20	927.36	901.60	868.67	823.28	775.43	709.99

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	634.74	551.71	466.24	367.67	280.15	194.27	111.65	49.49	18.81
22.5	633.51	557.03	466.24	365.22	275.65	185.88	106.54	47.44	16.97
45.0	638.42	547.01	454.99	364.81	280.36	187.52	104.49	42.94	15.95
67.5	636.37	559.49	463.78	363.99	273.81	185.68	104.09	44.99	12.88
90.0	677.07	592.61	502.23	403.66	314.92	223.92	136.19	64.41	21.47
112.5	672.16	600.38	516.75	407.55	314.71	229.85	134.96	59.51	18.20
135.0	687.50	601.20	506.73	410.82	320.85	228.62	139.87	66.46	24.95
157.5	663.16	590.57	516.54	408.98	315.73	228.62	139.05	66.05	27.40
180.0	679.32	599.16	508.57	414.50	321.66	233.53	147.44	73.82	24.54
202.5	662.34	589.55	510.82	411.03	319.62	234.76	143.35	74.43	31.49
225.0	676.04	599.97	506.73	415.93	325.96	237.00	152.55	80.16	31.49
247.5	657.23	588.32	514.29	413.07	324.94	241.30	150.10	79.34	33.74
270.0	640.87	559.28	474.42	386.28	299.17	205.10	121.88	58.48	22.90
292.5	642.71	570.12	484.23	382.40	291.60	208.17	117.79	56.64	22.70
315.0	642.10	561.53	476.26	384.44	292.63	201.22	119.83	54.39	21.27
337.5	636.99	562.14	474.83	369.31	284.86	199.38	113.49	52.35	20.25
360.0	634.74	551.71	466.24	367.67	280.15	194.27	111.65	49.49	18.81

C/γ(°)	180.0
0.0	2.66
22.5	5.11
45.0	4.70
67.5	6.14
90.0	2.25
112.5	2.05
135.0	1.84
157.5	2.25
180.0	2.66
202.5	5.11
225.0	4.70
247.5	6.14
270.0	2.25
292.5	2.05
315.0	1.84
337.5	2.25
360.0	2.66

4 Additional Test

Model Number	Test Voltage (V)	Frequency(Hz)	Power Factor	THD
HIDFA-80S-EX39-8CCT-BYP/3SP	120	60	0.990	9.8%
	277	60	0.922	11.3%

Photo Document

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