Date of issue	2023-04-11
Version	1.0
Total pages	61

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.:

HIDFA-80-H-EX39-8CCT-BYP/5SP

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.

Sam Chen

Jason zhou

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	HIDFA-80-H-EX39-8CCT-BYP/5SP
Rated Inputs	AC 100-277V, 50/60Hz
Rated Power	80W
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 HIDFA-80-H-EX39-8CCT-BYP/5SP are the same to the product in the report BL230227003-9 and is authorized by original applicant to use their test data.
- Note: All the data in previous report BL230227003-9 is shared in report.

1.4 Equipment list

Device	Manufacture	Model No.	Serial No.	Calibration due date
Goniophotometeric 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°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-80-H-EX39-8CCT-BYP/5SP, 3000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.04	60	0.649	77.18	0.991

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
10540.98	136.6	3039

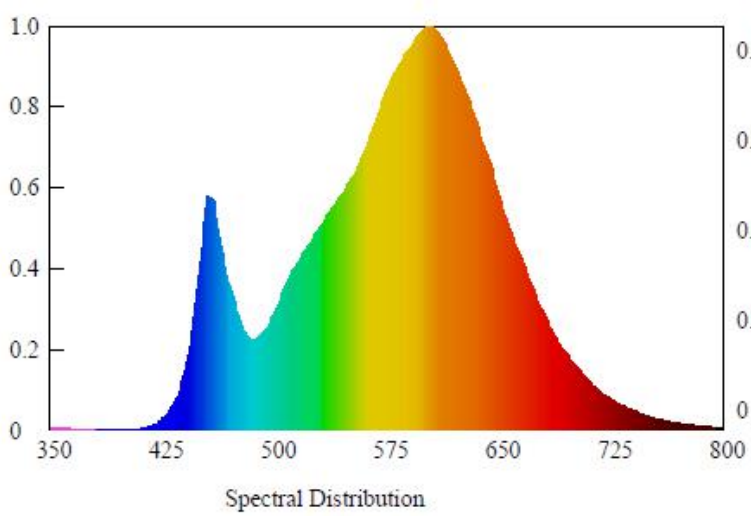
Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00125	0.4324	0.3994	0.2497	0.5189

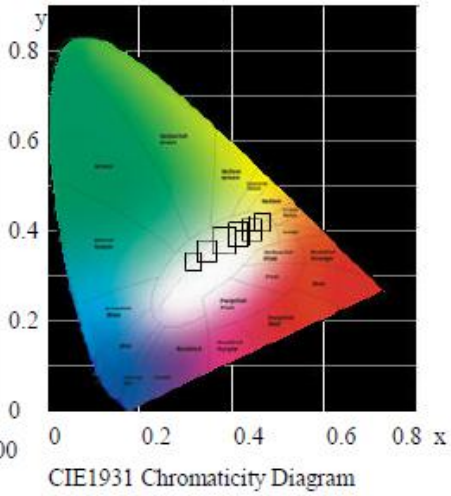
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
82.4	10	83	94	-12

Spectral Distribution

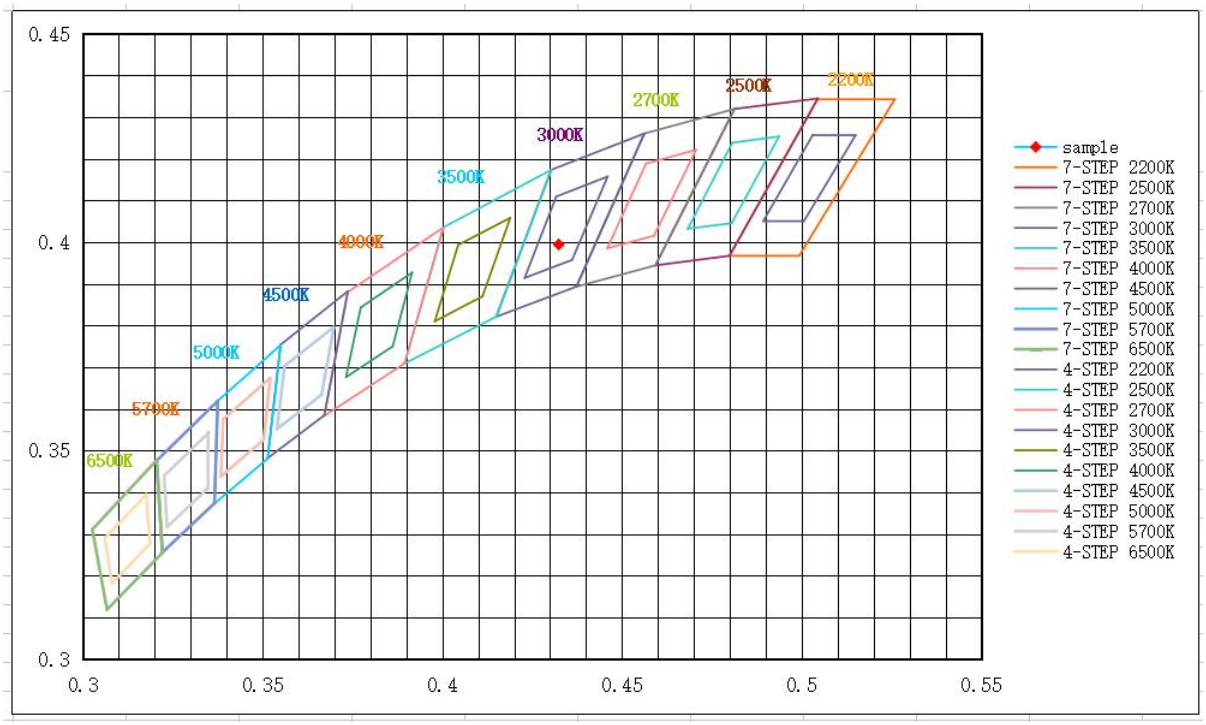


Spectral Distribution



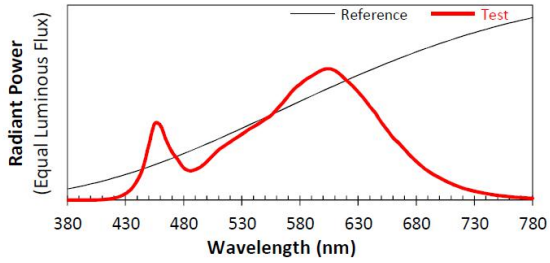
CIE1931 Chromaticity Diagram

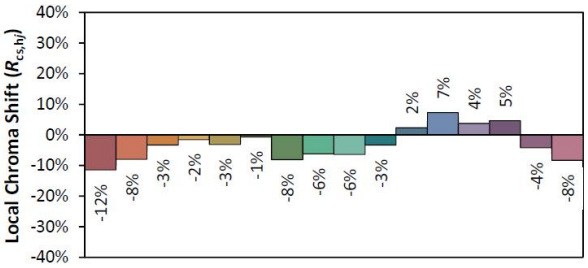
7/4 Step Quadrangle

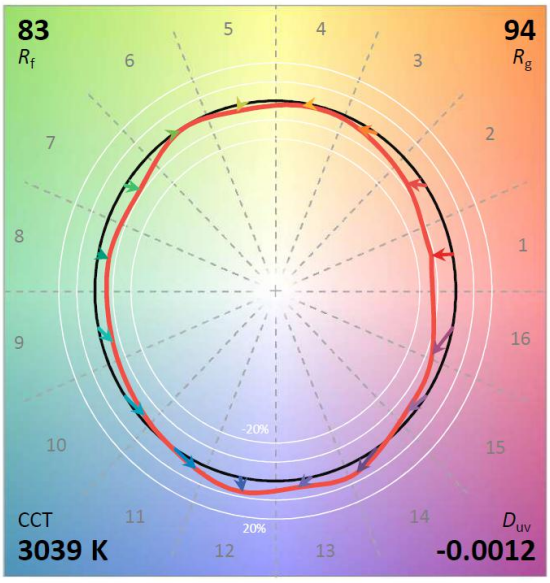


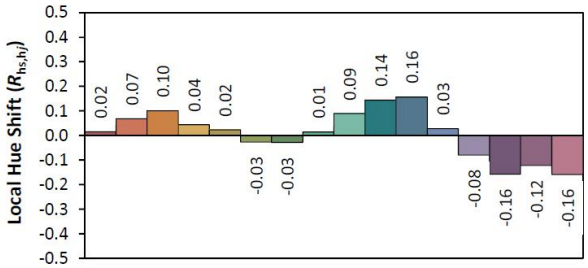
ANSI/IES TM-30-18 Color Rendition Report

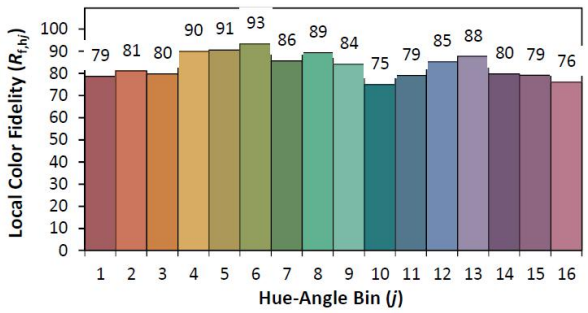
Source:	BL230227017-9	**Manufacturer:**	RAB LIGHTING,INC
Date:	2023-04-11	**Model:**	HIDFA-80-H-EX39-8CCT-BYP/5SP, 3000K at 120V

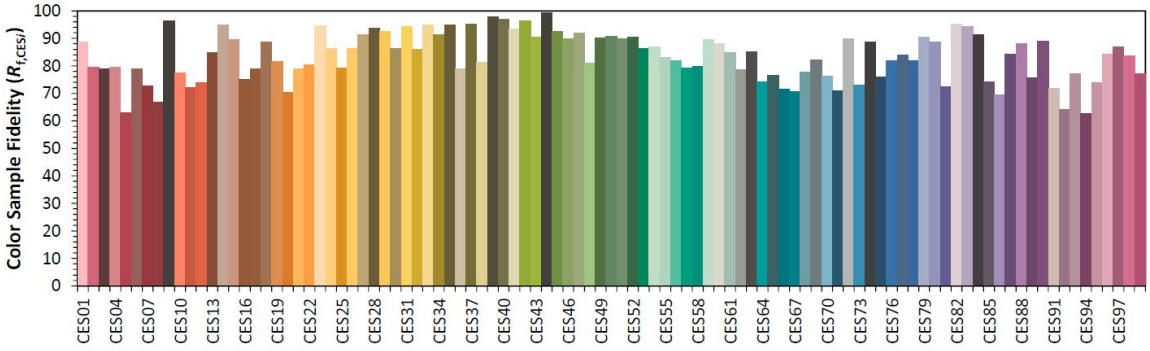












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.4324
y	0.3994
u'	0.2497
v'	0.5189

CIE 13.3-1995 (CRI)

R_a	82
R_9	10

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-80-H-EX39-8CCT-BYP/5SP, 3000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.08	60	0.323	80.31	0.898

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
10932.99	136.1	3041

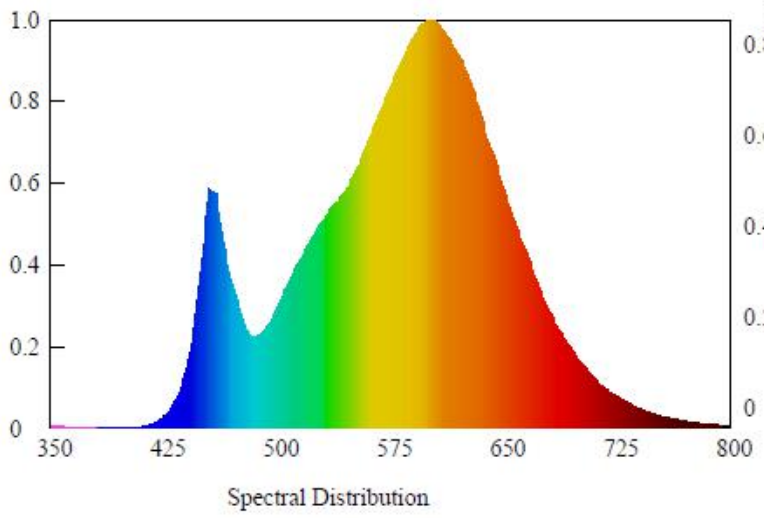
Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00122	0.4323	0.3994	0.2496	0.5189

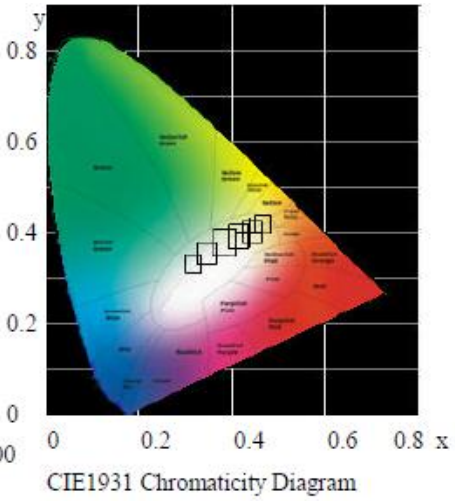
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
82.4	10	83	94	-12

Spectral Distribution

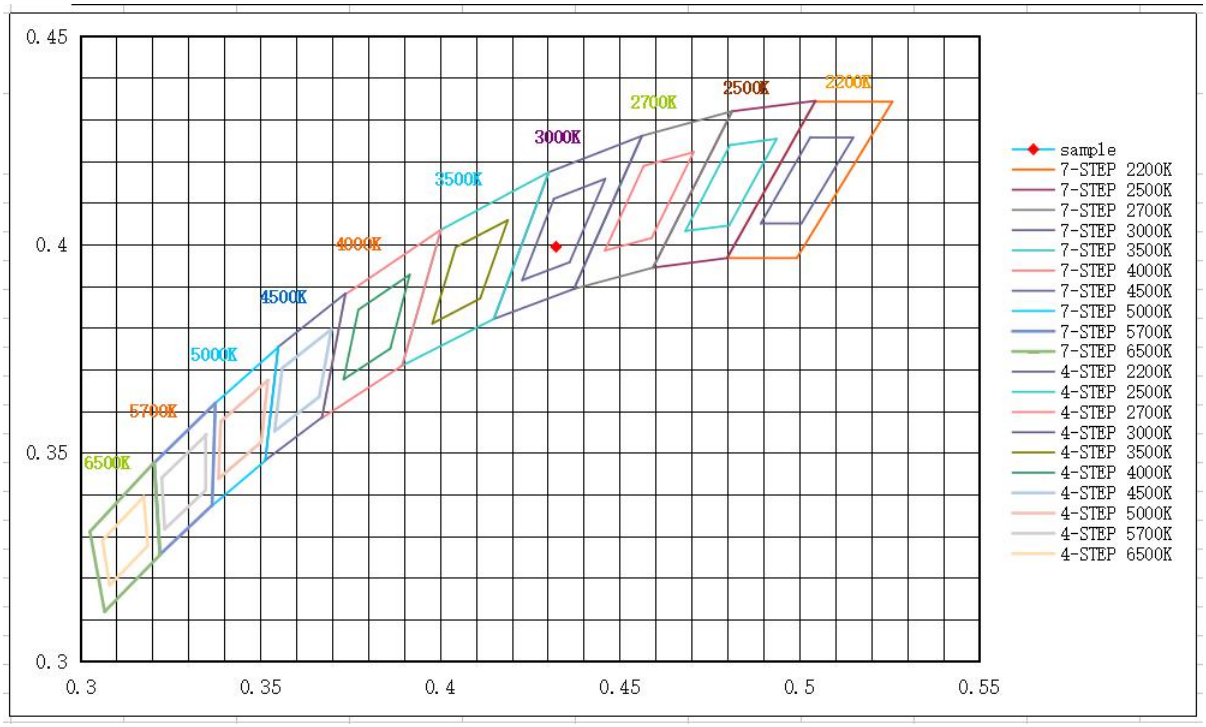


Spectral Distribution



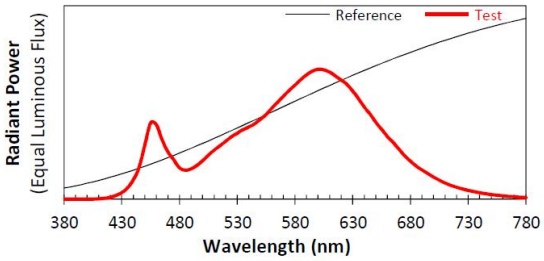
CIE1931 Chromaticity Diagram

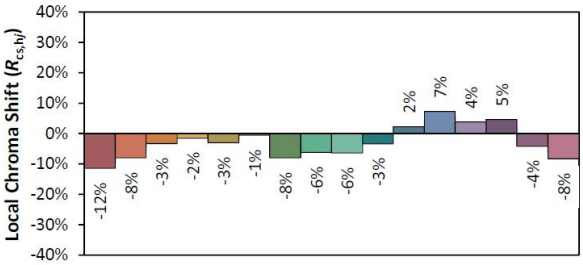
7/4 Step Quadrangle

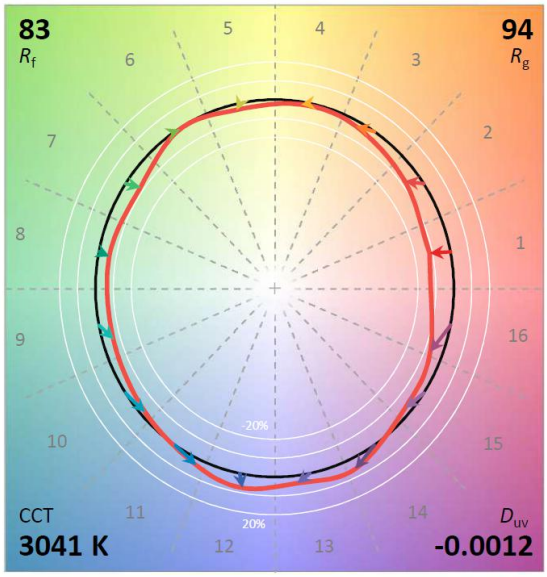


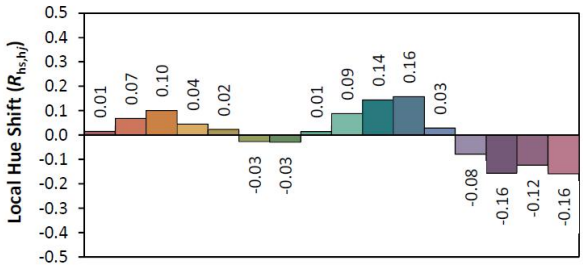
ANSI/IES TM-30-18 Color Rendition Report

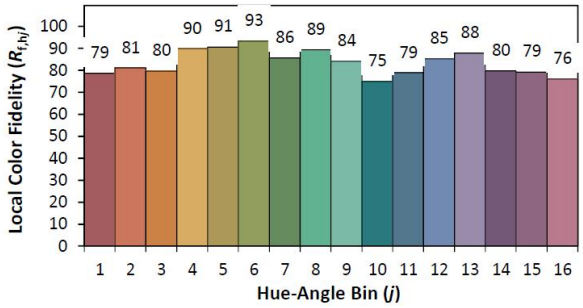
Source:	BL230227017-9	**Manufacturer:**	RAB LIGHTING,INC
Date:	2023-04-11	**Model:**	HIDFA-80-H-EX39-8CCT-BYP/5SP, 3000K at 277V

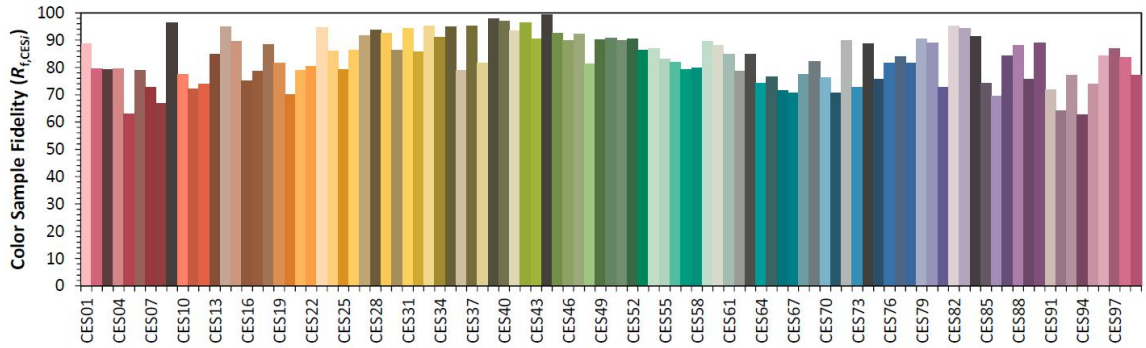












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.4323
y	0.3994
u'	0.2496
v'	0.5189

CIE 13.3-1995 (CRI)

R_a	82
R_9	10

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-80-H-EX39-8CCT-BYP/5SP, 4000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.07	60	0.630	74.92	0.990

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
11515.19	153.7	3938

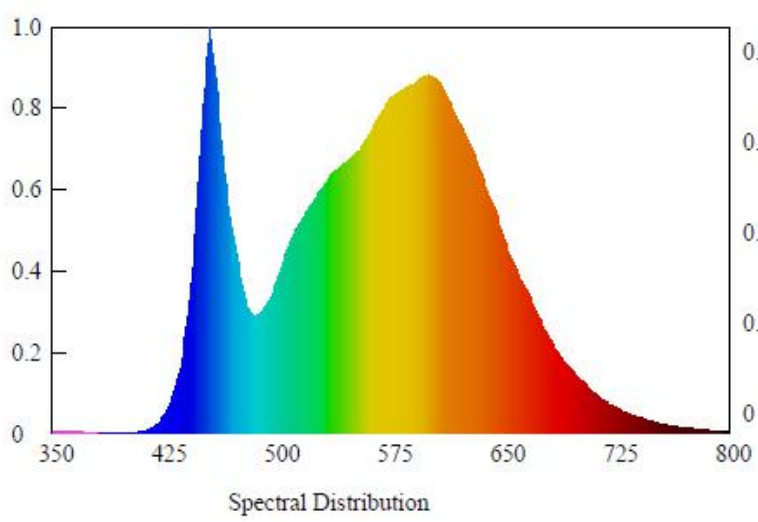
Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00201	0.3817	0.3733	0.2274	0.5002

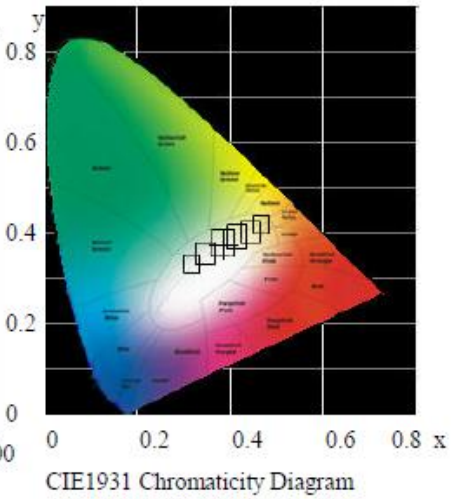
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
85.2	22	84	95	-11

Spectral Distribution

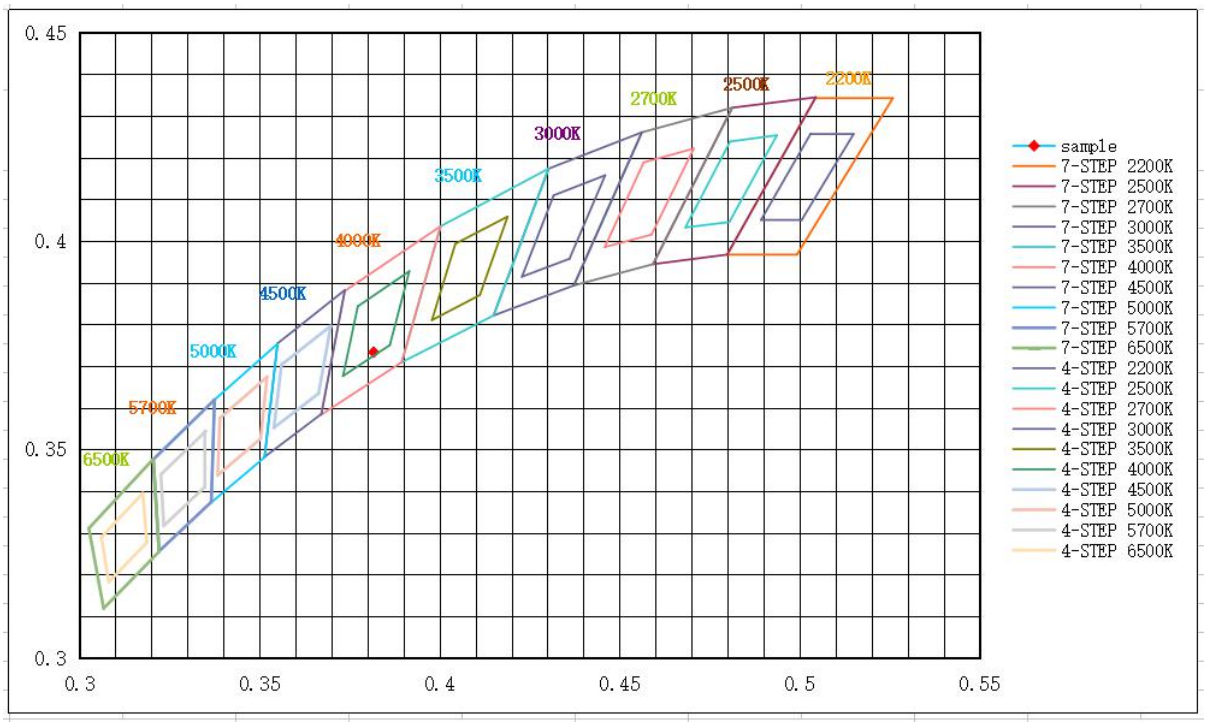


Spectral Distribution



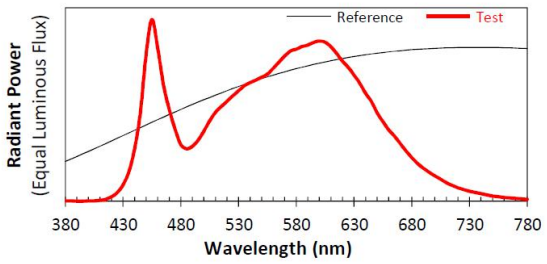
CIE1931 Chromaticity Diagram

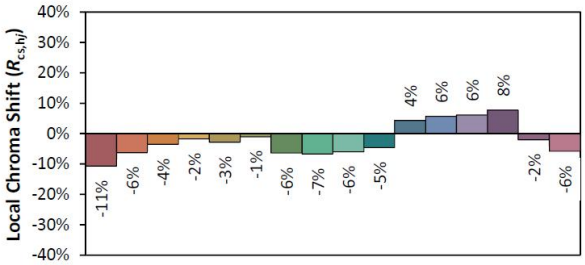
7/4 Step Quadrangle

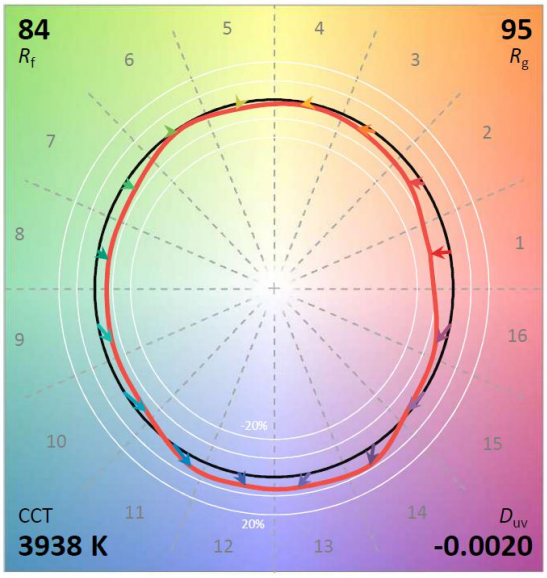


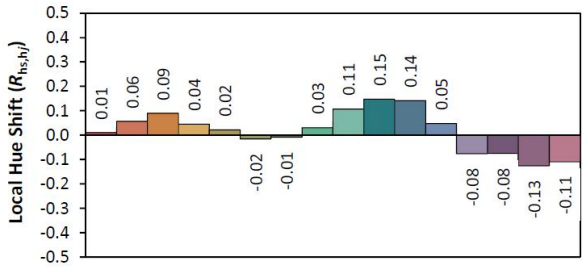
ANSI/IES TM-30-18 Color Rendition Report

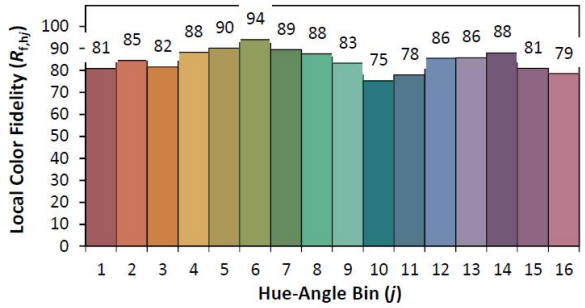
Source:	BL230227017-9	**Manufacturer:**	RAB LIGHTING,INC
Date:	2023-04-11	**Model:**	HIDFA-80-H-EX39-8CCT-BYP/5SP, 4000K at 120V

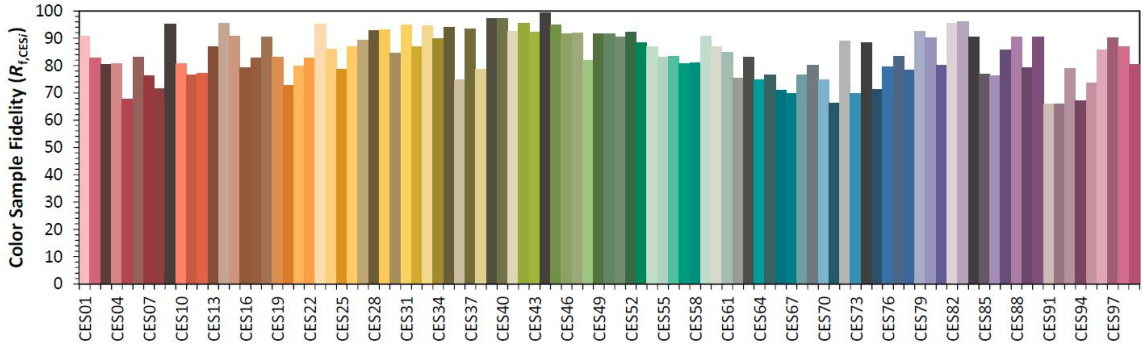












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3817
y	0.3733
u'	0.2274
v'	0.5002

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.

3.1.4 Model Number: HIDFA-80-H-EX39-8CCT-BYP/5SP, 4000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.08	60	0.316	78.15	0.893

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
11990.50	153.4	3942

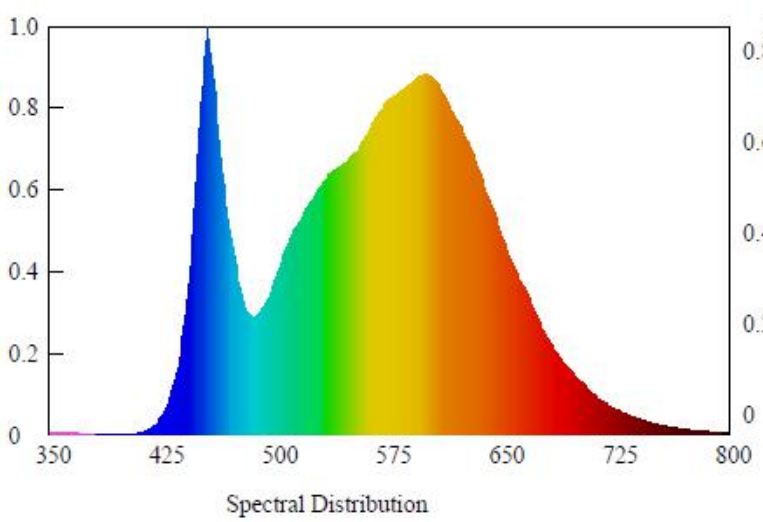
Chromaticity Coordinate

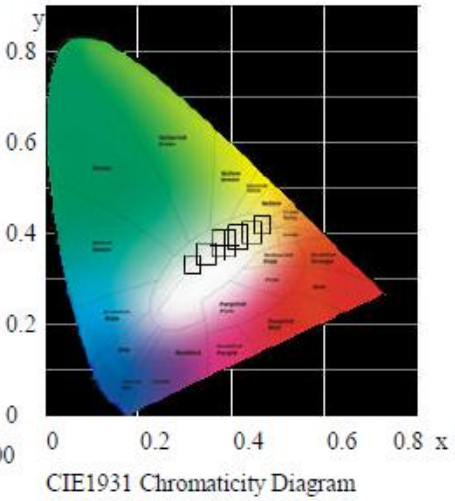
Duv	x	y	u'	v'
-0.00198	0.3816	0.3733	0.2273	0.5002

Color Rendering

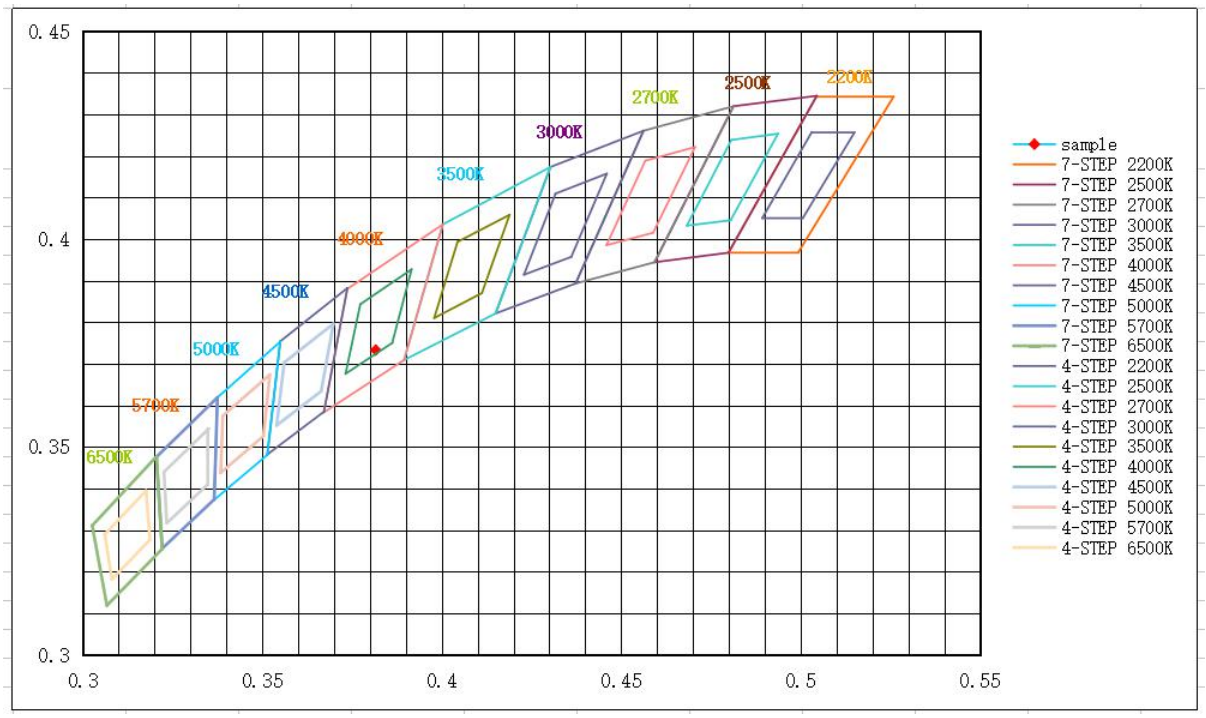
CRI	R9	Rf	Rg	Rcs,h1(%)
85.2	21	84	95	-11

Spectral Distribution



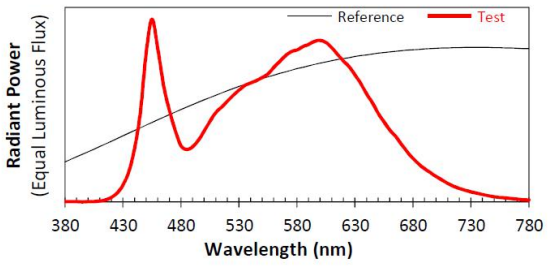


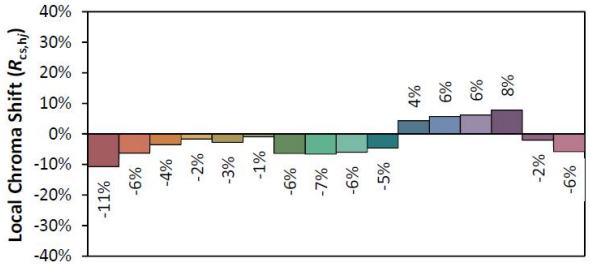
7/4 Step Quadrangle

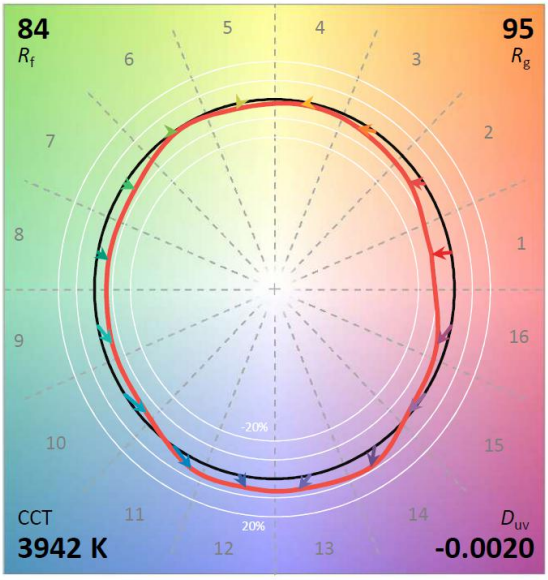


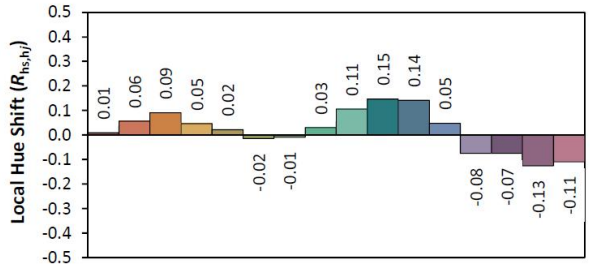
ANSI/IES TM-30-18 Color Rendition Report

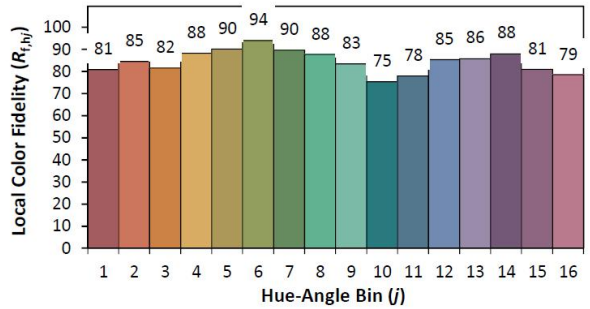
Source:	BL230227017-9	**Manufacturer:**	RAB LIGHTING,INC
Date:	2023-04-11	**Model:**	HIDFA-80-H-EX39-8CCT-BYP/5SP, 4000K at 277V

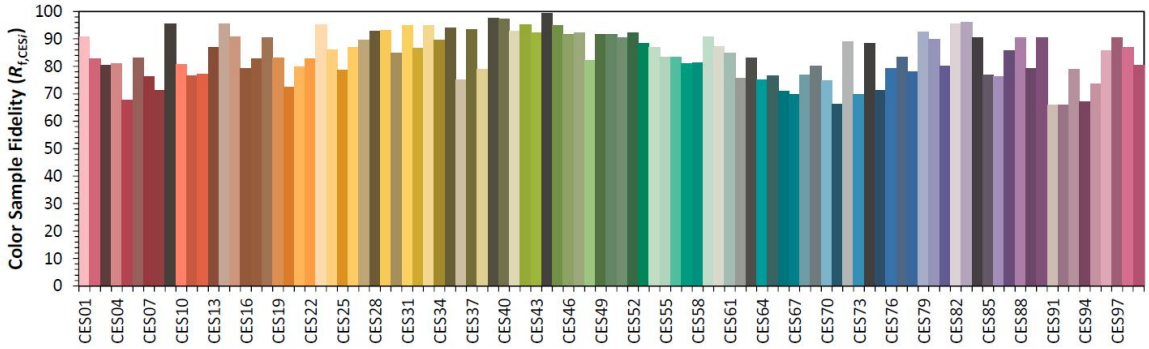












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3816
y	0.3733
u'	0.2273
v'	0.5002

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.

3.1.5 Model Number: HIDFA-80-H-EX39-8CCT-BYP/5SP, 5000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.05	60	0.653	77.68	0.991

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
11369.23	146.4	5074

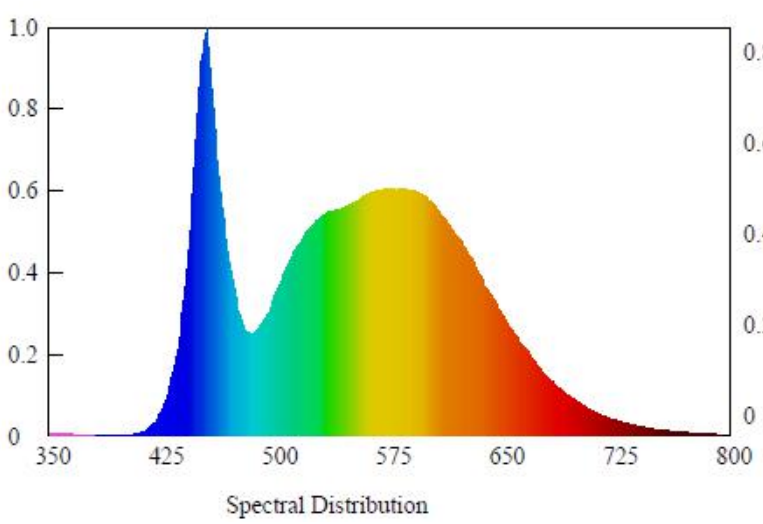
Chromaticity Coordinate

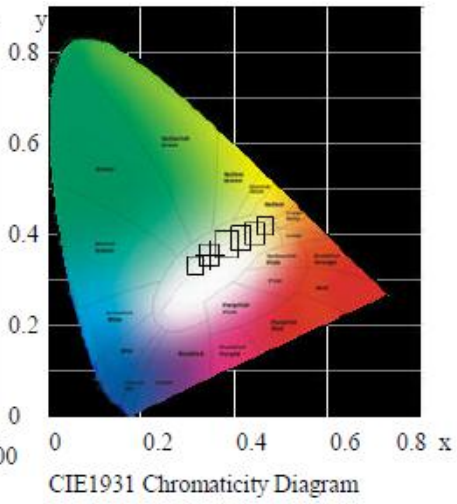
Duv	x	y	u'	v'
+0.00179	0.3433	0.3538	0.2094	0.4855

Color Rendering

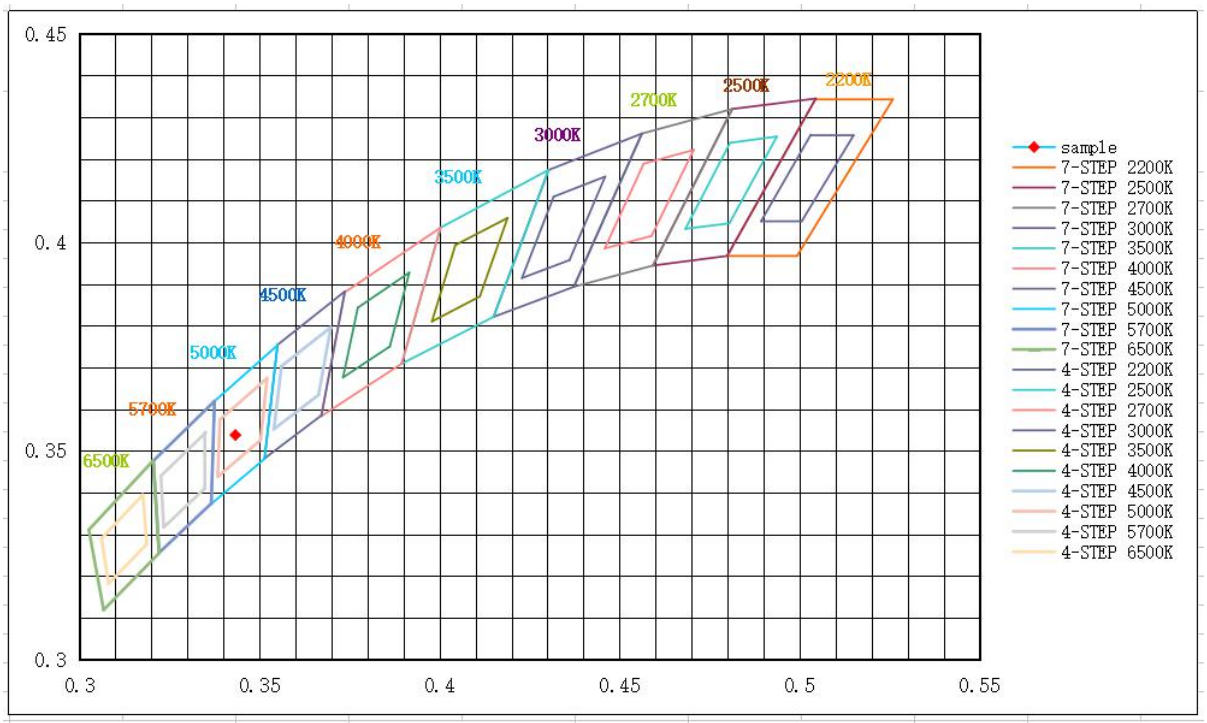
CRI	R9	Rf	Rg	Rcs,h1(%)
83.8	14	84	95	-12

Spectral Distribution



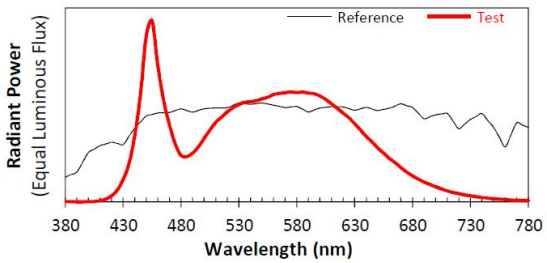


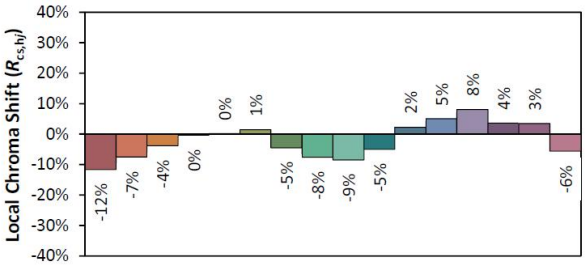
7/4 Step Quadrangle

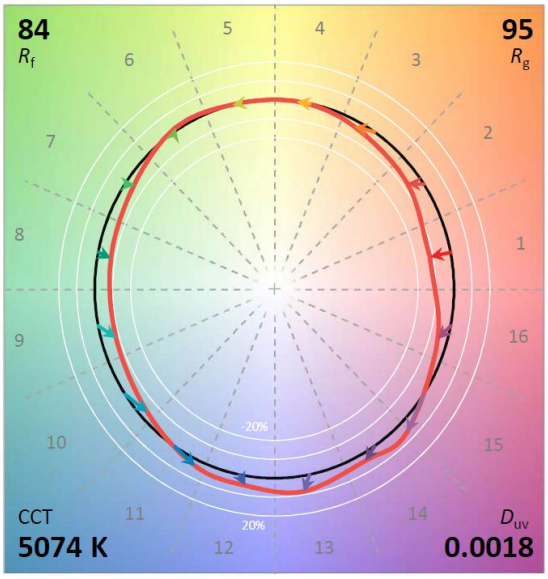


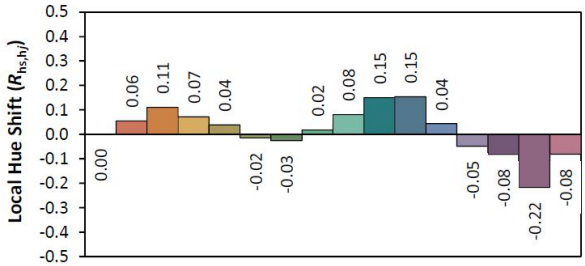
ANSI/IES TM-30-18 Color Rendition Report

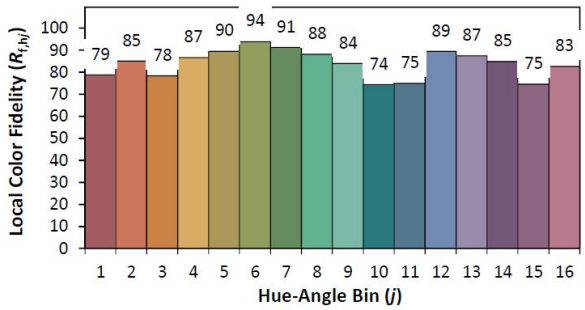
Source:	BL230227017-9	**Manufacturer:**	RAB LIGHTING,INC
Date:	2023-04-11	**Model:**	HIDFA-80-H-EX39-8CCT-BYP/5SP, 5000K at 120V

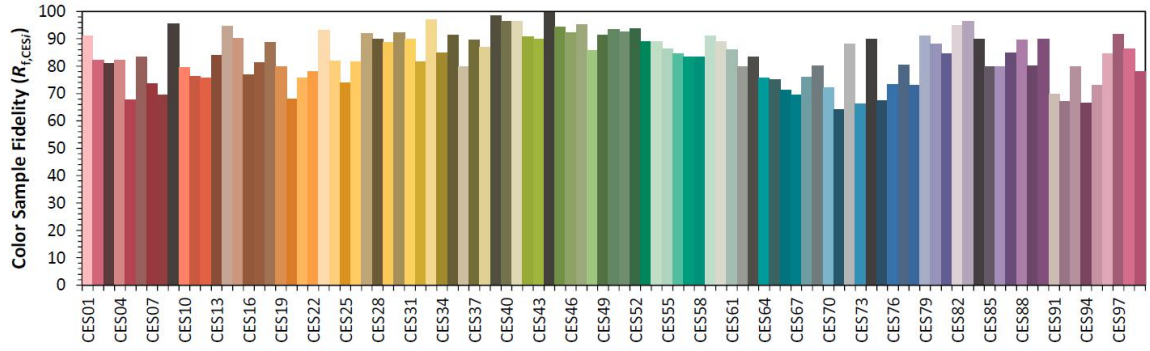












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3433
y	0.3538
u'	0.2094
v'	0.4855

CIE 13.3-1995 (CRI)

R_a	84
R_9	14

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-80-H-EX39-8CCT-BYP/5SP, 5000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.07	60	0.325	80.88	0.899

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
11819.36	146.1	5076

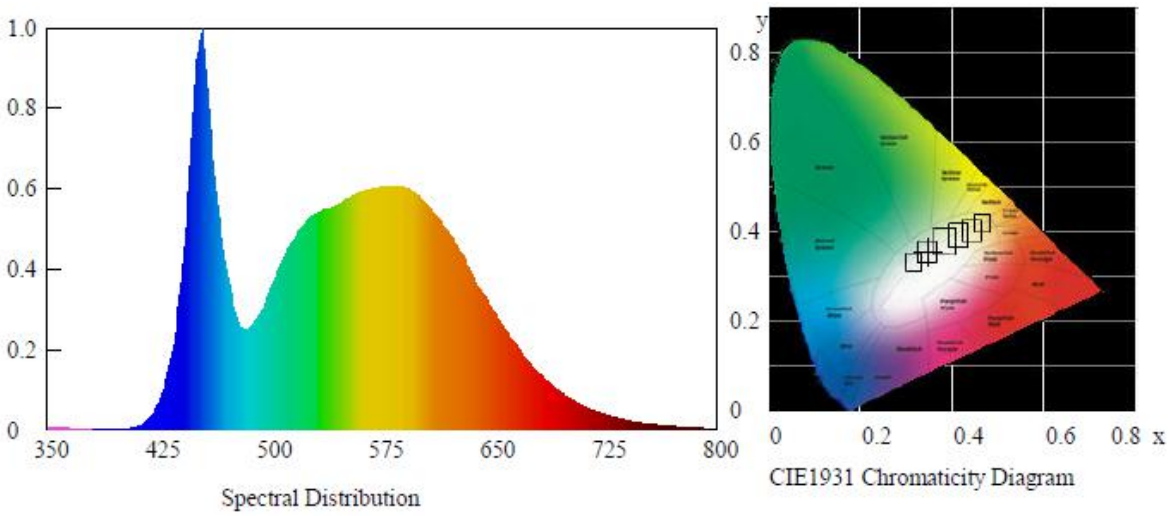
Chromaticity Coordinate

Duv	x	y	u'	v'
+0.0018	0.3433	0.3538	0.2094	0.4855

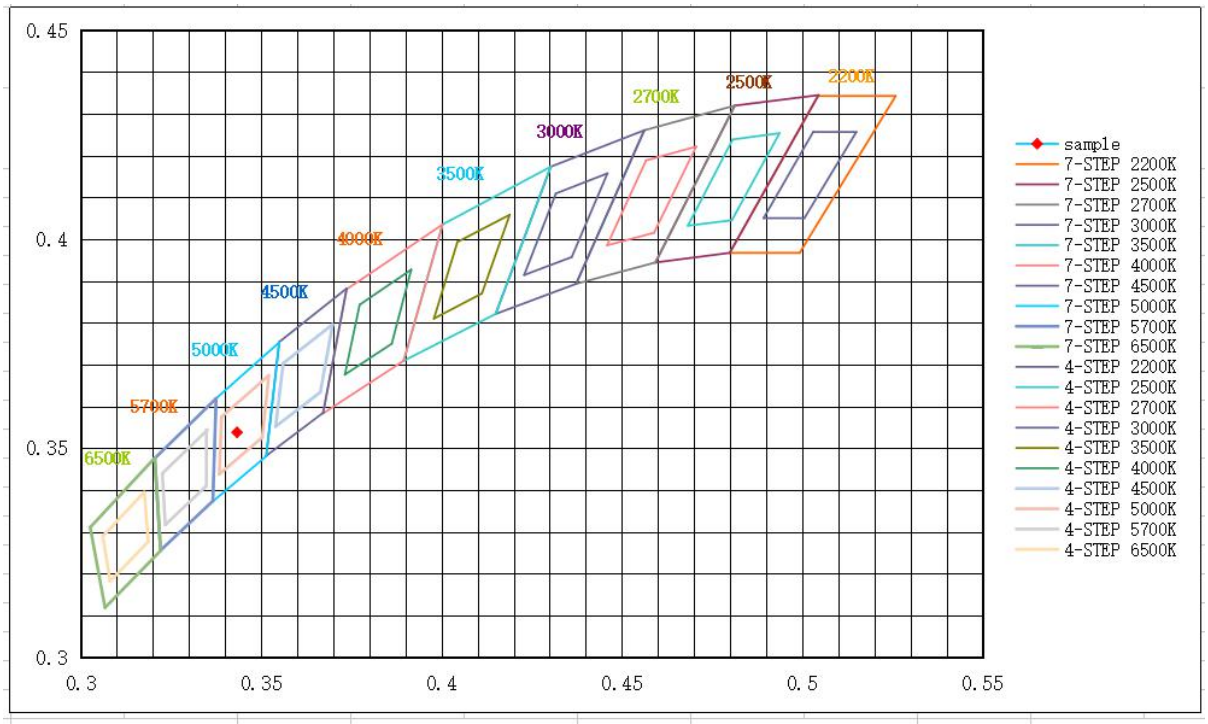
Color Rendering

CRI	R9	Rf	Rg	Rcs,h1(%)
83.7	14	84	95	-12

Spectral Distribution

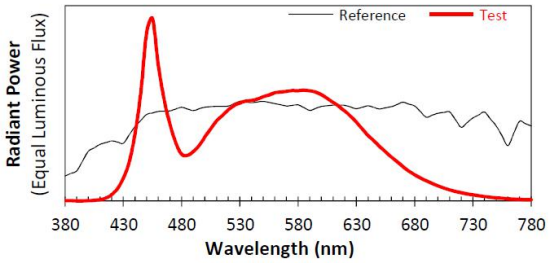


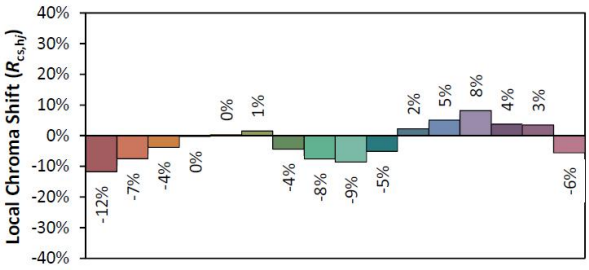
7/4 Step Quadrangle

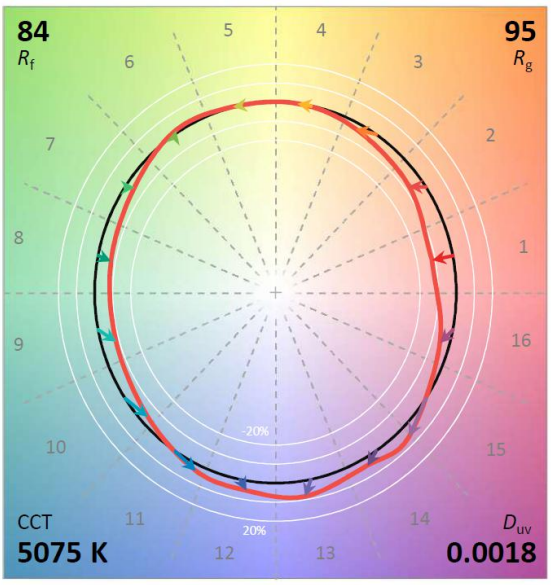


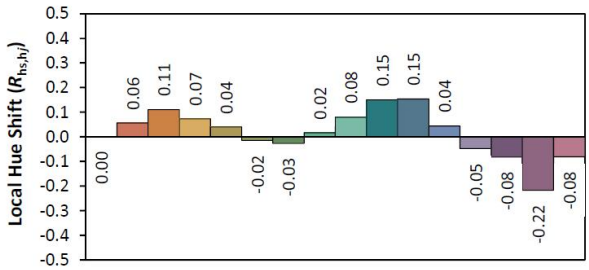
ANSI/IES TM-30-18 Color Rendition Report

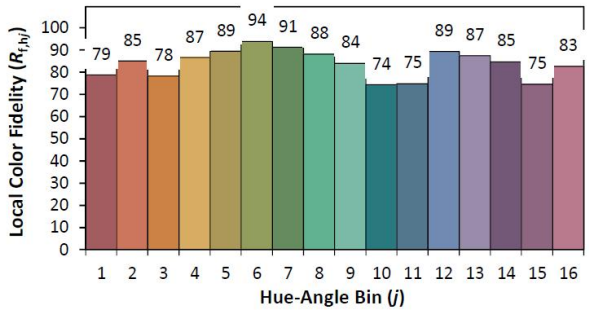
Source:	BL230227017-9	**Manufacturer:**	RAB LIGHTING,INC
Date:	2023-04-11	**Model:**	HIDFA-80-H-EX39-8CCT-BYP/5SP, 5000K at 277V

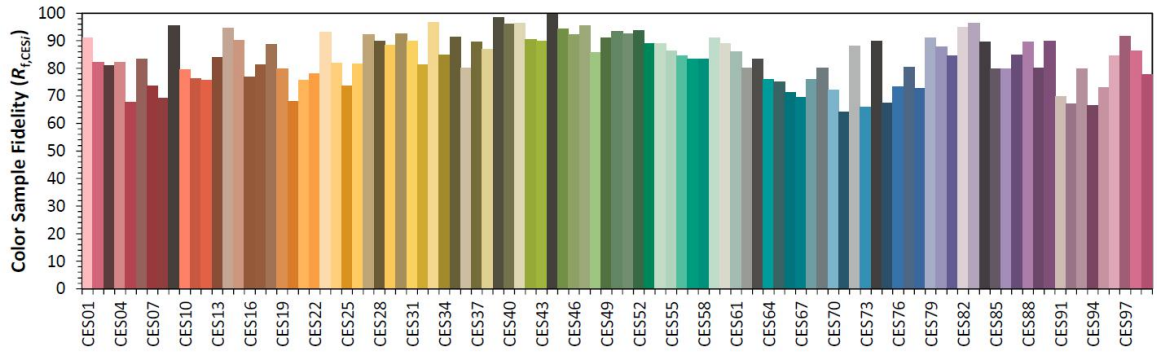












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3433
y	0.3538
u'	0.2094
v'	0.4855

CIE 13.3-1995 (CRI)

R_a	84
R_9	14

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-80-H-EX39-8CCT-BYP/5SP, 3000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.07	60	0.6480	77.07	0.9906

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
10541.84	136.78	79.54	98.97

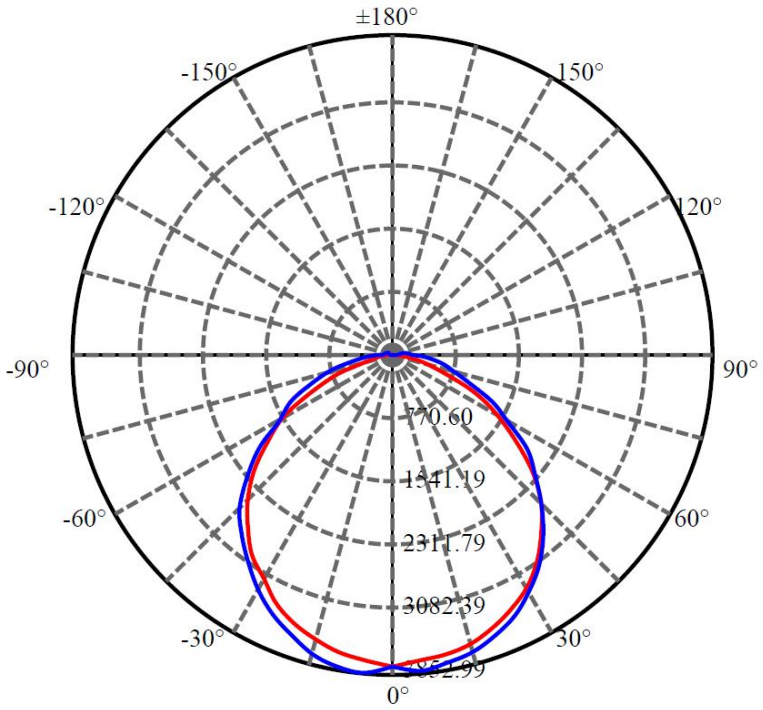
Zonal Flux Diagram

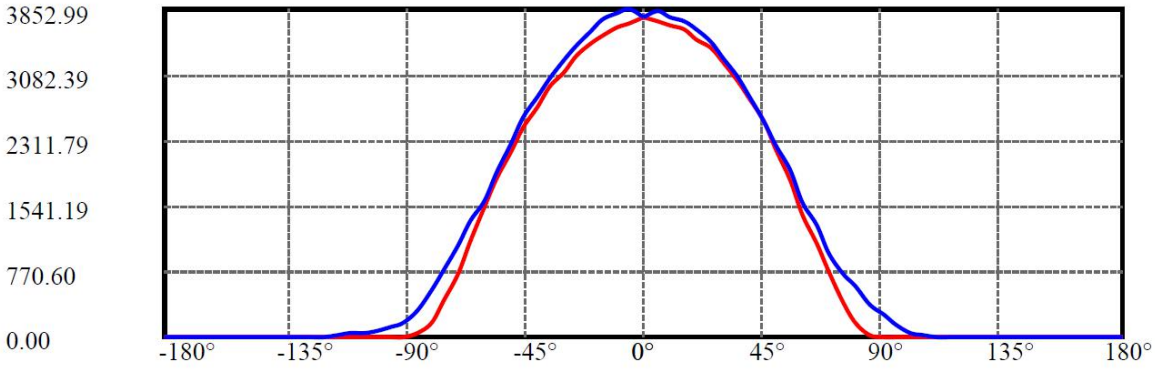
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3756.748	0.000	0	0.00%	0.00%
5.0	3739.778	89.619	89.619	0.00%	0.85%
10.0	3690.755	265.814	355.432	0.00%	3.37%
15.0	3615.416	433.397	788.829	0.00%	7.48%
20.0	3506.733	586.965	1375.795	0.00%	13.05%
25.0	3366.136	720.837	2096.632	0.00%	19.89%
30.0	3198.322	830.738	2927.369	0.00%	27.77%
35.0	2992.256	911.606	3838.975	0.00%	36.42%
40.0	2759.449	959.629	4798.604	0.00%	45.52%
45.0	2495.007	972.905	5771.509	0.00%	54.75%
50.0	2194.654	947.614	6719.123	0.00%	63.74%
55.0	1867.997	883.355	7602.479	0.00%	72.12%
60.0	1515.367	782.055	8384.534	0.00%	79.54%
65.0	1185.468	656.578	9041.112	0.00%	85.76%
70.0	868.589	520.100	9561.212	0.00%	90.70%
75.0	581.137	378.935	9940.147	0.00%	94.29%
80.0	368.786	254.173	10194.32	0.00%	96.70%
85.0	202.268	155.169	10349.489	0.00%	98.18%
90.0	102.874	83.550	10433.039	0.00%	98.97%
95.0	56.644	43.677	10476.717	0.00%	99.38%
100.0	26.291	22.535	10499.252	0.00%	99.60%
105.0	15.282	11.124	10510.376	0.00%	99.70%
110.0	11.935	7.114	10517.49	0.00%	99.77%
115.0	5.716	4.469	10521.959	0.00%	99.81%
120.0	3.890	2.335	10524.294	0.00%	99.83%
125.0	4.551	1.951	10526.246	0.00%	99.85%
130.0	5.173	2.115	10528.36	0.00%	99.87%
135.0	5.597	2.176	10530.536	0.00%	99.89%
140.0	5.914	2.131	10532.668	0.00%	99.91%
145.0	6.139	2.011	10534.679	0.00%	99.93%
150.0	6.285	1.830	10536.508	0.00%	99.95%
155.0	6.430	1.609	10538.117	0.00%	99.96%
160.0	6.351	1.341	10539.458	0.00%	99.98%
165.0	6.272	1.040	10540.498	0.00%	99.99%
170.0	6.219	0.741	10541.239	0.00%	99.99%
175.0	6.258	0.446	10541.686	0.00%	100.00%
180.0	6.687	0.155	10541.84	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

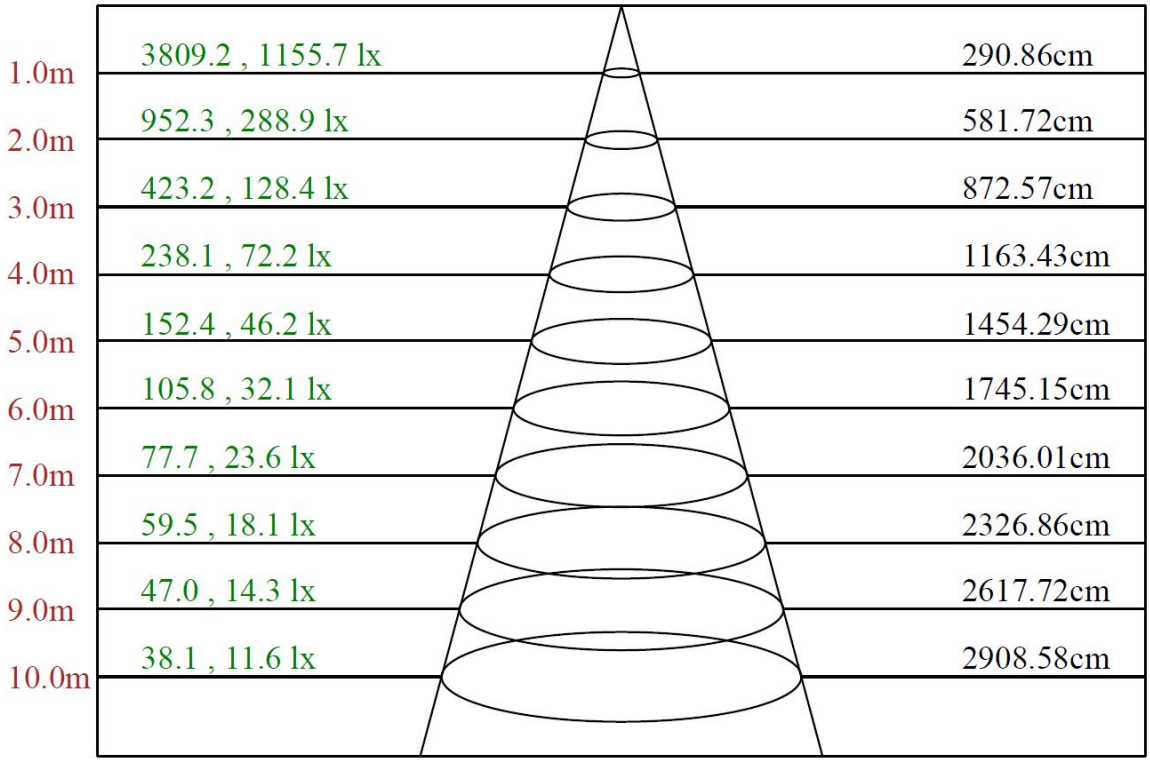
Field angle(10%Imax):C0/180Left:76.2 Right:75.8

:C90/270Left:83.6 Right:85.2

Beam Angle(50%Imax):C0/180Left:54.9 Right:54.5

:C90/270Left:55.1 Right:55.5

Lux distance Curve



Max , Ave Beam angle of C270 plane 110.97

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	3756.75	3698.02	3656.31	3604.24	3496.69	3386.82	3218.94	3021.00	2797.23
22.5	3756.75	3717.50	3650.60	3586.66	3481.87	3351.89	3190.99	2989.45	2778.17
45.0	3756.75	3703.95	3661.82	3593.65	3487.80	3358.03	3203.06	2996.86	2745.99
67.5	3756.75	3735.28	3681.72	3597.88	3499.02	3345.54	3178.29	2958.12	2710.43
90.0	3756.75	3827.16	3762.80	3708.82	3602.97	3468.96	3284.99	3073.29	2817.97
112.5	3756.75	3777.62	3731.68	3650.39	3546.86	3406.72	3228.04	3015.28	2757.64
135.0	3756.75	3734.43	3687.01	3602.97	3493.73	3351.89	3174.27	2968.70	2735.41
157.5	3756.75	3686.59	3666.90	3554.49	3459.85	3295.15	3142.72	2926.15	2718.47
180.0	3756.75	3691.46	3626.89	3547.50	3440.17	3299.38	3112.66	2946.26	2704.29
202.5	3756.75	3708.39	3638.74	3558.08	3456.04	3283.51	3136.37	2923.82	2708.95
225.0	3756.75	3713.05	3657.58	3582.43	3464.30	3329.23	3172.57	2973.15	2732.87
247.5	3756.75	3749.04	3702.04	3623.50	3525.27	3385.97	3211.95	3005.12	2769.49
270.0	3756.75	3852.99	3804.72	3742.05	3586.45	3428.52	3252.60	3034.33	2821.99
292.5	3756.75	3796.88	3741.00	3661.82	3554.06	3406.29	3231.85	3016.76	2779.44
315.0	3756.75	3738.03	3706.70	3628.79	3521.25	3396.77	3226.35	3017.82	2773.51
337.5	3756.75	3706.06	3675.58	3603.39	3491.40	3363.53	3207.51	3009.99	2799.34
360.0	3756.75	3698.02	3656.31	3604.24	3496.69	3386.82	3218.94	3021.00	2797.23

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	2527.30	2211.87	1840.75	1438.31	1099.16	763.61	417.27	165.13	32.39
22.5	2511.00	2179.69	1789.31	1424.55	1053.43	714.28	417.27	218.69	88.70
45.0	2467.82	2162.33	1809.00	1459.48	1120.33	818.87	538.36	339.57	222.92
67.5	2440.72	2174.82	1856.00	1524.68	1215.81	909.90	661.99	512.53	346.56
90.0	2530.90	2239.39	1964.60	1588.62	1313.40	991.83	749.64	603.35	391.44
112.5	2473.11	2187.10	1892.41	1546.49	1249.26	953.51	671.10	515.28	343.81
135.0	2449.82	2133.33	1816.62	1487.63	1156.53	819.92	562.92	342.96	204.08
157.5	2463.37	2171.22	1842.02	1484.04	1099.58	739.05	429.12	215.30	90.82
180.0	2454.06	2177.36	1869.55	1541.41	1133.46	739.90	438.22	176.56	50.39
202.5	2468.66	2175.03	1852.82	1509.65	1163.73	801.29	467.44	254.04	112.41
225.0	2463.37	2174.82	1871.03	1540.77	1189.35	890.42	650.77	398.85	209.37
247.5	2511.00	2220.55	1916.12	1584.38	1301.12	1060.63	764.88	543.02	293.00
270.0	2588.91	2265.01	1933.27	1599.62	1356.38	1079.89	785.42	547.46	320.09
292.5	2522.86	2231.34	1923.11	1568.29	1281.01	1023.58	724.02	510.42	277.33
315.0	2514.39	2208.69	1877.38	1497.16	1148.91	831.78	574.98	340.84	176.56
337.5	2532.81	2201.92	1833.98	1450.80	1086.03	758.95	444.79	216.57	76.43
360.0	2527.30	2211.87	1840.75	1438.31	1099.16	763.61	417.27	165.13	32.39

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	2.75	1.91	1.91	2.12	2.54	2.96	3.39	4.02	4.66
22.5	27.73	7.62	3.81	2.33	2.54	3.39	4.23	4.87	4.87
45.0	113.68	51.87	22.02	12.49	4.23	3.60	4.02	4.87	5.72
67.5	212.13	107.76	37.26	16.94	7.62	4.23	4.02	4.66	5.08
90.0	251.93	141.21	53.98	21.59	9.53	5.29	4.02	4.23	5.93
112.5	206.20	113.26	40.01	19.69	8.05	4.23	3.60	4.23	4.87
135.0	110.72	44.46	21.81	13.34	3.60	2.75	4.02	4.66	5.72
157.5	27.10	6.99	3.18	1.91	2.54	3.18	3.81	4.66	4.66
180.0	3.81	2.75	2.33	1.69	2.12	2.75	3.18	3.81	4.23
202.5	36.63	11.86	4.23	1.91	2.75	3.18	4.02	4.66	5.08
225.0	90.40	49.54	24.56	16.51	11.22	2.96	4.02	4.45	5.29
247.5	157.93	107.33	63.51	37.26	39.17	16.51	3.60	4.23	4.66
270.0	175.08	122.15	72.40	49.33	47.63	18.63	4.45	5.72	6.35
292.5	139.09	94.21	49.75	34.30	37.90	11.43	3.81	4.66	5.50
315.0	70.92	37.68	17.57	11.22	6.77	3.18	4.02	4.66	5.29
337.5	19.90	5.72	2.33	1.91	2.75	3.18	4.02	4.45	4.87
360.0	2.75	1.91	1.91	2.12	2.54	2.96	3.39	4.02	4.66

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	5.08	5.29	5.72	5.93	6.56	6.56	6.14	6.14	6.14
22.5	5.29	5.29	5.72	6.35	6.35	6.35	6.14	6.14	6.35
45.0	6.14	6.14	6.14	6.14	6.14	6.14	6.35	6.14	6.35
67.5	5.50	5.93	6.56	6.35	6.35	6.35	6.14	6.35	6.35
90.0	6.14	6.77	6.99	6.77	6.56	6.56	6.35	6.35	6.14
112.5	5.29	5.72	5.93	6.35	6.35	6.35	5.93	5.93	5.93
135.0	6.14	6.14	6.14	5.93	6.14	5.93	6.35	6.14	6.14
157.5	5.08	5.50	5.93	5.93	6.35	6.14	6.35	6.14	6.14
180.0	4.66	5.50	5.50	6.14	6.14	6.35	6.35	6.35	6.14
202.5	5.08	5.50	5.72	5.93	6.35	6.14	6.14	6.14	6.14
225.0	5.93	5.72	6.14	6.14	6.35	6.14	6.14	5.93	6.14
247.5	5.08	5.50	5.93	6.14	6.35	6.35	6.14	6.14	6.35
270.0	7.20	7.62	7.62	7.62	7.62	7.41	6.77	6.99	6.99
292.5	5.72	6.14	6.35	6.56	6.56	6.35	6.14	6.14	6.14
315.0	5.93	6.14	5.93	6.14	6.35	6.35	6.56	6.14	6.35
337.5	5.29	5.72	5.93	6.14	6.35	6.14	6.35	6.35	6.35
360.0	5.08	5.29	5.72	5.93	6.56	6.56	6.14	6.14	6.14

C/γ(°)	180.0
0.0	6.69
22.5	6.69
45.0	6.69
67.5	6.69
90.0	6.69
112.5	6.69
135.0	6.69
157.5	6.69
180.0	6.69
202.5	6.69
225.0	6.69
247.5	6.69
270.0	6.69
292.5	6.69
315.0	6.69
337.5	6.69
360.0	6.69

3.2.2 Model Number: HIDFA-80-H-EX39-8CCT-BYP/5SP, 3000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.02	60	0.3240	80.45	0.8977

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
10889.72	135.36	79.56	98.97

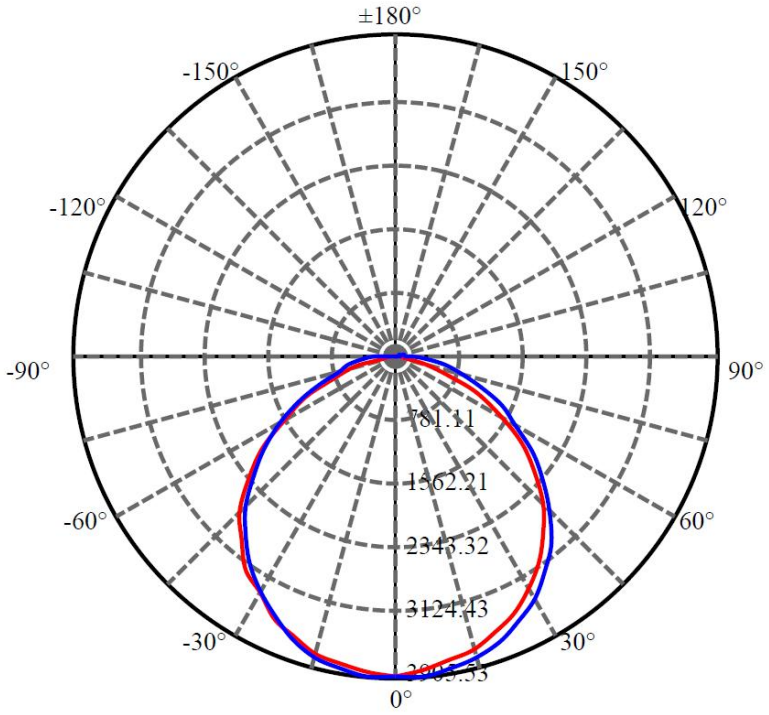
Zonal Flux Diagram

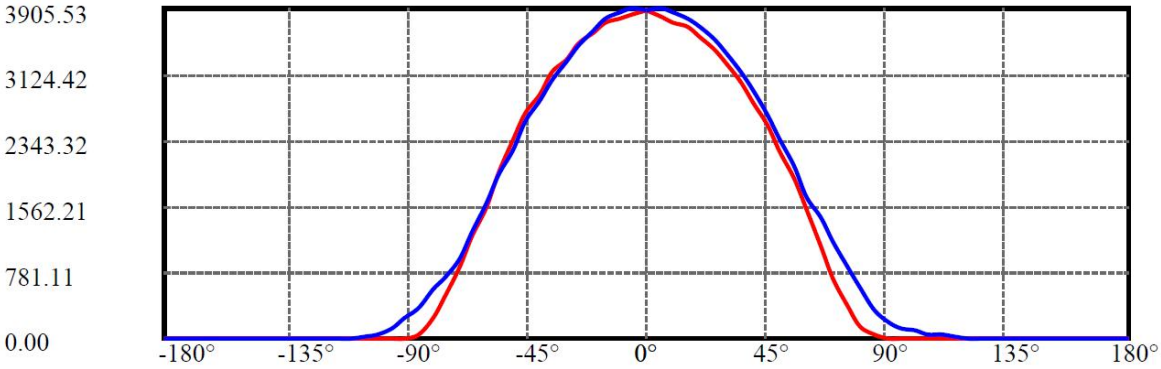
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3876.334	0.000	0	0.00%	0.00%
5.0	3864.490	92.539	92.539	0.00%	0.85%
10.0	3808.746	274.496	367.035	0.00%	3.37%
15.0	3737.579	447.643	814.678	0.00%	7.48%
20.0	3621.919	606.526	1421.204	0.00%	13.05%
25.0	3477.284	744.575	2165.779	0.00%	19.89%
30.0	3301.974	857.921	3023.7	0.00%	27.77%
35.0	3090.760	941.375	3965.075	0.00%	36.41%
40.0	2850.757	991.297	4956.372	0.00%	45.51%
45.0	2577.553	1005.096	5961.468	0.00%	54.74%
50.0	2268.871	979.291	6940.759	0.00%	63.74%
55.0	1932.967	913.620	7854.378	0.00%	72.13%
60.0	1567.566	809.138	8663.517	0.00%	79.56%
65.0	1219.636	677.574	9341.091	0.00%	85.78%
70.0	894.594	535.337	9876.427	0.00%	90.69%
75.0	602.474	391.309	10267.737	0.00%	94.29%
80.0	381.815	263.368	10531.105	0.00%	96.71%
85.0	208.084	160.290	10691.395	0.00%	98.18%
90.0	106.617	86.168	10777.562	0.00%	98.97%
95.0	57.482	44.932	10822.494	0.00%	99.38%
100.0	27.825	23.180	10845.674	0.00%	99.60%
105.0	15.384	11.561	10857.235	0.00%	99.70%
110.0	12.387	7.259	10864.494	0.00%	99.77%
115.0	6.207	4.708	10869.203	0.00%	99.81%
120.0	4.054	2.494	10871.697	0.00%	99.83%
125.0	4.682	2.019	10873.716	0.00%	99.85%
130.0	5.298	2.170	10875.886	0.00%	99.87%
135.0	5.792	2.241	10878.127	0.00%	99.89%
140.0	6.060	2.195	10880.322	0.00%	99.91%
145.0	6.261	2.056	10882.377	0.00%	99.93%
150.0	6.475	1.875	10884.252	0.00%	99.95%
155.0	6.555	1.649	10885.901	0.00%	99.96%
160.0	6.501	1.369	10887.271	0.00%	99.98%
165.0	6.488	1.070	10888.341	0.00%	99.99%
170.0	6.354	0.762	10889.103	0.00%	99.99%
175.0	6.434	0.457	10889.56	0.00%	100.00%
180.0	6.811	0.158	10889.719	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

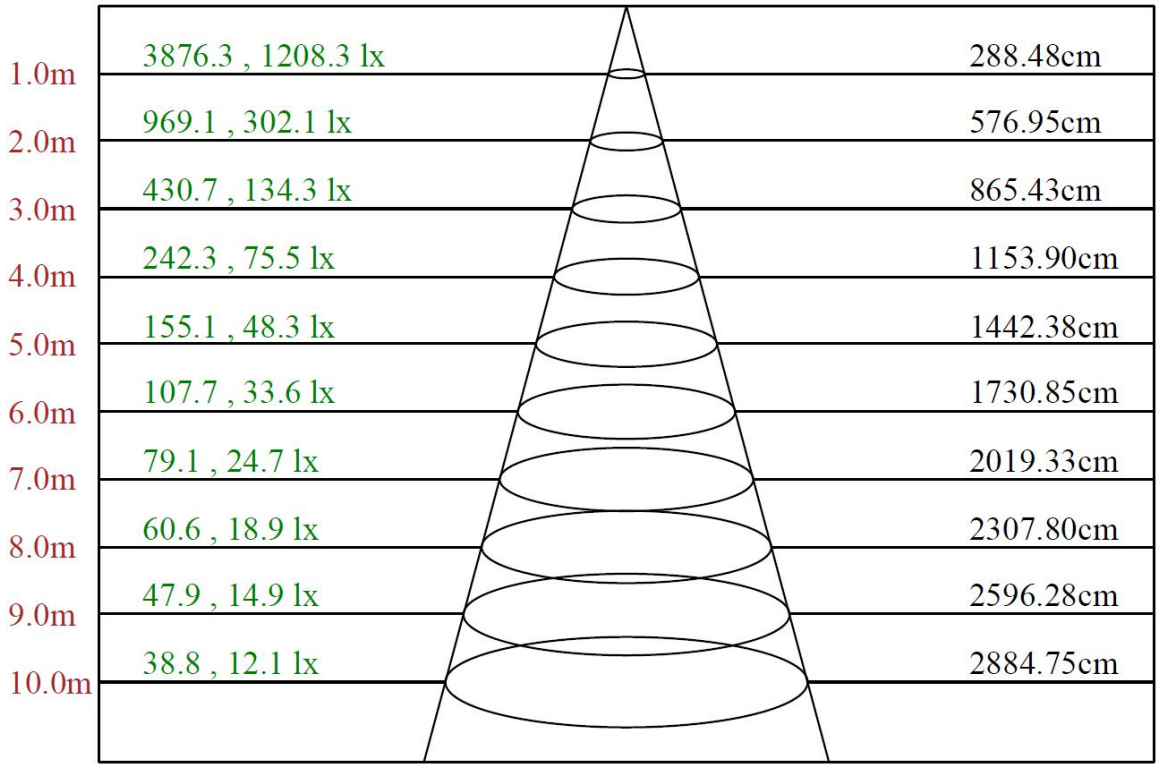
Field angle(10%Imax):C0/180Left:77.2 Right:74.9

:C90/270Left:84.6 Right:84.0

Beam Angle(50%Imax):C0/180Left:55.3 Right:54.1

:C90/270Left:54.7 Right:56.1

Lux distance Curve



Max , Ave Beam angle of C112.5 plane 110.53

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	3876.33	3819.49	3741.37	3692.14	3557.51	3421.81	3241.16	3032.26	2798.32
22.5	3876.33	3841.11	3761.27	3687.21	3568.21	3420.10	3237.52	3018.56	2795.11
45.0	3876.33	3847.96	3787.38	3706.05	3602.46	3456.05	3270.70	3040.39	2781.41
67.5	3876.33	3884.56	3826.98	3736.01	3617.87	3450.70	3279.90	3059.44	2806.02
90.0	3876.33	3896.11	3846.46	3789.95	3682.72	3553.44	3377.07	3157.90	2940.44
112.5	3876.33	3905.53	3860.16	3796.37	3699.41	3542.95	3362.09	3171.39	2922.25
135.0	3876.33	3885.20	3855.66	3769.62	3663.88	3534.18	3359.31	3149.13	2918.18
157.5	3876.33	3845.39	3809.43	3736.66	3638.41	3490.94	3347.32	3116.81	2929.95
180.0	3876.33	3835.11	3792.73	3736.01	3612.30	3500.79	3306.87	3154.26	2897.85
202.5	3876.33	3858.44	3789.95	3736.87	3630.49	3461.83	3327.20	3116.38	2904.91
225.0	3876.33	3871.50	3817.78	3746.93	3635.85	3513.63	3353.10	3152.12	2906.84
247.5	3876.33	3893.55	3846.24	3774.54	3678.65	3543.60	3367.01	3155.76	2887.14
270.0	3876.33	3904.25	3847.31	3788.88	3644.19	3469.11	3283.11	3059.44	2815.23
292.5	3876.33	3876.85	3819.92	3728.09	3606.52	3452.63	3269.63	3036.97	2763.22
315.0	3876.33	3837.90	3782.89	3700.91	3572.49	3428.87	3243.30	3032.05	2769.21
337.5	3876.33	3828.91	3754.42	3675.01	3539.74	3395.91	3206.27	2999.30	2776.06
360.0	3876.33	3819.49	3741.37	3692.14	3557.51	3421.81	3241.16	3032.26	2798.32

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	2517.93	2215.28	1880.31	1528.01	1085.81	704.18	380.77	136.98	39.38
22.5	2511.08	2194.31	1854.20	1482.63	1106.14	738.86	419.51	221.10	86.90
45.0	2493.96	2208.22	1867.90	1509.17	1138.89	859.14	598.45	366.22	183.22
67.5	2533.77	2256.16	1905.57	1553.48	1294.71	1023.31	733.50	487.79	272.68
90.0	2653.84	2342.63	2031.64	1666.06	1425.91	1145.74	849.30	612.79	337.32
112.5	2655.56	2348.20	2042.34	1677.41	1355.07	1108.71	789.37	554.78	302.43
135.0	2644.43	2342.42	2009.81	1632.03	1242.06	907.09	636.33	397.47	216.82
157.5	2663.26	2343.06	1966.79	1569.53	1181.70	845.02	518.61	261.34	98.89
180.0	2657.70	2341.78	1966.79	1554.12	1204.60	857.43	505.56	235.23	56.08
202.5	2649.35	2327.01	1951.37	1565.89	1182.55	815.27	515.62	271.61	113.44
225.0	2625.16	2303.04	1967.00	1596.72	1266.24	933.63	644.89	389.98	260.48
247.5	2600.76	2320.16	2009.16	1658.14	1336.66	1020.31	739.93	572.98	396.61
270.0	2571.23	2228.12	1933.18	1605.71	1263.67	953.96	733.29	586.46	373.28
292.5	2480.47	2195.59	1882.67	1535.07	1230.71	919.93	660.30	501.49	329.40
315.0	2481.97	2142.94	1811.61	1473.64	1128.40	782.31	519.90	323.41	189.21
337.5	2500.38	2193.02	1847.14	1473.43	1071.04	698.62	394.26	189.42	73.20
360.0	2517.93	2215.28	1880.31	1528.01	1085.81	704.18	380.77	136.98	39.38

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	2.35	2.14	2.14	2.14	2.57	3.43	3.85	4.07	4.92
22.5	28.47	9.42	3.43	2.35	3.21	3.85	4.71	5.35	5.35
45.0	82.40	47.73	23.54	16.05	9.20	3.43	4.50	5.35	5.78
67.5	149.61	104.88	48.80	37.24	38.31	11.13	3.85	4.92	4.92
90.0	187.07	128.64	93.32	46.66	51.58	23.76	4.71	4.50	5.99
112.5	156.03	101.24	65.07	35.10	38.10	17.98	3.64	4.50	4.92
135.0	82.40	40.88	18.19	11.99	8.56	2.78	3.85	4.50	5.35
157.5	27.83	7.71	2.78	2.14	2.14	3.00	3.64	4.07	4.92
180.0	7.71	2.35	2.14	1.71	2.14	2.57	3.21	3.85	4.28
202.5	42.38	10.92	4.28	2.35	2.57	3.00	3.64	4.50	4.92
225.0	144.90	54.58	27.61	16.05	6.64	3.21	4.07	4.71	5.57
247.5	226.67	129.92	54.37	24.61	9.63	4.50	3.43	4.07	4.71
270.0	252.99	125.43	40.88	17.34	8.99	5.35	4.71	5.14	6.42
292.5	204.41	105.31	35.53	16.05	8.13	4.28	4.28	4.92	5.57
315.0	91.61	43.02	20.55	11.99	3.21	3.43	4.50	5.57	5.78
337.5	19.05	5.57	2.57	2.35	3.21	3.64	4.28	4.92	5.35
360.0	2.35	2.14	2.14	2.14	2.57	3.43	3.85	4.07	4.92

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	5.35	5.78	6.21	6.42	6.64	6.64	6.64	6.42	6.42
22.5	5.78	5.78	6.21	6.42	6.64	6.42	6.64	6.21	6.64
45.0	6.42	6.42	6.21	6.42	6.64	6.42	6.42	6.42	6.64
67.5	5.57	6.21	6.42	6.64	6.64	6.64	6.42	6.42	6.21
90.0	6.42	6.85	6.64	6.85	6.85	6.64	6.42	6.42	6.42
112.5	5.57	5.78	6.21	6.42	6.42	6.64	6.42	6.21	6.42
135.0	5.78	6.21	6.21	6.21	6.42	6.42	6.21	6.21	6.42
157.5	4.92	5.57	5.57	5.99	6.21	6.42	6.21	6.21	6.21
180.0	4.71	5.35	5.78	5.99	6.42	6.42	6.21	6.21	6.42
202.5	5.14	5.35	5.78	5.99	6.21	6.21	6.42	6.21	6.21
225.0	5.99	5.99	5.99	6.21	6.21	6.21	6.42	6.21	6.21
247.5	5.57	5.78	6.21	6.64	6.42	6.42	6.21	6.21	6.21
270.0	7.28	7.06	7.71	7.71	7.28	7.06	7.06	7.06	7.06
292.5	5.99	6.21	6.42	6.64	6.64	6.64	6.64	6.21	6.42
315.0	6.64	6.64	6.42	6.42	6.64	6.42	6.85	6.64	6.42
337.5	5.57	5.99	6.21	6.64	6.64	6.42	6.64	6.42	6.64
360.0	5.35	5.78	6.21	6.42	6.64	6.64	6.64	6.42	6.42

C/γ(°)	180.0
0.0	6.81
22.5	6.81
45.0	6.81
67.5	6.81
90.0	6.81
112.5	6.81
135.0	6.81
157.5	6.81
180.0	6.81
202.5	6.81
225.0	6.81
247.5	6.81
270.0	6.81
292.5	6.81
315.0	6.81
337.5	6.81
360.0	6.81

3.2.3 Model Number: HIDFA-80-H-EX39-8CCT-BYP/5SP, 4000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.04	60	0.6300	74.88	0.9901

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
11456.05	152.99	79.54	98.97

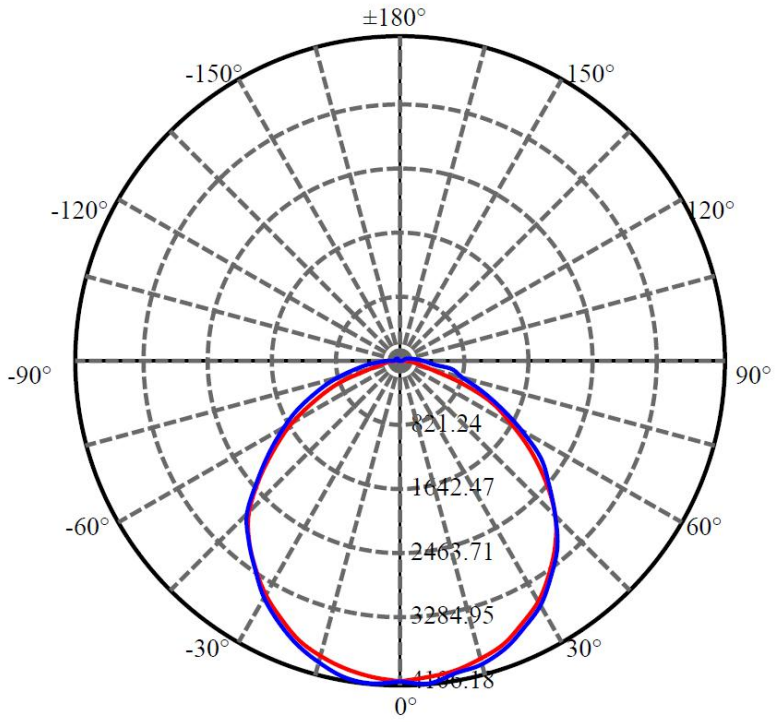
Zonal Flux Diagram

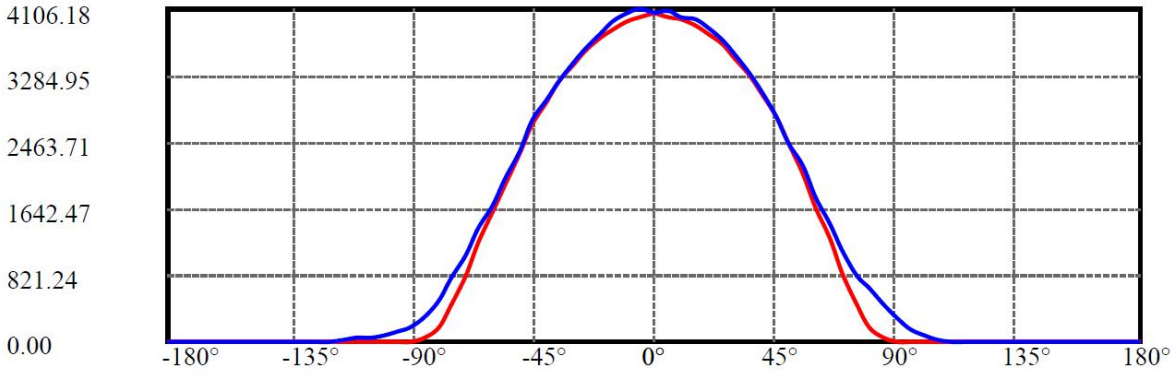
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4065.871	0.000	0	0.00%	0.00%
5.0	4050.173	97.025	97.025	0.00%	0.85%
10.0	3995.713	287.827	384.852	0.00%	3.36%
15.0	3915.425	469.283	854.135	0.00%	7.46%
20.0	3801.423	635.977	1490.112	0.00%	13.01%
25.0	3652.900	781.821	2271.932	0.00%	19.83%
30.0	3472.781	901.761	3173.693	0.00%	27.70%
35.0	3253.907	990.552	4164.245	0.00%	36.35%
40.0	3005.143	1044.275	5208.52	0.00%	45.47%
45.0	2720.165	1060.087	6268.608	0.00%	54.72%
50.0	2387.700	1032.119	7300.727	0.00%	63.73%
55.0	2029.023	960.343	8261.069	0.00%	72.11%
60.0	1652.312	850.930	9111.999	0.00%	79.54%
65.0	1297.485	717.101	9829.1	0.00%	85.80%
70.0	943.055	567.319	10396.42	0.00%	90.75%
75.0	630.384	411.272	10807.691	0.00%	94.34%
80.0	392.391	273.666	11081.357	0.00%	96.73%
85.0	218.900	166.102	11247.46	0.00%	98.18%
90.0	110.548	90.206	11337.665	0.00%	98.97%
95.0	61.632	47.144	11384.81	0.00%	99.38%
100.0	28.686	24.541	11409.351	0.00%	99.59%
105.0	16.844	12.182	11421.533	0.00%	99.70%
110.0	12.080	7.560	11429.094	0.00%	99.76%
115.0	6.060	4.593	11433.687	0.00%	99.80%
120.0	4.644	2.602	11436.289	0.00%	99.83%
125.0	5.240	2.285	11438.574	0.00%	99.85%
130.0	5.862	2.414	11440.988	0.00%	99.87%
135.0	6.298	2.457	11443.445	0.00%	99.89%
140.0	6.536	2.376	11445.821	0.00%	99.91%
145.0	6.854	2.234	11448.055	0.00%	99.93%
150.0	7.079	2.052	11450.107	0.00%	99.95%
155.0	7.158	1.802	11451.908	0.00%	99.96%
160.0	7.132	1.499	11453.407	0.00%	99.98%
165.0	6.933	1.159	11454.566	0.00%	99.99%
170.0	6.880	0.819	11455.386	0.00%	99.99%
175.0	6.854	0.491	11455.877	0.00%	100.00%
180.0	7.397	0.170	11456.047	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

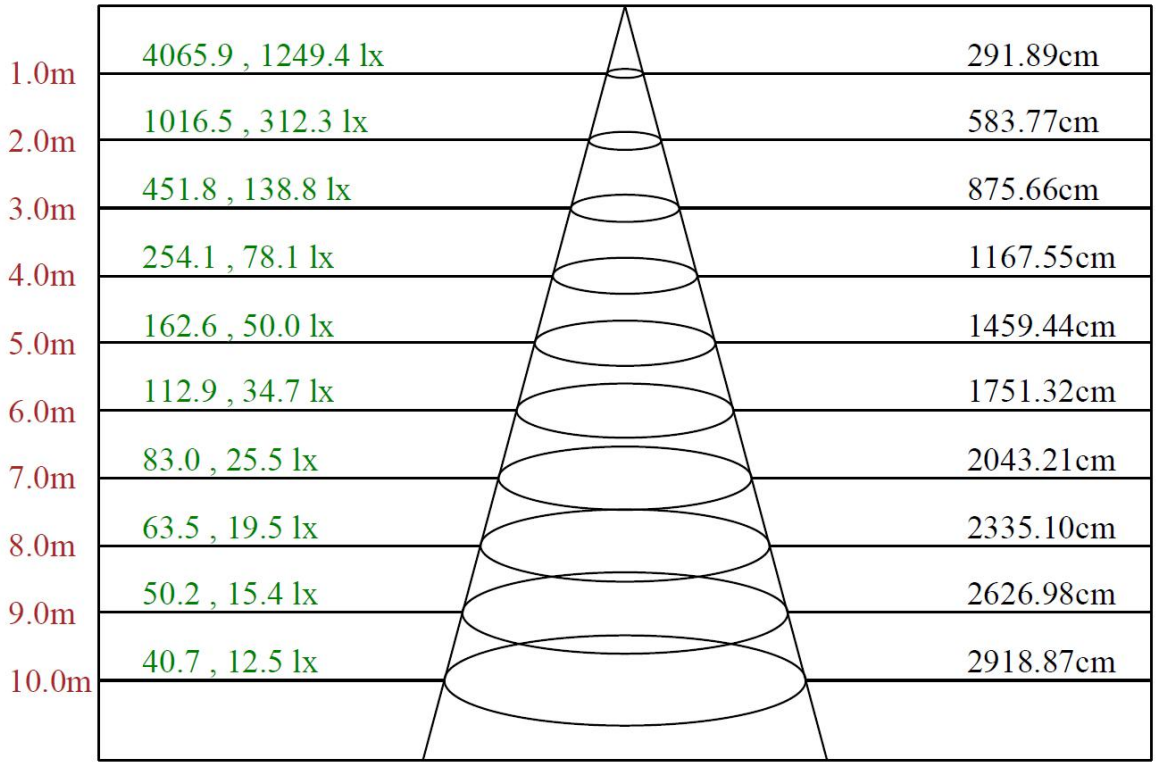
Field angle(10%Imax):C0/180Left:76.0 Right:76.1

:C90/270Left:82.4 Right:86.2

Beam Angle(50%Imax):C0/180Left:53.9 Right:55.3

:C90/270Left:54.5 Right:56.4

Lux distance Curve



Max , Ave Beam angle of C270 plane 111.16

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	4065.87	4013.88	3973.87	3910.99	3809.80	3669.44	3506.01	3298.11	3052.12
22.5	4065.87	4029.97	3983.18	3904.01	3795.61	3653.14	3484.41	3275.25	3039.20
45.0	4065.87	4040.34	3991.23	3911.20	3808.11	3672.40	3498.17	3279.27	3020.57
67.5	4065.87	4064.90	4005.20	3927.29	3823.35	3670.29	3477.64	3254.08	2983.52
90.0	4065.87	4088.61	4015.79	3967.31	3872.89	3735.70	3550.04	3321.19	3077.31
112.5	4065.87	4080.35	4022.35	3944.65	3834.78	3695.27	3512.36	3305.73	3033.49
135.0	4065.87	4050.50	4001.18	3919.88	3801.33	3657.80	3474.67	3251.12	2997.28
157.5	4065.87	4021.50	3965.61	3885.80	3763.22	3610.16	3425.14	3214.91	2982.47
180.0	4065.87	4007.74	3955.03	3862.09	3750.10	3586.24	3423.44	3202.21	2963.20
202.5	4065.87	4024.04	3963.92	3867.81	3748.19	3593.44	3406.29	3189.30	2961.30
225.0	4065.87	4045.21	3983.61	3894.48	3779.10	3629.43	3452.23	3232.27	2979.92
247.5	4065.87	4081.20	4032.30	3943.38	3828.43	3677.06	3489.92	3272.92	3008.93
270.0	4065.87	4106.18	4050.50	3961.17	3799.85	3626.68	3437.41	3213.86	2987.97
292.5	4065.87	4071.25	4012.40	3930.68	3813.19	3657.80	3465.78	3228.68	2964.26
315.0	4065.87	4049.45	3997.58	3917.13	3809.38	3660.76	3479.33	3252.60	2987.97
337.5	4065.87	4027.64	3977.68	3898.93	3785.45	3650.81	3481.66	3271.02	3042.80
360.0	4065.87	4013.88	3973.87	3910.99	3809.80	3669.44	3506.01	3298.11	3052.12

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	2776.69	2437.33	2056.27	1668.85	1267.68	837.28	468.92	187.99	47.42
22.5	2766.95	2420.82	2011.17	1618.68	1215.81	829.45	502.37	250.44	109.87
45.0	2720.80	2379.75	2029.80	1653.19	1275.72	924.08	629.82	399.27	270.13
67.5	2695.61	2403.04	2061.14	1692.14	1366.54	1025.91	743.71	571.60	399.69
90.0	2775.42	2454.48	2157.46	1785.08	1454.82	1112.50	818.87	661.15	453.04
112.5	2725.25	2409.39	2103.90	1737.02	1390.46	1058.72	742.65	574.56	382.12
135.0	2712.33	2370.65	1988.10	1617.20	1255.82	890.63	596.37	366.67	225.46
157.5	2701.75	2352.65	1963.96	1583.54	1177.07	803.20	488.40	234.99	93.78
180.0	2689.47	2327.46	1949.57	1597.51	1218.98	823.31	462.57	188.20	51.02
202.5	2681.42	2338.04	1966.50	1573.37	1215.60	834.11	503.22	270.98	115.80
225.0	2679.73	2364.08	2013.29	1638.15	1264.08	936.78	670.04	397.79	212.97
247.5	2720.38	2411.29	2072.99	1703.15	1408.03	1138.54	811.24	559.74	295.54
270.0	2722.28	2356.88	2020.28	1682.40	1415.44	1079.05	799.18	512.74	304.01
292.5	2695.61	2383.98	2023.24	1634.13	1356.38	1067.62	744.98	502.37	277.33
315.0	2703.02	2377.84	2021.12	1629.47	1240.79	892.33	625.79	366.88	180.16
337.5	2755.94	2415.53	2025.57	1623.12	1236.55	835.38	478.02	232.87	84.05
360.0	2776.69	2437.33	2056.27	1668.85	1267.68	837.28	468.92	187.99	47.42

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	2.75	2.33	2.33	2.33	3.18	3.18	4.02	4.45	5.08
22.5	37.68	11.43	4.66	2.54	3.18	3.81	4.66	5.29	5.72
45.0	133.80	62.45	27.10	15.88	5.08	3.81	4.66	5.29	5.72
67.5	241.34	128.93	43.19	19.48	9.10	4.66	4.02	5.08	5.72
90.0	280.72	163.01	76.64	26.25	11.01	7.41	4.87	4.87	6.14
112.5	216.57	128.50	49.54	22.02	9.32	4.87	3.81	4.66	5.50
135.0	122.58	43.40	22.02	14.18	4.23	3.39	4.45	5.29	5.93
157.5	29.85	7.62	3.39	2.33	2.96	3.60	4.45	4.66	5.50
180.0	6.14	3.39	2.75	2.33	2.75	3.39	4.02	4.66	5.29
202.5	35.57	11.43	4.87	3.18	3.39	3.60	4.66	5.50	6.14
225.0	91.46	50.39	24.98	17.57	12.91	4.45	4.87	5.29	5.72
247.5	155.60	107.33	64.99	40.44	42.34	17.57	5.08	5.29	5.50
270.0	169.79	119.40	67.53	51.44	39.80	16.51	6.14	6.56	7.41
292.5	144.17	98.02	42.76	35.35	36.84	8.68	5.08	5.72	6.14
315.0	76.64	41.71	19.48	11.64	4.23	4.23	4.87	5.93	6.35
337.5	24.13	6.77	2.75	2.54	2.96	3.81	4.66	5.29	5.93
360.0	2.75	2.33	2.33	2.33	3.18	3.18	4.02	4.45	5.08

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	5.72	6.35	6.35	6.77	6.99	6.99	6.99	6.56	6.77
22.5	5.72	6.14	6.35	6.77	6.99	6.99	6.77	6.56	6.99
45.0	6.56	6.56	6.77	6.77	6.99	6.99	6.77	6.56	6.56
67.5	6.14	6.35	6.77	6.99	6.77	6.99	6.77	6.77	6.77
90.0	6.77	7.62	7.41	7.41	7.20	7.20	6.77	6.56	6.56
112.5	5.93	5.93	6.77	6.77	6.77	6.77	6.77	6.56	6.77
135.0	6.35	6.35	6.56	6.77	6.77	6.99	6.99	6.99	6.56
157.5	5.93	6.14	6.56	6.99	6.77	6.99	6.77	6.99	6.99
180.0	5.93	5.93	6.56	6.99	7.41	7.41	6.99	6.99	6.77
202.5	6.14	6.35	6.77	6.99	7.20	7.20	6.99	6.99	6.56
225.0	6.77	6.77	7.20	6.99	7.41	7.20	7.20	7.20	6.99
247.5	5.93	6.35	6.77	7.41	7.41	7.20	7.20	6.99	6.56
270.0	7.83	8.05	8.26	8.47	8.26	8.05	7.62	7.83	7.62
292.5	6.35	6.56	6.99	7.20	7.20	6.99	6.77	6.99	7.20
315.0	6.77	6.99	6.99	7.20	7.20	7.20	6.77	6.77	6.99
337.5	5.93	6.14	6.56	6.77	7.20	6.99	6.77	6.77	6.99
360.0	5.72	6.35	6.35	6.77	6.99	6.99	6.99	6.56	6.77

C/γ(°)	180.0
0.0	7.40
22.5	7.40
45.0	7.40
67.5	7.40
90.0	7.40
112.5	7.40
135.0	7.40
157.5	7.40
180.0	7.40
202.5	7.40
225.0	7.40
247.5	7.40
270.0	7.40
292.5	7.40
315.0	7.40
337.5	7.40
360.0	7.40

3.2.4 Model Number: HIDFA-80-H-EX39-8CCT-BYP/5SP, 4000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.11	60	0.3160	78.32	0.8933

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
12022.94	153.51	79.50	98.94

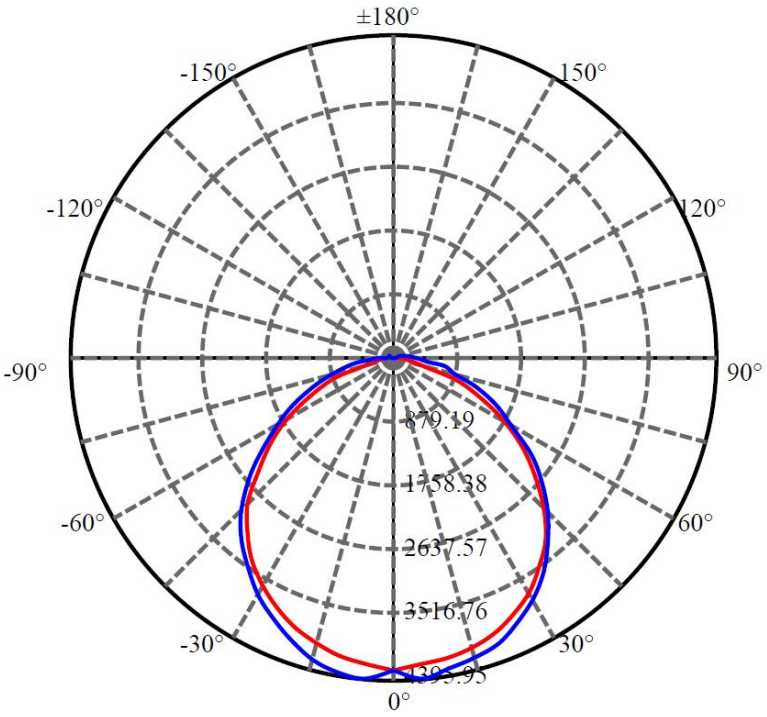
Zonal Flux Diagram

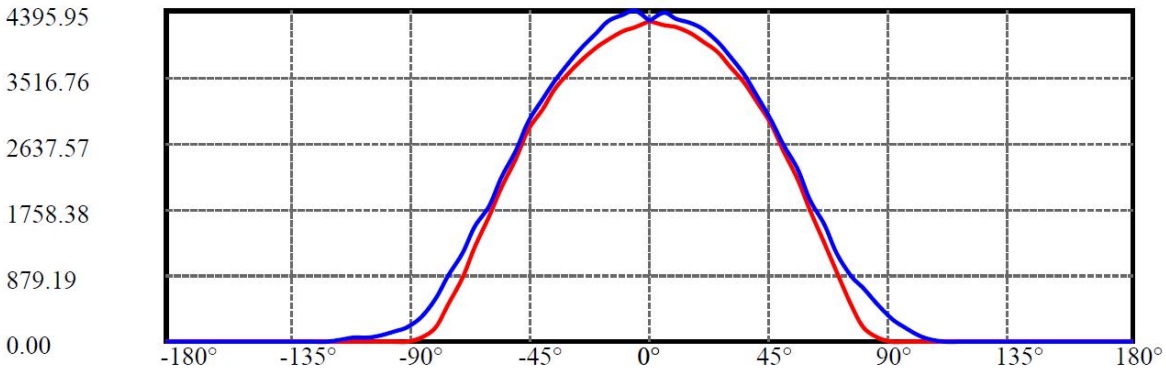
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4257.637	0.000	0	0.00%	0.00%
5.0	4247.423	101.676	101.676	0.00%	0.85%
10.0	4188.835	301.791	403.467	0.00%	3.36%
15.0	4105.724	492.028	895.495	0.00%	7.45%
20.0	3987.986	667.035	1562.53	0.00%	13.00%
25.0	3831.788	820.150	2382.68	0.00%	19.82%
30.0	3644.576	946.140	3328.82	0.00%	27.69%
35.0	3413.537	1039.356	4368.177	0.00%	36.33%
40.0	3152.779	1095.540	5463.717	0.00%	45.44%
45.0	2852.147	1111.861	6575.578	0.00%	54.69%
50.0	2504.562	1082.402	7657.979	0.00%	63.69%
55.0	2129.731	1007.650	8665.629	0.00%	72.08%
60.0	1732.719	892.794	9558.423	0.00%	79.50%
65.0	1359.366	751.692	10310.115	0.00%	85.75%
70.0	990.215	594.929	10905.044	0.00%	90.70%
75.0	661.971	431.855	11336.899	0.00%	94.29%
80.0	415.150	288.208	11625.106	0.00%	96.69%
85.0	231.026	175.581	11800.688	0.00%	98.15%
90.0	117.214	95.351	11896.038	0.00%	98.94%
95.0	65.706	50.085	11946.123	0.00%	99.36%
100.0	30.766	26.214	11972.337	0.00%	99.58%
105.0	18.347	13.141	11985.478	0.00%	99.69%
110.0	13.230	8.254	11993.732	0.00%	99.76%
115.0	6.530	5.003	11998.736	0.00%	99.80%
120.0	5.117	2.831	12001.567	0.00%	99.82%
125.0	5.693	2.499	12004.066	0.00%	99.84%
130.0	6.295	2.606	12006.672	0.00%	99.86%
135.0	6.752	2.636	12009.308	0.00%	99.89%
140.0	7.041	2.554	12011.862	0.00%	99.91%
145.0	7.407	2.410	12014.273	0.00%	99.93%
150.0	7.616	2.212	12016.485	0.00%	99.95%
155.0	7.799	1.951	12018.436	0.00%	99.96%
160.0	7.734	1.629	12020.065	0.00%	99.98%
165.0	7.577	1.262	12021.327	0.00%	99.99%
170.0	7.459	0.892	12022.219	0.00%	99.99%
175.0	7.525	0.536	12022.755	0.00%	100.00%
180.0	7.969	0.185	12022.94	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

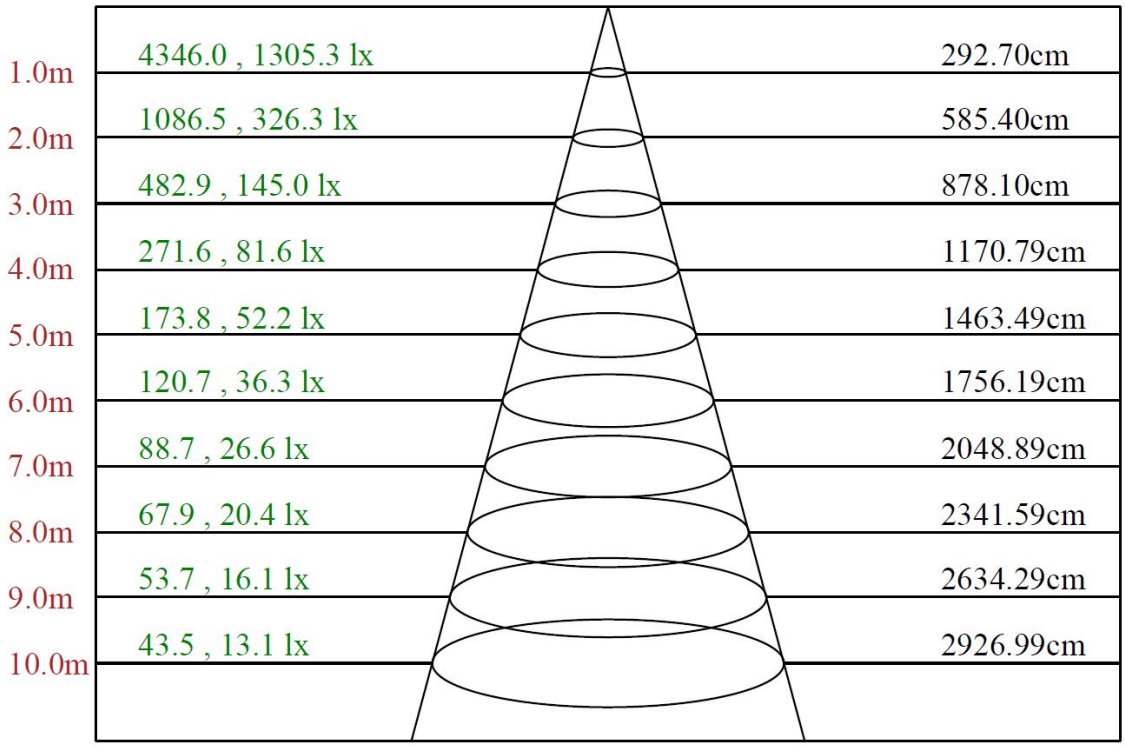
Field angle(10%Imax):C0/180Left:76.1 Right:76.2

:C90/270Left:82.7 Right:86.2

Beam Angle(50%Imax):C0/180Left:53.8 Right:55.3

:C90/270Left:54.7 Right:56.2

Lux distance Curve



Max , Ave Beam angle of C270 plane 111.31

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	4257.64	4194.95	4164.59	4095.91	3993.73	3848.00	3671.49	3452.27	3202.48
22.5	4257.64	4197.04	4143.86	4065.13	3953.95	3805.29	3628.36	3408.72	3173.59
45.0	4257.64	4274.51	4144.07	4065.76	3954.58	3811.57	3631.92	3412.07	3136.53
67.5	4257.64	4203.32	4153.28	4070.16	3962.53	3805.92	3612.66	3374.17	3104.28
90.0	4257.64	4370.83	4295.45	4241.01	4142.60	3991.85	3792.94	3541.68	3277.86
112.5	4257.64	4314.29	4253.57	4165.63	4052.57	3903.91	3723.84	3480.96	3198.29
135.0	4257.64	4253.57	4201.23	4111.19	3991.85	3843.19	3646.37	3411.86	3152.23
157.5	4257.64	4209.60	4153.07	4065.13	3937.41	3776.19	3587.74	3359.52	3118.73
180.0	4257.64	4184.48	4125.85	4025.35	3914.38	3746.87	3568.90	3353.24	3093.60
202.5	4257.64	4184.48	4125.85	4025.35	3899.72	3736.40	3550.05	3321.83	3074.76
225.0	4257.64	4182.38	4125.85	4033.72	3914.38	3761.53	3575.18	3353.24	3083.13
247.5	4257.64	4215.89	4163.54	4073.51	3956.25	3799.22	3606.59	3390.92	3112.45
270.0	4257.64	4395.95	4337.33	4255.67	4086.91	3903.49	3702.06	3456.04	3218.39
292.5	4257.64	4303.83	4243.10	4172.96	4051.52	3879.20	3683.85	3433.43	3151.39
315.0	4257.64	4255.67	4213.79	4127.53	4019.07	3862.66	3672.96	3426.52	3154.32
337.5	4257.64	4217.98	4176.94	4097.58	3976.35	3833.35	3658.30	3440.13	3192.43
360.0	4257.64	4194.95	4164.59	4095.91	3993.73	3848.00	3671.49	3452.27	3202.48

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	2895.32	2540.00	2156.21	1736.61	1318.89	936.77	496.02	193.26	48.79
22.5	2876.27	2517.18	2106.58	1681.75	1264.24	850.30	520.73	259.21	113.90
45.0	2825.60	2470.28	2108.47	1716.51	1323.71	959.59	641.75	419.39	280.99
67.5	2796.07	2492.68	2136.31	1754.19	1416.67	1063.66	772.20	594.01	414.99
90.0	2961.69	2618.31	2300.05	1887.57	1548.37	1181.96	881.28	707.92	484.51
112.5	2875.85	2553.40	2218.39	1831.04	1475.09	1119.14	787.90	608.88	412.48
135.0	2844.44	2482.21	2096.95	1709.60	1315.96	931.12	633.80	385.89	233.04
157.5	2836.06	2467.55	2050.89	1638.41	1240.58	849.67	509.42	251.47	100.50
180.0	2802.56	2423.58	2040.42	1671.91	1265.71	855.74	489.53	201.22	52.35
202.5	2794.19	2438.24	2038.32	1630.03	1255.24	874.38	519.47	285.81	122.28
225.0	2779.53	2444.52	2090.67	1703.31	1301.30	896.57	698.70	415.41	217.34
247.5	2810.94	2492.68	2143.01	1759.85	1458.34	1179.86	834.38	581.66	307.58
270.0	2934.68	2544.40	2179.66	1815.54	1527.64	1175.26	860.14	562.19	332.50
292.5	2856.17	2534.35	2154.32	1752.94	1434.26	1141.34	793.97	539.16	293.76
315.0	2855.33	2511.11	2123.12	1723.83	1313.03	945.77	655.36	390.08	191.79
337.5	2889.67	2542.51	2132.34	1710.43	1290.83	882.33	496.86	246.86	89.62
360.0	2895.32	2540.00	2156.21	1736.61	1318.89	936.77	496.02	193.26	48.79

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	3.35	2.51	2.30	2.51	3.14	3.77	4.40	4.82	5.65
22.5	39.15	12.14	5.03	2.72	3.35	4.19	5.24	5.65	6.28
45.0	138.82	65.75	28.48	16.75	5.44	4.19	5.03	5.86	6.49
67.5	250.84	134.21	45.02	21.78	9.84	5.24	4.82	5.86	5.86
90.0	300.46	177.76	81.87	28.27	12.35	7.75	5.03	5.03	6.28
112.5	229.27	136.10	52.35	24.29	10.05	5.24	4.40	5.24	5.86
135.0	131.91	46.69	23.45	15.29	4.82	3.77	4.82	5.86	6.49
157.5	30.78	8.17	3.98	2.72	3.56	3.98	4.82	5.24	5.86
180.0	5.86	3.98	3.56	2.51	3.56	3.98	4.61	5.44	5.86
202.5	37.90	12.14	5.65	3.56	3.77	4.40	5.65	6.28	6.70
225.0	96.11	52.76	26.38	19.05	13.82	5.24	5.65	6.07	6.70
247.5	162.69	112.02	68.26	42.30	44.39	17.59	5.86	6.07	6.28
270.0	186.35	130.44	75.80	57.79	45.44	17.17	6.07	6.28	7.12
292.5	154.94	105.53	46.27	38.32	40.41	9.42	5.44	6.07	6.49
315.0	82.08	43.97	20.73	12.77	4.61	4.40	5.24	5.86	6.70
337.5	24.92	7.12	3.14	2.93	3.14	4.19	4.82	5.44	6.07
360.0	3.35	2.51	2.30	2.51	3.14	3.77	4.40	4.82	5.65

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	6.28	6.49	6.91	7.33	7.75	7.54	7.54	7.12	7.33
22.5	6.28	6.70	7.12	7.33	7.75	7.54	7.54	7.33	7.33
45.0	7.33	7.12	7.12	7.54	7.75	7.54	7.54	7.54	7.75
67.5	6.70	6.91	7.54	7.54	7.54	7.75	7.54	7.33	7.75
90.0	7.33	7.75	8.17	7.75	7.54	7.54	7.12	7.33	7.12
112.5	6.28	6.49	7.12	7.33	7.54	7.33	7.12	7.12	7.12
135.0	6.91	7.12	7.33	7.12	7.75	7.54	7.54	7.12	7.12
157.5	6.28	6.70	7.12	7.54	7.54	7.54	7.54	7.54	7.54
180.0	6.07	6.70	7.12	7.54	7.75	8.17	7.75	7.75	7.75
202.5	6.70	7.12	7.54	7.75	8.17	7.96	7.96	7.75	7.54
225.0	7.54	7.54	7.54	7.75	7.96	7.96	7.96	7.75	7.96
247.5	6.49	6.91	7.54	7.96	8.17	8.17	7.75	7.75	7.75
270.0	7.54	7.96	8.38	8.59	8.38	8.17	7.75	7.75	7.75
292.5	6.70	6.91	7.12	7.54	7.33	7.54	7.54	7.54	7.75
315.0	7.33	7.54	7.54	7.75	8.17	7.75	7.33	7.33	7.33
337.5	6.28	6.70	7.33	7.54	7.75	7.75	7.75	7.33	7.54
360.0	6.28	6.49	6.91	7.33	7.75	7.54	7.54	7.12	7.33

C/γ(°)	180.0
0.0	7.97
22.5	7.97
45.0	7.97
67.5	7.97
90.0	7.97
112.5	7.97
135.0	7.97
157.5	7.97
180.0	7.97
202.5	7.97
225.0	7.97
247.5	7.97
270.0	7.97
292.5	7.97
315.0	7.97
337.5	7.97
360.0	7.97

3.2.5 Model Number: HIDFA-80-H-EX39-8CCT-BYP/5SP, 5000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.04	60	0.6510	77.47	0.9907

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
11361.88	146.66	79.56	98.99

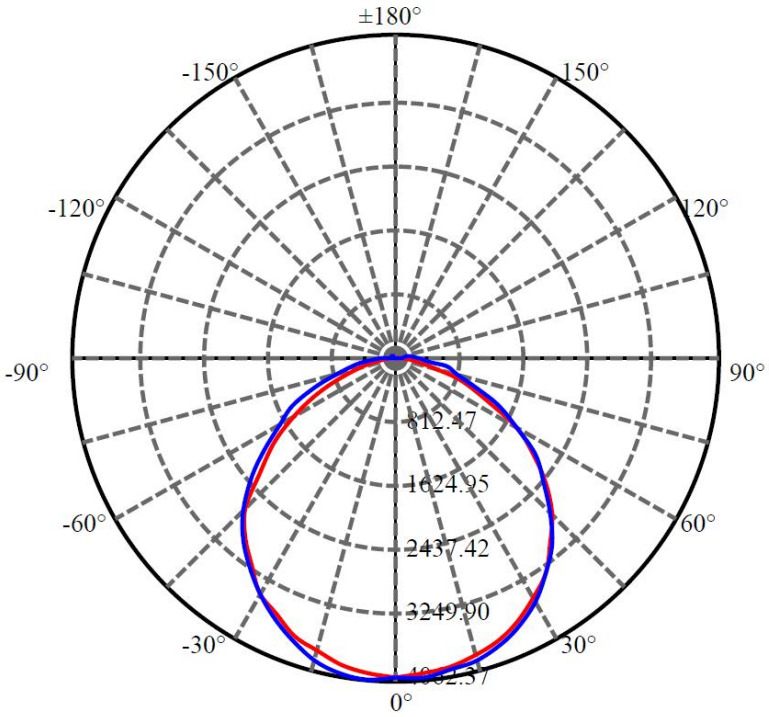
Zonal Flux Diagram

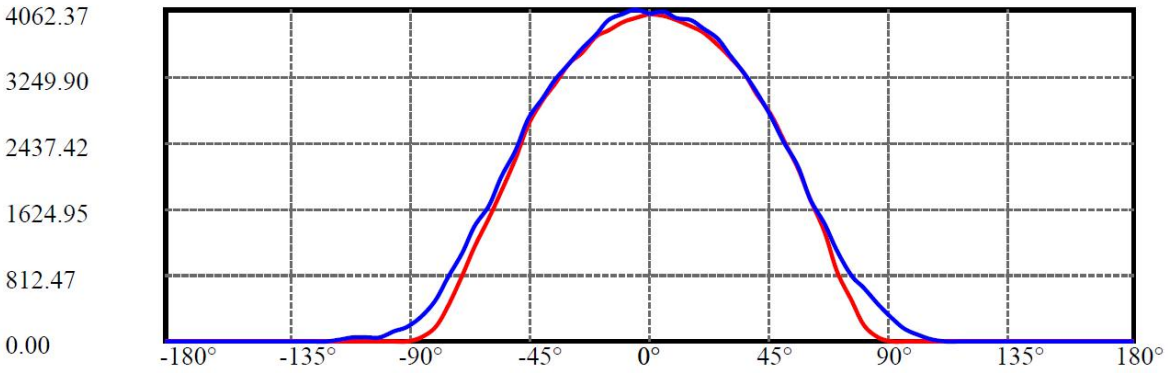
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4018.844	0.000	0	0.00%	0.00%
5.0	4003.957	95.910	95.91	0.00%	0.84%
10.0	3951.884	284.605	380.516	0.00%	3.35%
15.0	3872.353	464.128	844.644	0.00%	7.43%
20.0	3763.835	629.329	1473.973	0.00%	12.97%
25.0	3617.931	774.211	2248.184	0.00%	19.79%
30.0	3442.625	893.519	3141.704	0.00%	27.65%
35.0	3228.687	982.397	4124.101	0.00%	36.30%
40.0	2984.849	1036.681	5160.782	0.00%	45.42%
45.0	2705.169	1053.553	6214.335	0.00%	54.69%
50.0	2371.766	1025.869	7240.204	0.00%	63.72%
55.0	2014.930	953.814	8194.018	0.00%	72.12%
60.0	1642.130	845.319	9039.337	0.00%	79.56%
65.0	1288.446	712.429	9751.766	0.00%	85.83%
70.0	937.538	563.633	10315.399	0.00%	90.79%
75.0	623.317	407.982	10723.382	0.00%	94.38%
80.0	387.836	270.556	10993.938	0.00%	96.76%
85.0	215.736	164.005	11157.943	0.00%	98.21%
90.0	108.411	88.754	11246.697	0.00%	98.99%
95.0	59.880	46.079	11292.776	0.00%	99.39%
100.0	27.351	23.703	11316.479	0.00%	99.60%
105.0	16.137	11.636	11328.115	0.00%	99.70%
110.0	11.724	7.282	11335.398	0.00%	99.77%
115.0	5.849	4.449	11339.847	0.00%	99.81%
120.0	4.561	2.531	11342.377	0.00%	99.83%
125.0	5.218	2.260	11344.638	0.00%	99.85%
130.0	5.808	2.397	11347.035	0.00%	99.87%
135.0	6.278	2.442	11349.477	0.00%	99.89%
140.0	6.479	2.362	11351.839	0.00%	99.91%
145.0	6.667	2.193	11354.033	0.00%	99.93%
150.0	6.882	1.995	11356.028	0.00%	99.95%
155.0	7.083	1.767	11357.795	0.00%	99.96%
160.0	6.975	1.474	11359.269	0.00%	99.98%
165.0	6.868	1.141	11360.41	0.00%	99.99%
170.0	6.814	0.812	11361.222	0.00%	99.99%
175.0	6.828	0.488	11361.71	0.00%	100.00%
180.0	7.285	0.169	11361.879	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

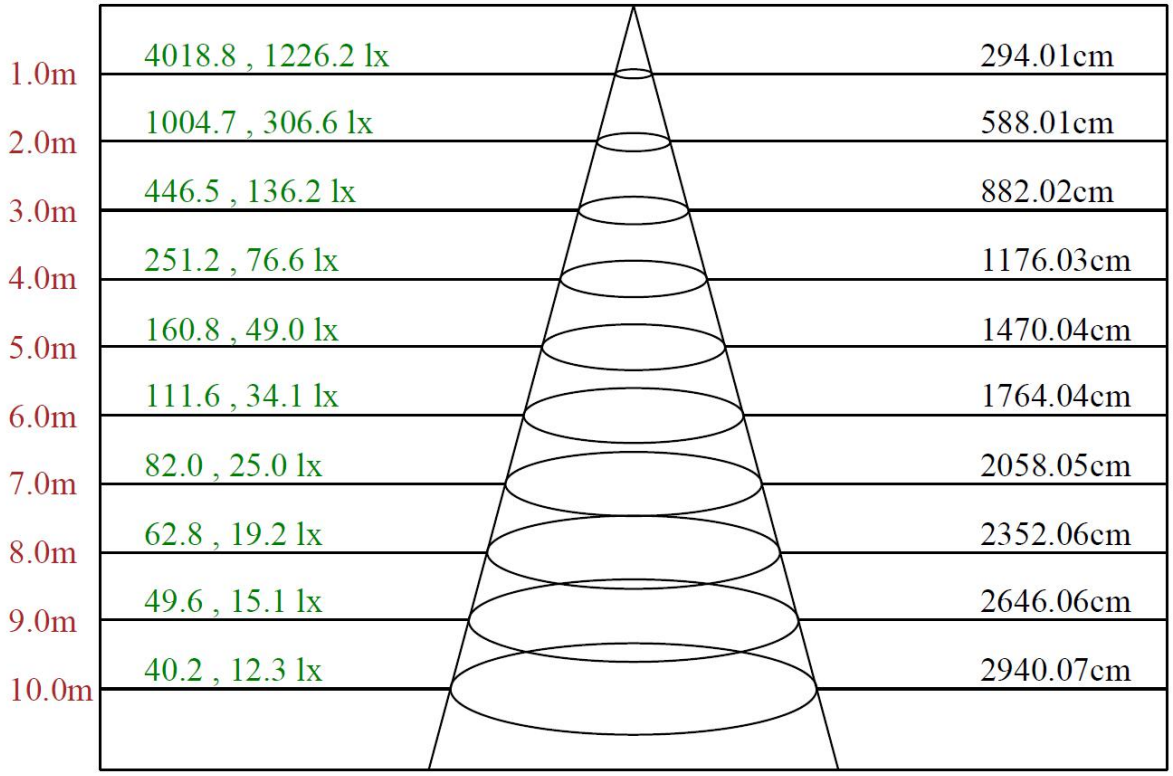
Field angle(10%Imax):C0/180Left:75.7 Right:76.7

:C90/270Left:82.6 Right:86.2

Beam Angle(50%Imax):C0/180Left:53.0 Right:56.5

:C90/270Left:54.8 Right:56.4

Lux distance Curve



Max , Ave Beam angle of C270 plane 111.55

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	4018.84	3977.17	3939.61	3867.28	3781.22	3642.57	3473.88	3285.44	3039.05
22.5	4018.84	3979.96	3943.04	3865.57	3763.41	3620.68	3457.57	3251.75	3034.55
45.0	4018.84	3991.33	3950.77	3870.29	3761.90	3636.56	3470.66	3258.40	2999.14
67.5	4018.84	4011.29	3950.34	3885.10	3785.73	3635.92	3451.99	3221.48	2971.02
90.0	4018.84	4037.26	3967.94	3926.52	3839.81	3700.09	3516.59	3292.74	3046.35
112.5	4018.84	4033.62	3971.37	3888.75	3783.58	3660.17	3481.39	3257.33	3009.44
135.0	4018.84	4007.00	3949.91	3875.01	3761.04	3609.95	3435.25	3225.56	2971.45
157.5	4018.84	3990.48	3909.13	3854.19	3715.54	3577.76	3383.95	3185.43	2945.69
180.0	4018.84	3964.51	3920.72	3804.61	3724.56	3538.48	3409.28	3164.18	2948.05
202.5	4018.84	3968.80	3937.68	3824.36	3699.88	3568.31	3365.50	3169.55	2931.31
225.0	4018.84	3998.85	3943.47	3855.26	3749.24	3597.29	3411.85	3201.74	2950.63
247.5	4018.84	4030.83	3990.05	3897.54	3789.38	3639.14	3460.79	3243.16	2990.34
270.0	4018.84	4062.37	4011.29	3925.66	3758.90	3587.84	3417.86	3192.72	2970.38
292.5	4018.84	4012.15	3958.28	3888.96	3779.72	3624.33	3435.03	3216.98	2952.56
315.0	4018.84	4009.15	3954.21	3868.57	3776.50	3633.34	3453.49	3225.99	2972.95
337.5	4018.84	3988.54	3932.31	3859.99	3750.96	3614.46	3456.92	3266.55	3024.68
360.0	4018.84	3977.17	3939.61	3867.28	3781.22	3642.57	3473.88	3285.44	3039.05

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	2782.80	2466.01	2120.69	1750.68	1326.80	867.72	504.79	198.96	56.88
22.5	2755.54	2427.38	2062.74	1674.91	1256.62	859.78	524.11	262.05	116.54
45.0	2706.60	2367.07	2026.90	1667.19	1289.88	939.83	636.14	417.01	280.30
67.5	2675.48	2382.95	2043.42	1689.94	1358.13	1018.81	739.16	570.90	394.48
90.0	2754.04	2441.98	2141.50	1752.39	1437.33	1106.38	809.34	648.80	449.63
112.5	2709.61	2395.40	2073.68	1722.56	1368.00	1033.41	719.63	559.09	368.94
135.0	2681.71	2336.38	1952.64	1572.32	1196.74	843.47	558.66	335.67	206.47
157.5	2679.13	2315.56	1866.79	1468.88	1118.40	769.21	462.08	218.92	83.70
180.0	2657.89	2240.02	1851.12	1506.65	1152.31	799.68	436.54	175.99	40.78
202.5	2657.67	2300.97	1888.03	1483.90	1142.22	793.67	477.75	250.46	105.81
225.0	2665.83	2338.10	1990.84	1608.81	1223.13	900.13	638.29	376.02	197.88
247.5	2700.60	2399.91	2067.89	1695.30	1400.20	1134.07	789.81	543.21	285.02
270.0	2716.48	2352.91	2016.59	1676.42	1419.51	1078.05	787.24	512.09	307.55
292.5	2679.13	2372.01	2026.90	1652.59	1353.84	1066.89	745.38	501.79	273.86
315.0	2704.03	2383.38	2028.18	1656.24	1278.29	923.09	638.93	381.38	190.16
337.5	2756.18	2428.24	2080.98	1695.30	1293.74	866.43	505.22	253.04	93.79
360.0	2782.80	2466.01	2120.69	1750.68	1326.80	867.72	504.79	198.96	56.88

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	3.22	2.36	1.93	2.36	2.36	3.43	3.65	4.51	5.15
22.5	41.21	12.88	4.72	2.36	3.01	3.65	4.72	5.37	5.58
45.0	139.51	64.60	28.12	16.31	5.37	3.65	4.51	5.37	6.01
67.5	239.30	128.13	42.92	19.96	9.01	4.94	4.29	4.94	5.58
90.0	275.36	159.04	72.11	24.47	10.73	7.08	4.72	4.51	6.22
112.5	200.03	118.04	46.79	20.39	8.80	4.51	4.08	4.51	5.15
135.0	113.97	38.85	19.96	12.88	4.08	3.22	4.08	5.37	5.80
157.5	24.25	6.22	3.22	2.15	3.01	3.65	4.29	5.15	5.37
180.0	4.72	3.43	2.79	2.15	3.01	3.43	4.08	4.72	5.37
202.5	31.12	9.44	4.51	2.79	3.22	3.65	4.72	5.58	5.80
225.0	83.70	47.86	22.32	15.88	12.45	4.08	4.94	5.15	5.80
247.5	150.45	103.66	59.88	37.77	40.99	16.31	5.15	5.58	5.80
270.0	172.13	114.18	62.46	50.01	39.06	15.24	6.01	6.22	7.51
292.5	143.80	97.22	42.50	34.13	34.98	9.01	4.94	5.80	6.01
315.0	84.13	44.86	20.60	12.02	4.51	3.86	4.72	5.58	6.22
337.5	27.69	7.30	2.79	2.58	3.01	3.86	4.08	5.15	5.58
360.0	3.22	2.36	1.93	2.36	2.36	3.43	3.65	4.51	5.15

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	5.58	6.22	6.22	6.44	7.08	7.08	6.44	6.65	6.65
22.5	5.58	6.22	6.22	6.44	6.87	6.87	6.87	6.65	6.87
45.0	6.87	6.44	6.44	6.44	6.65	6.87	6.65	6.65	6.65
67.5	6.44	6.22	6.65	6.87	6.65	6.87	6.87	6.65	6.87
90.0	6.87	7.51	7.08	7.08	6.87	6.87	6.87	6.65	6.44
112.5	5.80	5.80	6.22	6.65	6.65	6.65	6.65	6.65	6.65
135.0	6.22	6.44	6.44	6.65	6.87	6.87	6.87	6.65	6.44
157.5	5.80	6.44	6.44	6.87	6.87	7.08	6.65	6.87	6.87
180.0	5.80	6.01	6.65	7.08	7.08	6.87	6.87	6.87	6.87
202.5	6.22	6.22	6.44	7.08	7.30	7.08	7.08	6.87	6.87
225.0	6.65	6.65	7.08	6.87	7.30	7.08	7.08	6.87	6.87
247.5	6.01	6.01	6.87	7.08	7.51	7.08	6.87	7.08	6.87
270.0	7.73	7.94	8.16	8.16	8.37	7.94	7.73	7.51	7.73
292.5	6.44	6.44	6.65	6.65	7.08	6.65	6.87	7.08	6.87
315.0	6.65	6.87	6.65	6.87	7.08	6.87	6.65	6.65	6.87
337.5	5.80	6.22	6.44	6.87	7.08	6.87	6.87	6.65	6.87
360.0	5.58	6.22	6.22	6.44	7.08	7.08	6.44	6.65	6.65

C/γ(°)	180.0
0.0	7.29
22.5	7.29
45.0	7.29
67.5	7.29
90.0	7.29
112.5	7.29
135.0	7.29
157.5	7.29
180.0	7.29
202.5	7.29
225.0	7.29
247.5	7.29
270.0	7.29
292.5	7.29
315.0	7.29
337.5	7.29
360.0	7.29

3.2.6 Model Number: HIDFA-80-H-EX39-8CCT-BYP/5SP, 5000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.06	60	0.3240	80.73	0.8986

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
11770.20,	145.80	79.56	98.99

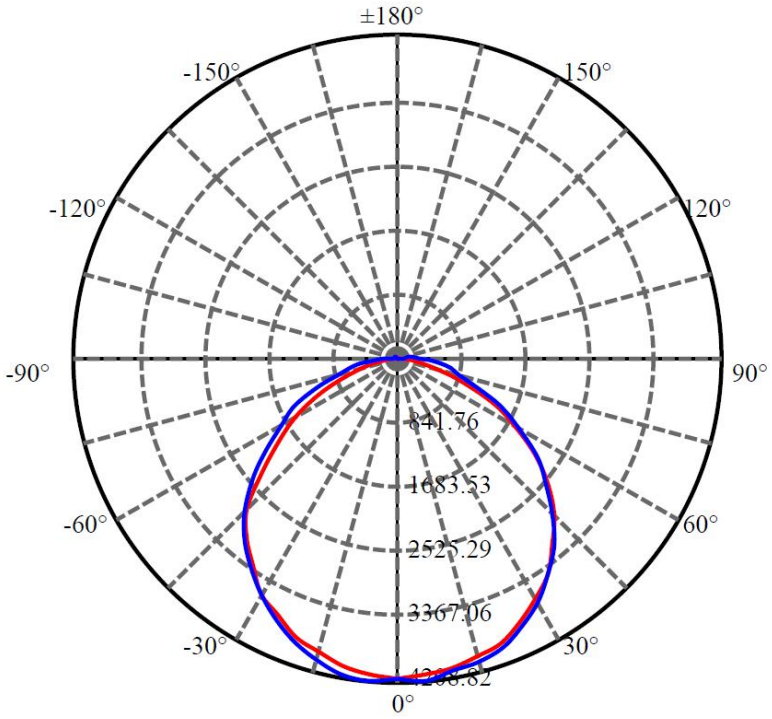
Zonal Flux Diagram

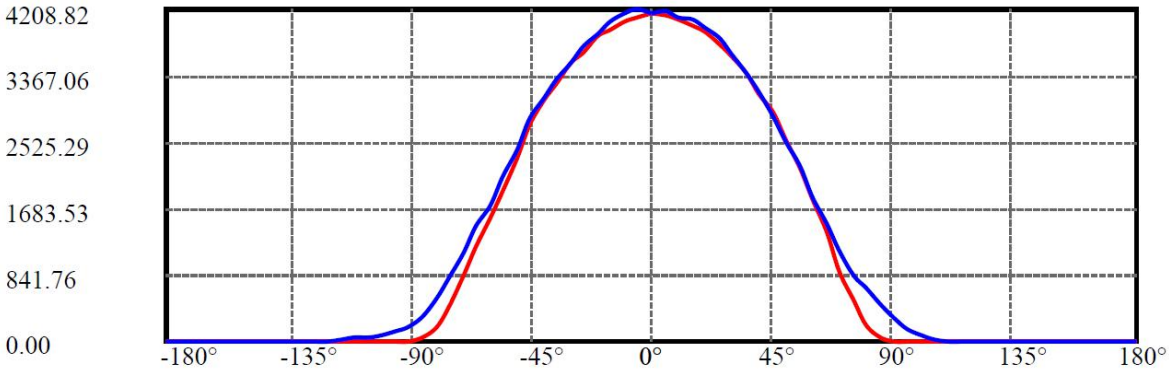
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4163.093	0.000	0	0.00%	0.00%
5.0	4147.941	99.356	99.356	0.00%	0.84%
10.0	4094.031	294.841	394.197	0.00%	3.35%
15.0	4011.506	480.815	875.012	0.00%	7.43%
20.0	3899.003	651.937	1526.949	0.00%	12.97%
25.0	3748.201	802.051	2329	0.00%	19.79%
30.0	3566.898	925.732	3254.732	0.00%	27.65%
35.0	3343.417	1017.592	4272.324	0.00%	36.30%
40.0	3092.606	1073.802	5346.126	0.00%	45.42%
45.0	2802.318	1091.493	6437.619	0.00%	54.69%
50.0	2457.585	1062.840	7500.459	0.00%	63.72%
55.0	2086.686	988.076	8488.535	0.00%	72.12%
60.0	1701.045	875.523	9364.058	0.00%	79.56%
65.0	1334.333	737.906	10101.964	0.00%	85.83%
70.0	971.326	583.808	10685.772	0.00%	90.79%
75.0	646.873	422.971	11108.743	0.00%	94.38%
80.0	401.828	280.603	11389.346	0.00%	96.76%
85.0	223.481	169.911	11559.258	0.00%	98.21%
90.0	112.008	91.860	11651.117	0.00%	98.99%
95.0	62.124	47.679	11698.796	0.00%	99.39%
100.0	28.293	24.569	11723.365	0.00%	99.60%
105.0	16.655	12.027	11735.391	0.00%	99.70%
110.0	12.147	7.528	11742.92	0.00%	99.77%
115.0	5.926	4.576	11747.496	0.00%	99.81%
120.0	4.749	2.595	11750.091	0.00%	99.83%
125.0	5.364	2.338	11752.429	0.00%	99.85%
130.0	5.966	2.464	11754.892	0.00%	99.87%
135.0	6.434	2.506	11757.398	0.00%	99.89%
140.0	6.729	2.437	11759.835	0.00%	99.91%
145.0	6.956	2.283	11762.119	0.00%	99.93%
150.0	7.090	2.068	11764.187	0.00%	99.95%
155.0	7.277	1.818	11766.005	0.00%	99.96%
160.0	7.170	1.515	11767.52	0.00%	99.98%
165.0	7.063	1.173	11768.693	0.00%	99.99%
170.0	6.956	0.832	11769.525	0.00%	99.99%
175.0	6.996	0.499	11770.024	0.00%	100.00%
180.0	7.529	0.174	11770.198	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

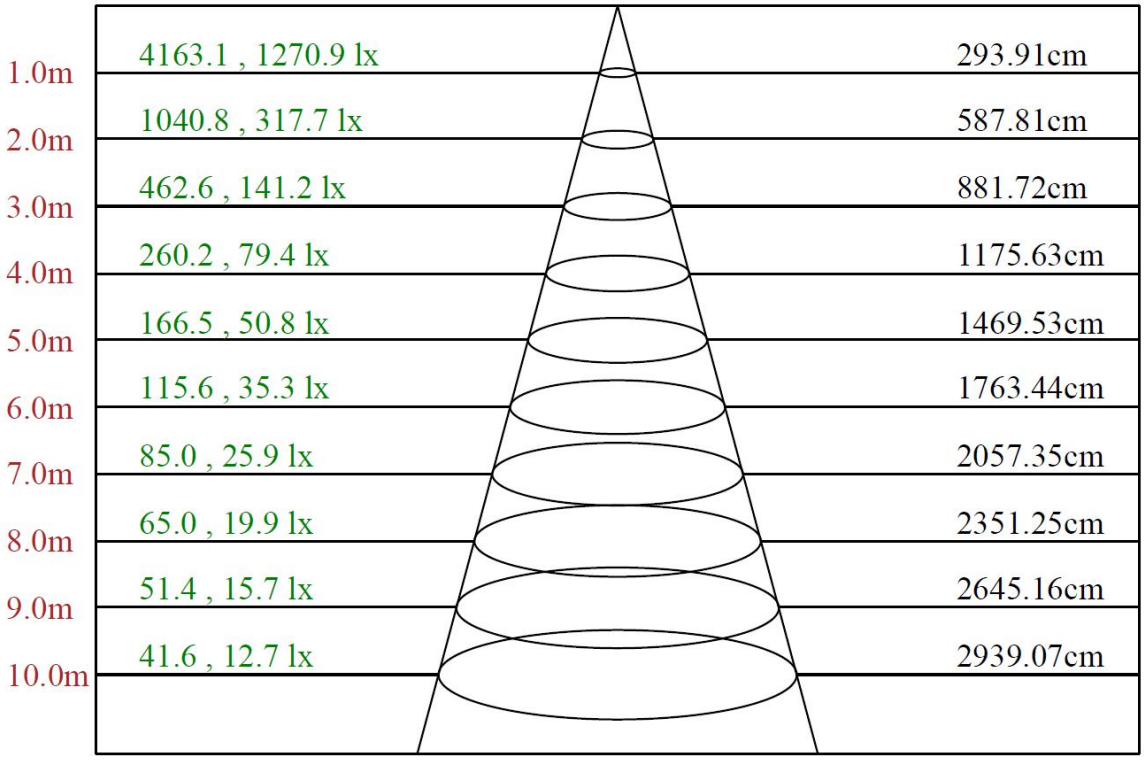
Field angle(10%Imax):C0/180Left:75.7 Right:76.6

:C90/270Left:82.7 Right:86.1

Beam Angle(50%Imax):C0/180Left:52.9 Right:56.5

:C90/270Left:54.7 Right:56.5

Lux distance Curve



Max , Ave Beam angle of C270 plane 111.53

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	4163.09	4120.00	4079.76	4005.91	3922.65	3772.19	3598.60	3399.76	3144.20
22.5	4163.09	4120.85	4085.32	4006.13	3898.90	3755.92	3580.20	3368.51	3139.49
45.0	4163.09	4136.26	4093.24	4009.98	3897.40	3767.05	3594.96	3374.08	3105.68
67.5	4163.09	4155.53	4095.38	4024.75	3923.73	3767.69	3569.07	3338.33	3074.85
90.0	4163.09	4184.64	4112.51	4068.84	3980.66	3834.90	3638.84	3405.33	3158.76
112.5	4163.09	4178.00	4117.64	4029.67	3917.95	3782.67	3606.31	3376.65	3109.74
135.0	4163.09	4149.53	4090.67	4010.62	3896.54	3740.30	3560.08	3335.55	3080.42
157.5	4163.09	4133.48	4051.51	3993.72	3848.81	3705.19	3507.64	3300.66	3053.24
180.0	4163.09	4106.08	4061.78	3942.35	3857.80	3667.09	3537.82	3272.84	3055.81
202.5	4163.09	4112.93	4075.48	3962.68	3833.40	3698.34	3488.37	3285.25	3038.90
225.0	4163.09	4142.04	4084.68	3992.43	3883.70	3723.17	3537.39	3316.93	3059.23
247.5	4163.09	4177.79	4132.63	4038.02	3918.37	3768.76	3585.97	3361.24	3101.82
270.0	4163.09	4208.82	4155.31	4064.56	3897.18	3726.17	3538.46	3307.08	3083.20
292.5	4163.09	4156.81	4099.66	4029.46	3912.38	3752.71	3563.07	3330.63	3058.16
315.0	4163.09	4152.32	4093.67	4007.84	3913.24	3760.20	3578.27	3338.76	3085.77
337.5	4163.09	4131.98	4075.26	3997.14	3881.35	3748.86	3585.33	3383.07	3132.43
360.0	4163.09	4120.00	4079.76	4005.91	3922.65	3772.19	3598.60	3399.76	3144.20

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	2891.00	2551.11	2193.88	1809.90	1385.46	896.17	520.32	204.62	60.36
22.5	2855.04	2513.44	2147.86	1732.84	1298.56	888.68	550.50	270.33	119.86
45.0	2815.01	2462.50	2098.42	1724.92	1348.00	971.73	656.88	431.28	293.87
67.5	2771.99	2467.63	2127.31	1750.18	1405.37	1053.92	770.32	590.96	407.74
90.0	2857.18	2525.21	2222.35	1819.10	1490.55	1137.82	839.45	673.36	461.25
112.5	2809.88	2485.18	2150.43	1774.79	1419.71	1073.18	747.20	574.48	383.98
135.0	2780.13	2423.54	2025.86	1632.25	1242.27	866.42	579.83	348.45	214.47
157.5	2767.50	2387.15	1937.03	1523.52	1160.72	798.79	480.30	221.31	87.33
180.0	2754.87	2322.94	1907.71	1563.11	1196.04	831.11	454.83	184.29	42.81
202.5	2743.31	2386.51	1958.22	1538.93	1174.42	824.04	497.21	260.70	110.44
225.0	2761.50	2423.11	2052.61	1669.06	1269.03	924.85	662.66	390.40	205.90
247.5	2798.32	2487.11	2132.24	1757.67	1443.68	1186.62	819.55	563.35	296.01
270.0	2811.59	2432.96	2086.65	1734.13	1468.08	1112.99	813.55	537.88	317.42
292.5	2771.78	2464.21	2096.28	1708.87	1391.67	1114.92	769.46	516.69	281.89
315.0	2796.39	2465.49	2097.56	1724.71	1319.97	953.53	666.94	400.68	195.84
337.5	2851.61	2523.28	2152.57	1752.75	1335.80	906.45	520.97	260.48	96.53
360.0	2891.00	2551.11	2193.88	1809.90	1385.46	896.17	520.32	204.62	60.36

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	3.21	2.35	1.93	2.35	3.00	3.21	4.07	4.50	4.92
22.5	42.38	13.27	5.14	2.35	3.00	3.85	4.50	5.57	5.78
45.0	143.62	66.78	28.47	17.12	5.57	3.85	4.71	5.57	6.21
67.5	248.07	132.70	44.09	19.69	9.20	4.92	4.28	4.92	5.57
90.0	282.96	165.88	75.56	25.47	11.34	7.71	5.14	4.71	6.42
112.5	208.04	123.07	46.45	20.76	8.99	4.50	4.07	4.71	5.57
135.0	115.79	40.45	20.55	13.06	4.07	3.43	4.50	5.57	6.21
157.5	25.47	6.42	3.21	2.35	3.21	3.85	4.50	5.14	5.57
180.0	4.92	3.64	2.78	2.35	3.21	3.64	4.07	4.92	5.35
202.5	32.32	9.85	4.71	3.21	3.43	3.85	5.14	5.78	6.42
225.0	86.69	49.01	23.12	16.48	13.06	4.28	4.92	5.57	6.21
247.5	156.46	107.45	62.07	38.96	42.38	16.91	5.57	5.78	5.78
270.0	177.65	117.72	66.35	51.58	39.81	14.13	6.42	6.42	7.28
292.5	149.83	101.24	43.66	35.53	36.60	8.78	5.14	5.78	6.21
315.0	86.26	46.45	21.62	12.41	4.28	4.07	4.50	5.78	6.42
337.5	28.47	7.71	3.00	2.78	3.21	3.85	4.50	5.14	5.57
360.0	3.21	2.35	1.93	2.35	3.00	3.21	4.07	4.50	4.92

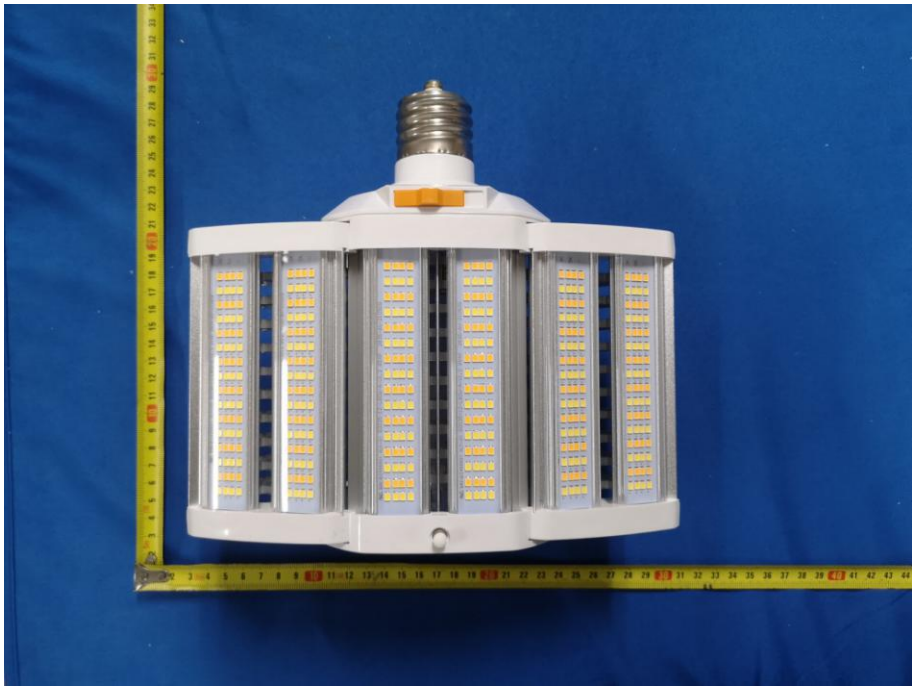
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	5.78	6.21	6.42	6.64	7.28	7.28	7.06	6.85	6.85
22.5	5.99	6.42	6.64	6.64	7.06	7.06	6.85	6.64	6.85
45.0	6.64	6.85	6.64	6.64	7.06	7.06	6.85	6.85	6.85
67.5	6.42	6.42	7.06	6.85	7.06	7.06	7.06	6.85	7.06
90.0	7.28	7.71	7.49	7.28	7.06	7.06	7.06	6.64	7.06
112.5	5.99	6.21	6.64	6.85	7.06	6.85	6.64	6.64	6.64
135.0	6.21	6.64	7.06	6.85	6.85	6.85	6.85	6.85	6.64
157.5	6.21	6.21	6.64	7.06	7.28	7.28	7.06	7.06	6.64
180.0	5.99	6.42	6.85	7.06	7.49	7.28	7.06	7.06	7.06
202.5	5.99	6.64	6.85	7.06	7.28	7.28	7.28	6.85	7.06
225.0	6.85	7.06	7.28	7.28	7.28	7.28	7.28	7.49	7.06
247.5	5.99	6.64	6.85	7.28	7.49	7.28	7.06	7.06	6.85
270.0	7.92	8.13	8.35	8.56	8.35	8.13	7.71	7.28	7.71
292.5	6.42	6.64	6.85	7.06	7.28	6.85	7.06	7.28	7.28
315.0	7.06	7.28	7.06	7.28	7.28	7.06	7.06	7.06	7.28
337.5	6.21	6.21	6.64	7.06	7.28	7.06	7.06	6.85	7.06
360.0	5.78	6.21	6.42	6.64	7.28	7.28	7.06	6.85	6.85

C/γ(°)	180.0
0.0	7.53
22.5	7.53
45.0	7.53
67.5	7.53
90.0	7.53
112.5	7.53
135.0	7.53
157.5	7.53
180.0	7.53
202.5	7.53
225.0	7.53
247.5	7.53
270.0	7.53
292.5	7.53
315.0	7.53
337.5	7.53
360.0	7.53

4 Additional Test

Model Number	CCT(K)	Test Voltage (V)	Frequency (Hz)	Power Factor	THD
HIDFA-80-H-EX39-8C CT-BYP/5SP	3000	120	60	0.991	15.3%
		277	60	0.898	19.2%
	4000	277	60	0.893	18.7%
	5000	277	60	0.898	19.0%

Photo Document



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