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-45S-XXX-8CCT-BYP/3SP
(XXX indidates base type, can be E26 or EX39)

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-45S-XXX-8CCT-BYP/3SP (XXX indidates base type, can be E26 or EX39)
Rated Inputs	AC 100-277V, 50/60Hz
Rated Power	45 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-45S-XXX-8CCT-BYP/3SP are the same to the product in the report BL210817009-9 and is authorized by original applicant to use their test data.
- Note:All the data in previous report BL210817009-9 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-45S-XXX-8CCT-BYP/3SP, 3000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.13	60	0.379	45.03	0.988

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
6124.14	136.0	3023

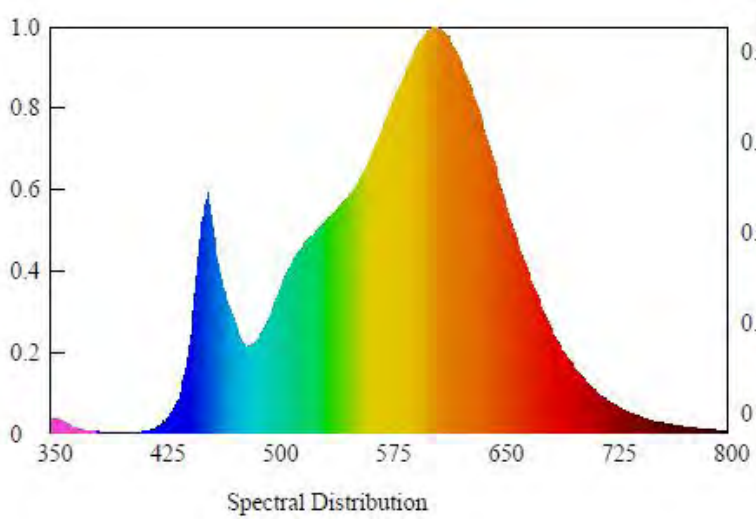
Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00124	0.4336	0.3998	0.2502	0.5192

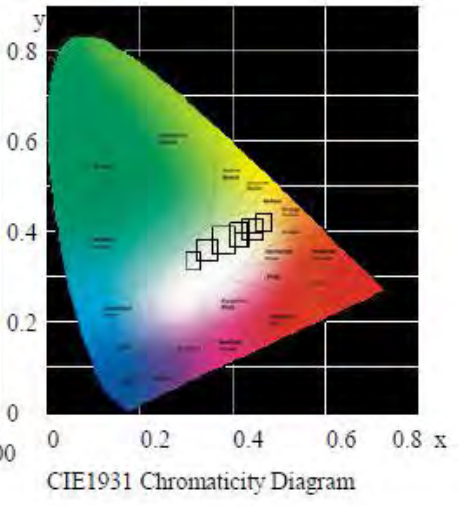
Color Rendering

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

Spectral Distribution

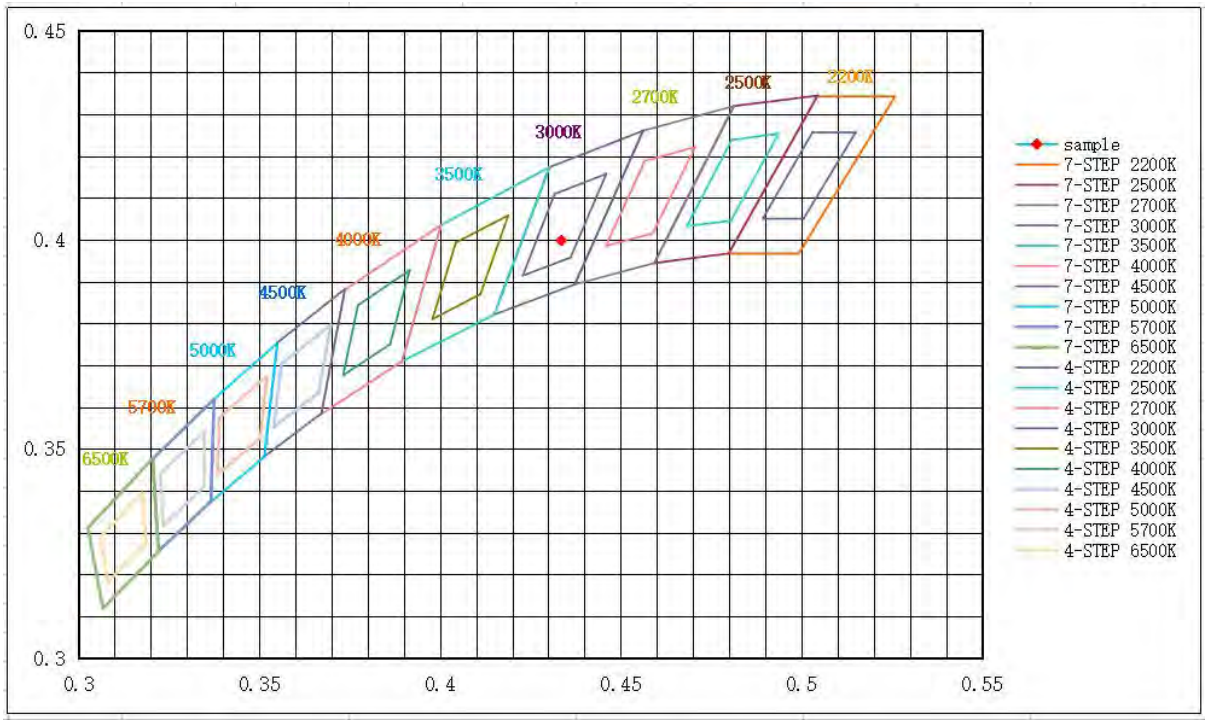


Spectral Distribution



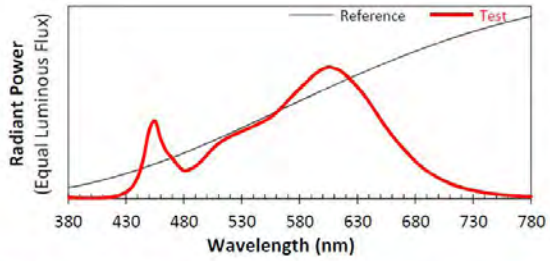
CIE1931 Chromaticity Diagram

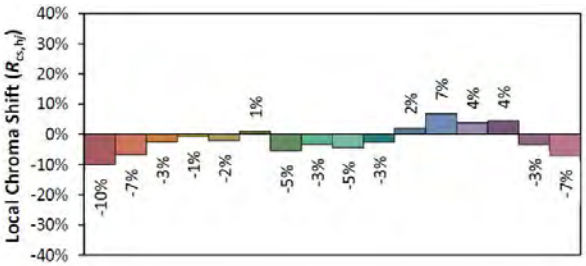
7/4 Step Quadrangle

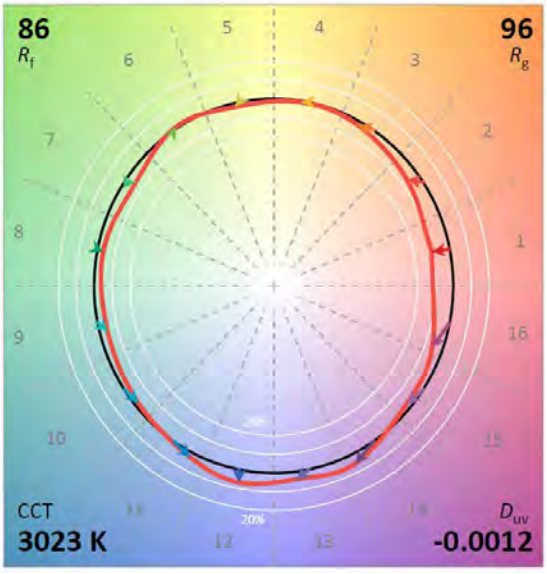


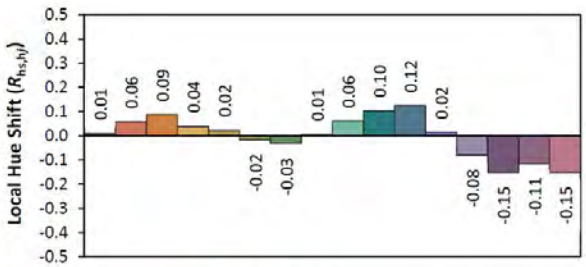
ANSI/IES TM-30-18 Color Rendition Report

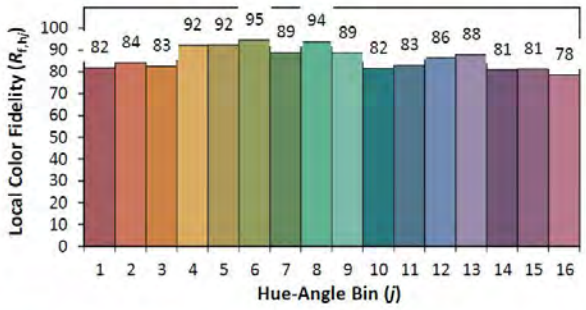
Source:	BL210817025-9	**Manufacturer:**	RAB Lighting Inc
Date:	2021-10-11	**Model:**	HIDFA-45S-XXX-8CCT-BYP/3SP, 3000K at 120V

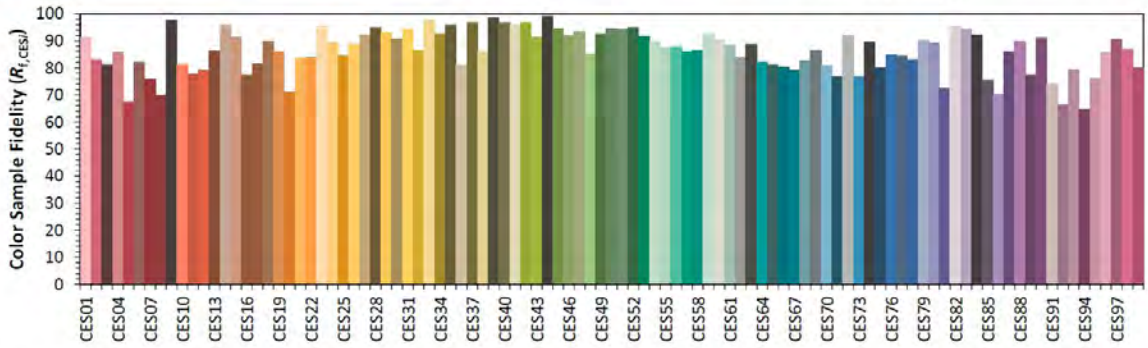












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.4336
y	0.3998
u'	0.2502
v'	0.5192

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-45S-XXX-8CCT-BYP/3SP, 4000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.02	60	0.369	43.75	0.987

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
6575.61	150.3	3894

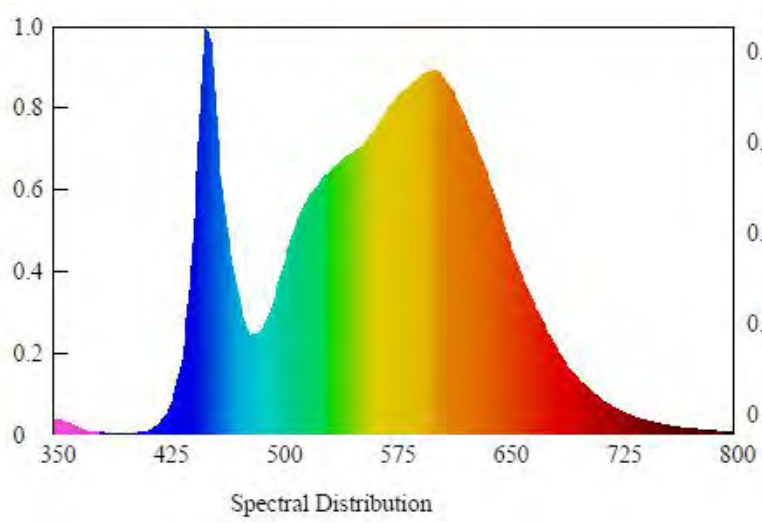
Chromaticity Coordinate

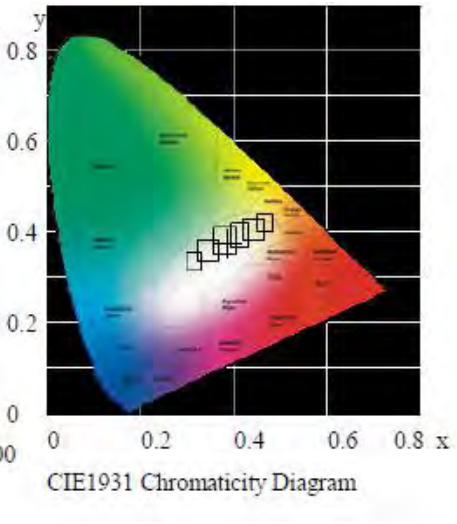
Duv	x	y	u'	v'
-0.00156	0.3841	0.3756	0.2279	0.5016

Color Rendering

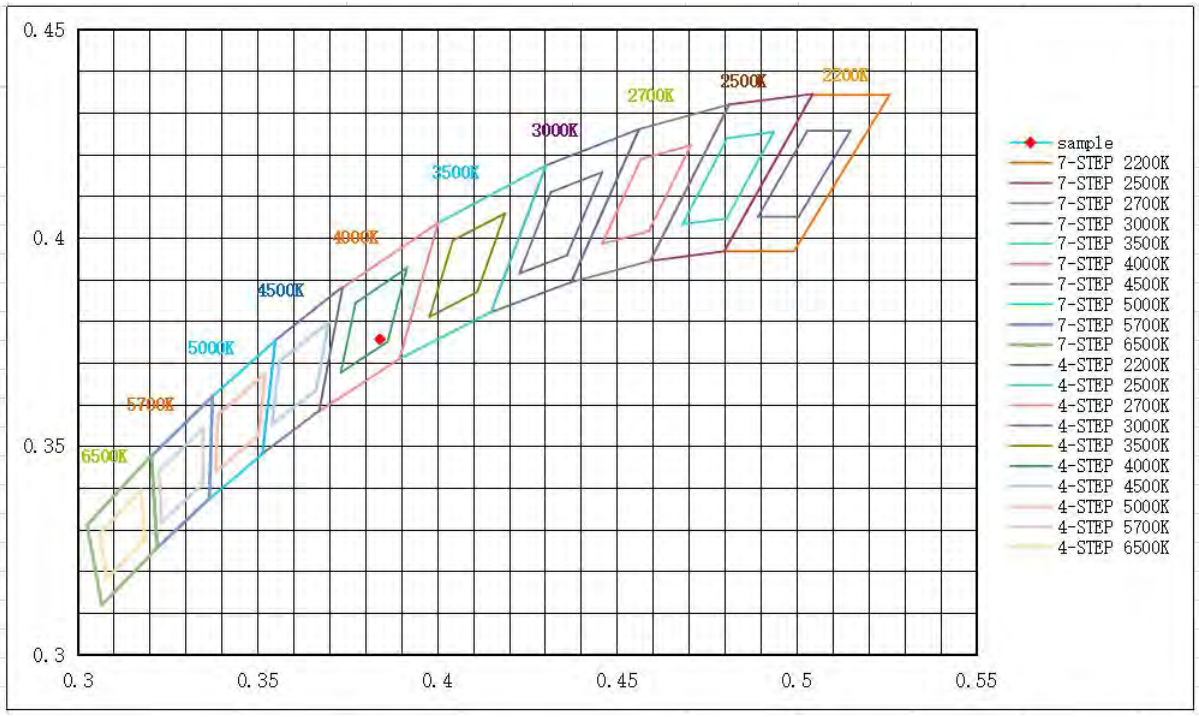
CRI	R9	Rf	Rg	Rcs,h1(%)
85.2	21	85	97	-10

Spectral Distribution



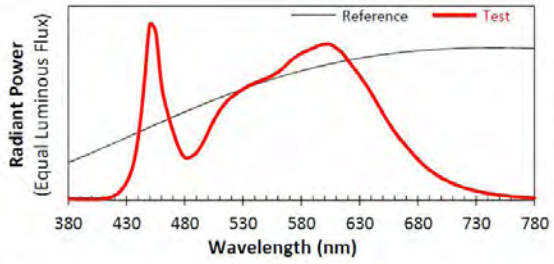


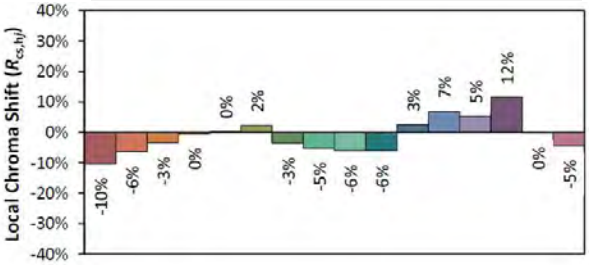
7/4 Step Quadrangle

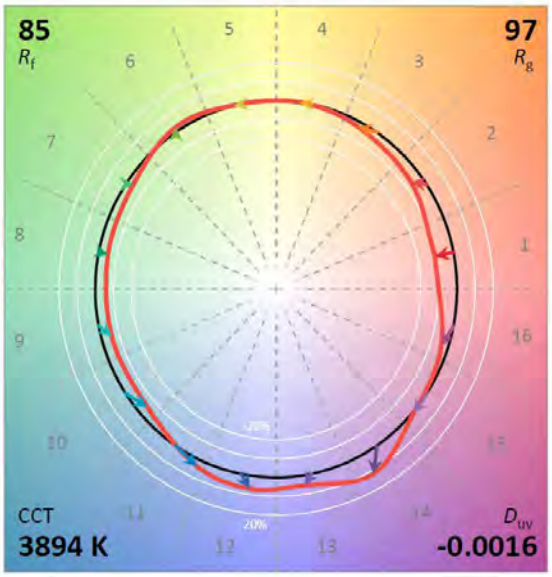


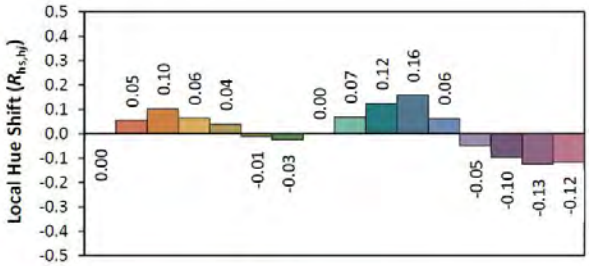
ANSI/IES TM-30-18 Color Rendition Report

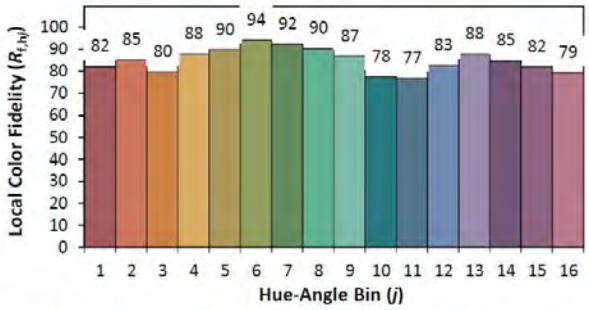
Source:	BL210817025-9	**Manufacturer:**	RAB Lighting Inc
Date:	2021-10-11	**Model:**	HIDFA-45S-XXX-8CCT-BYP/3SP, 4000K at 120V

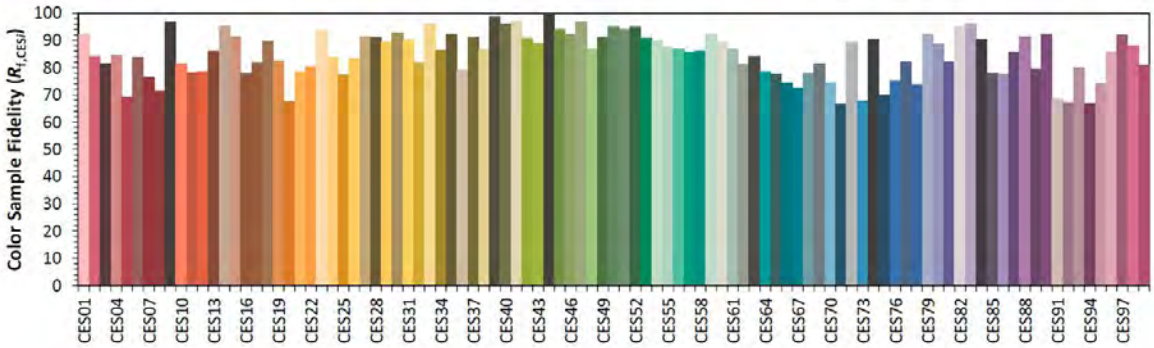












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3841
y	0.3756
u'	0.2279
v'	0.5016

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-45S-XXX-8CCT-BYP/3SP, 5000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.06	60	0.378	44.80	0.988

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
6509.48	145.3	4824

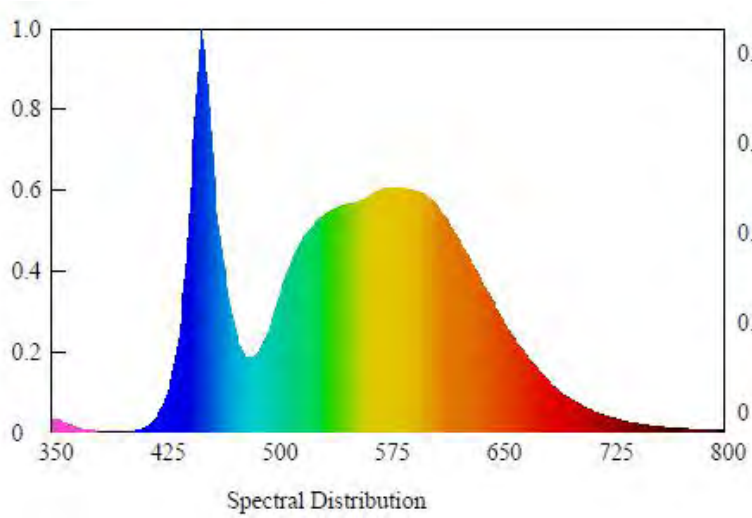
Chromaticity Coordinate

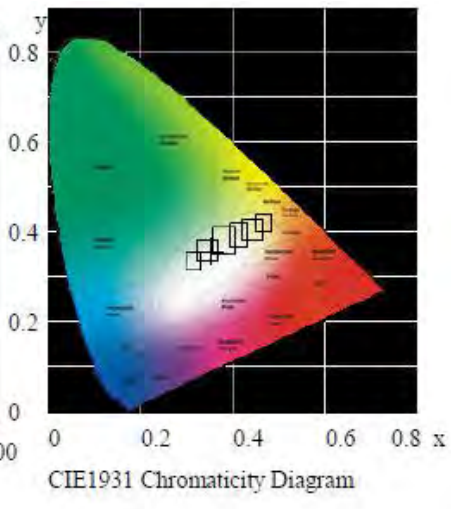
Duv	x	y	u'	v'
+0.00124	0.3506	0.3584	0.2125	0.4888

Color Rendering

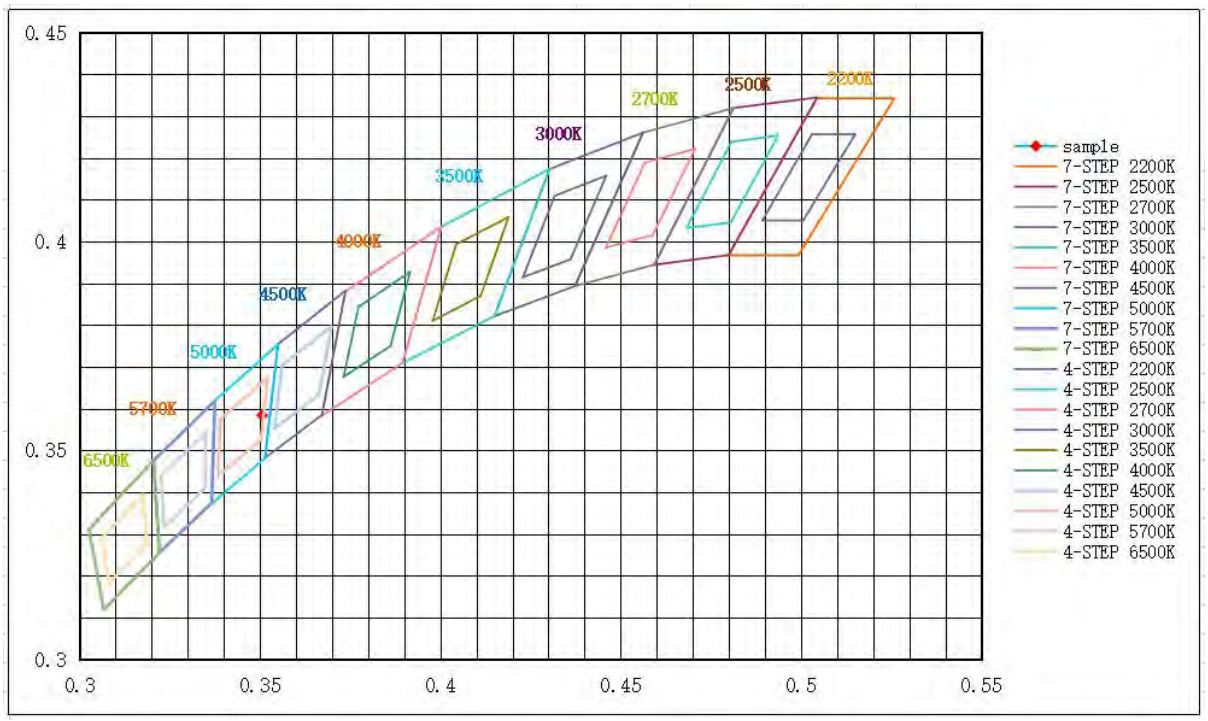
CRI	R9	Rf	Rg	Rcs,h1(%)
81.7	9	82	97	-12

Spectral Distribution



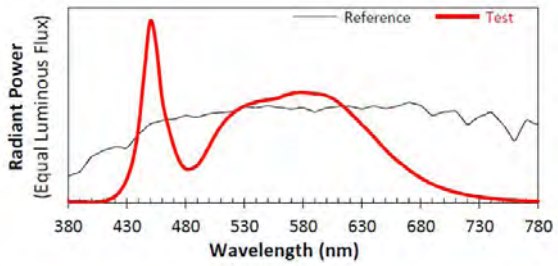


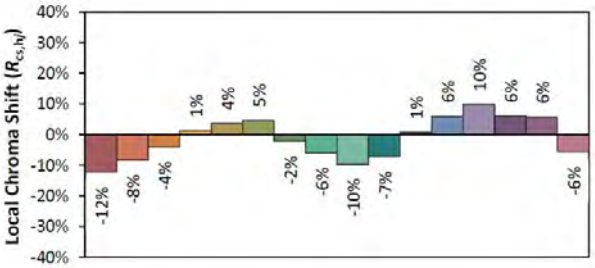
7/4 Step Quadrangle

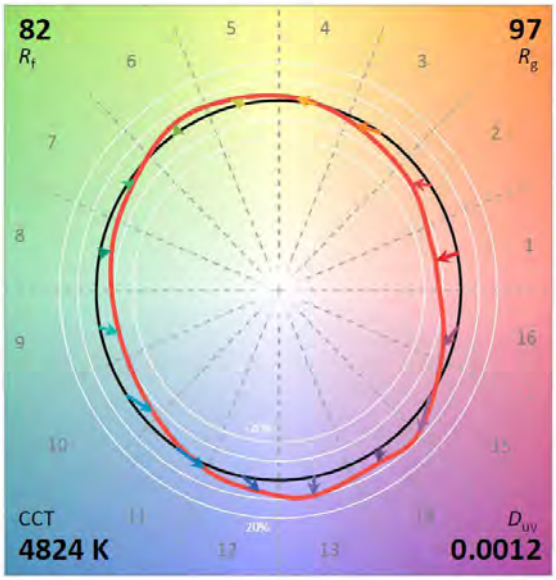


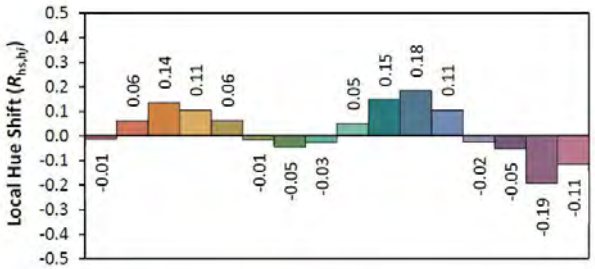
ANSI/IES TM-30-18 Color Rendition Report

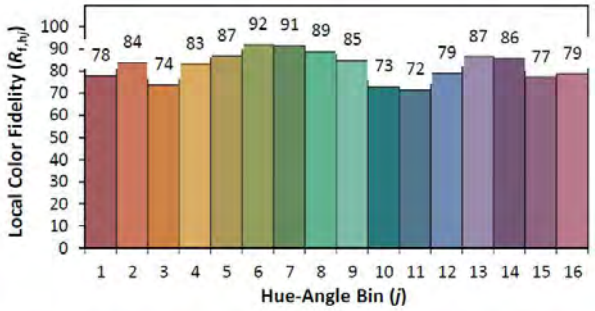
Source:	BL210817025-9	**Manufacturer:**	RAB Lighting Inc
Date:	2021-10-11	**Model:**	HIDFA-45S-XXX-8CCT-BYP/3SP, 5000K at 120V

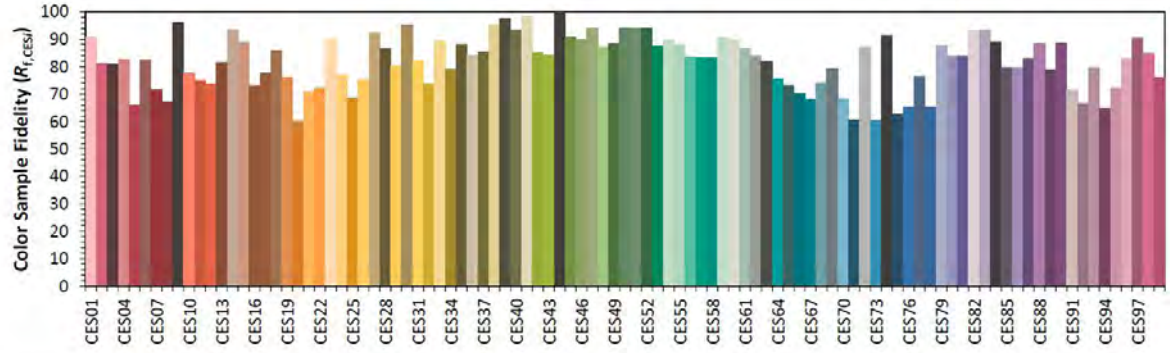












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3506
y	0.3584
u'	0.2125
v'	0.4888

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-45S-XXX-8CCT-BYP/3SP, 3000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.00	60	0.183	44.94	0.889

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
5954.53	132.5	3019

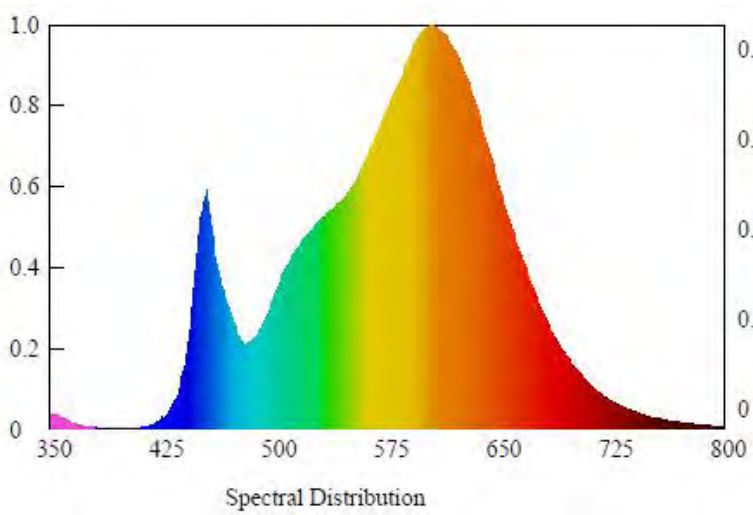
Chromaticity Coordinate

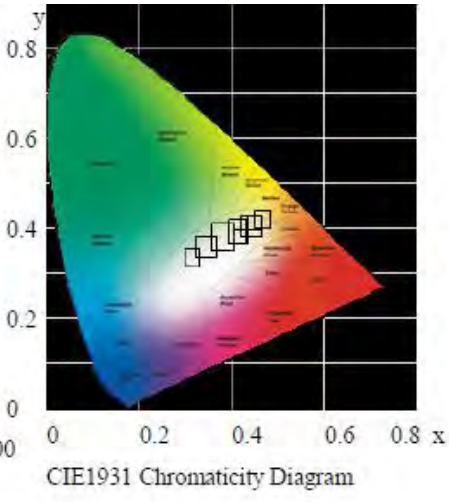
Duv	x	y	u'	v'
-0.00114	0.4340	0.4002	0.2503	0.5194

Color Rendering

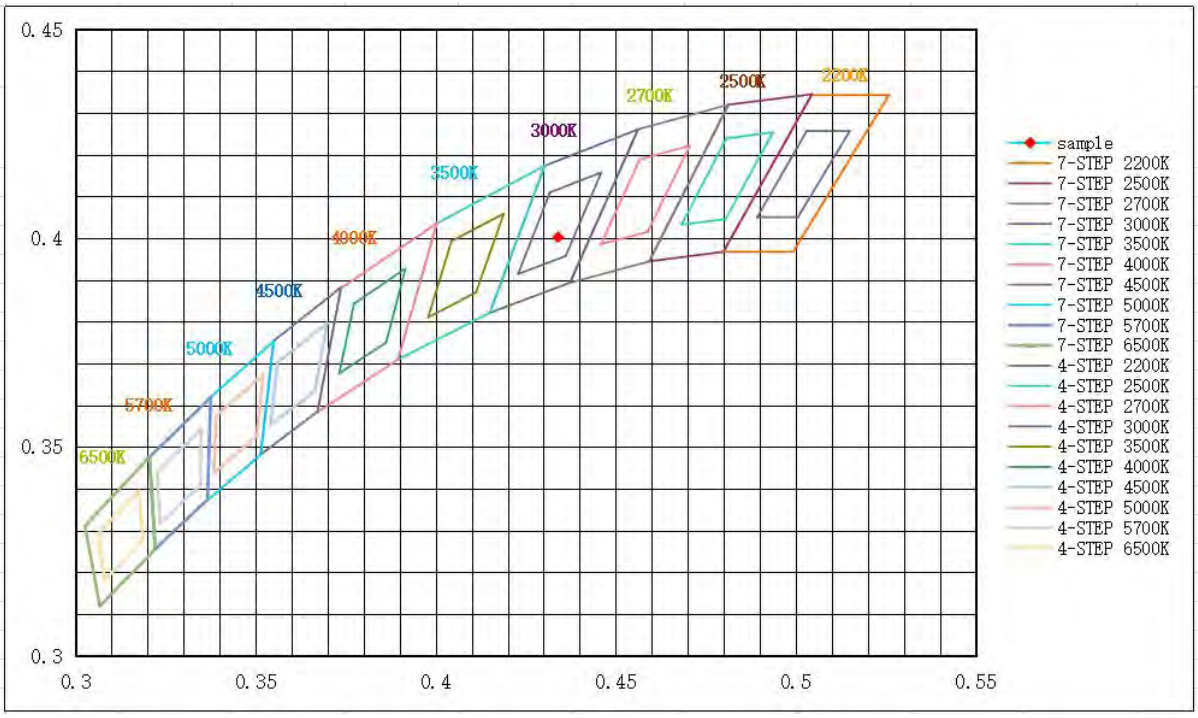
CRI	R9	Rf	Rg	Rcs,h1(%)
85.5	19	86	96	-10

Spectral Distribution



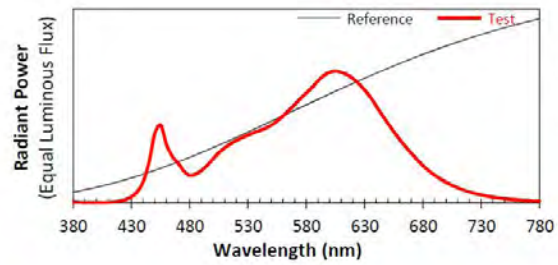


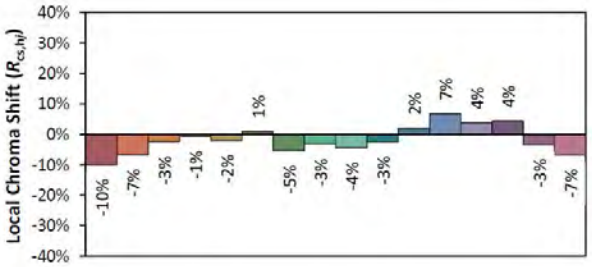
7/4 Step Quadrangle

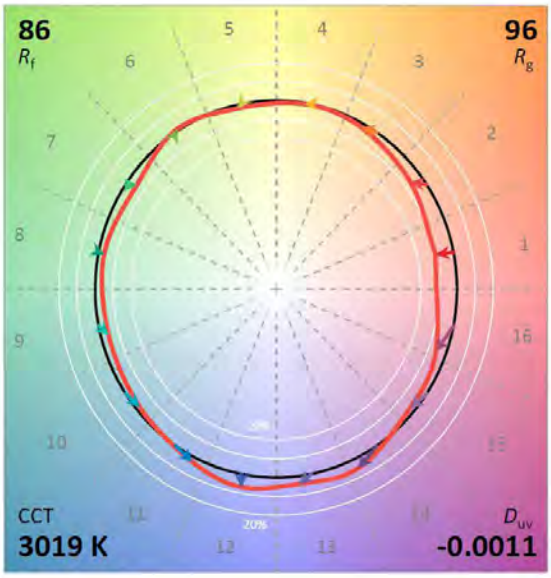


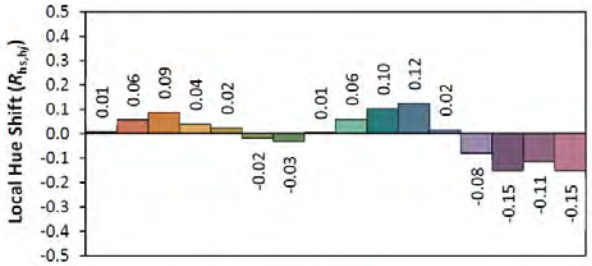
ANSI/IES TM-30-18 Color Rendition Report

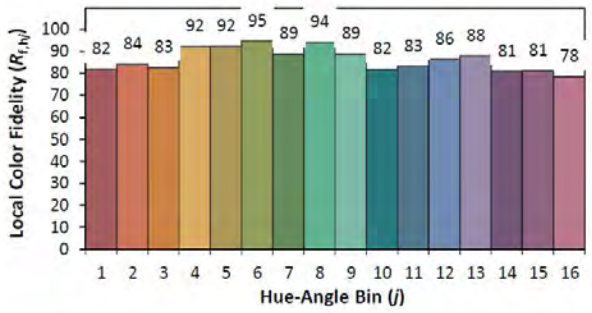
Source:	BL210817025-9	**Manufacturer:**	RAB Lighting Inc
Date:	2021-10-11	**Model:**	HIDFA-45S-XXX-8CCT-BYP/3SP, 3000K at 277V

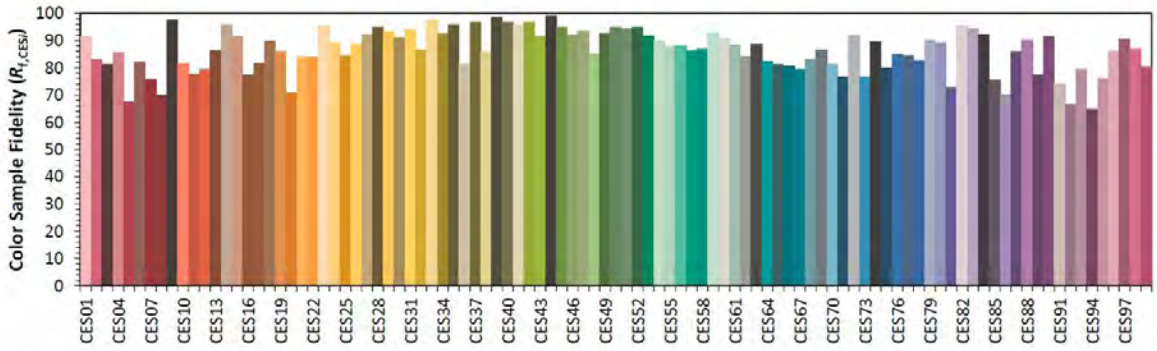












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.4340
y	0.4002
u'	0.2503
v'	0.5194

CIE 13.3-1995 (CRI)

R_a	86
R_9	19

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-45S-XXX-8CCT-BYP/3SP, 4000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.09	60	0.178	43.67	0.885

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
6402.05	146.6	3900

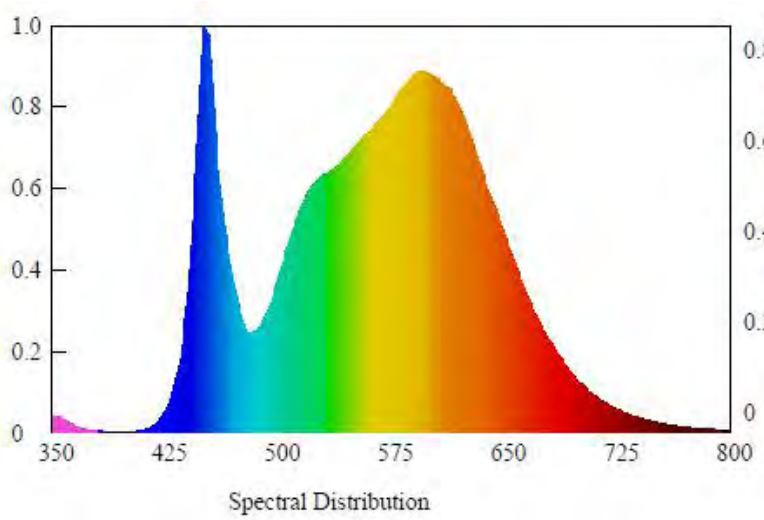
Chromaticity Coordinate

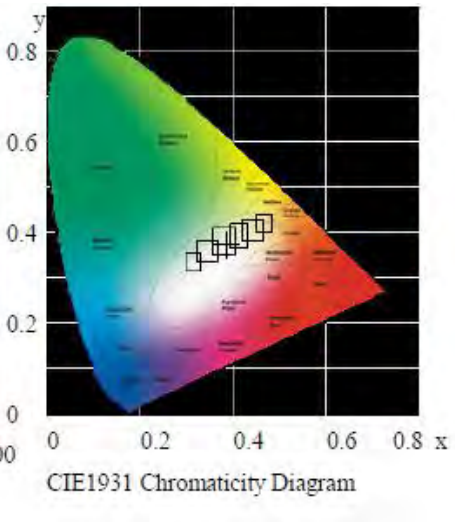
Duv	x	y	u'	v'
-0.00168	0.3837	0.3752	0.2279	0.5014

Color Rendering

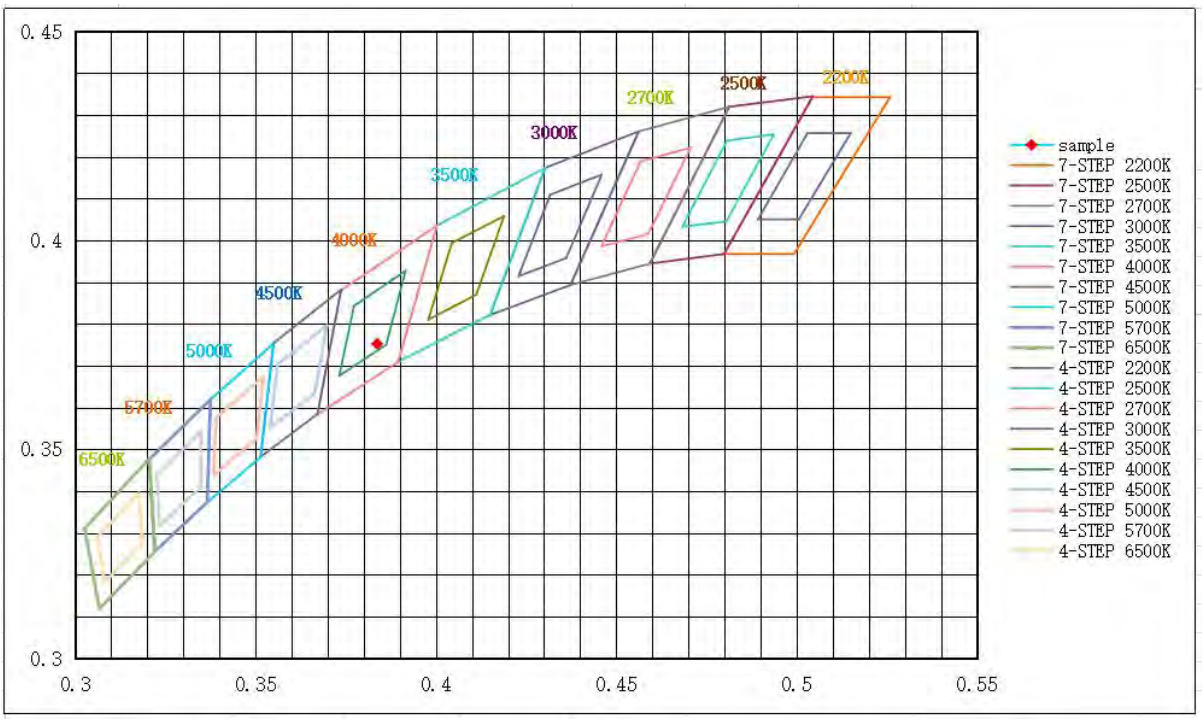
CRI	R9	Rf	Rg	Rcs,h1(%)
85.2	21	85	97	-10

Spectral Distribution



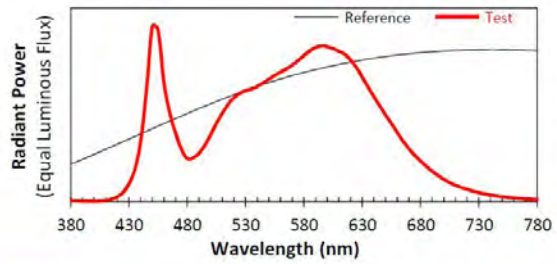


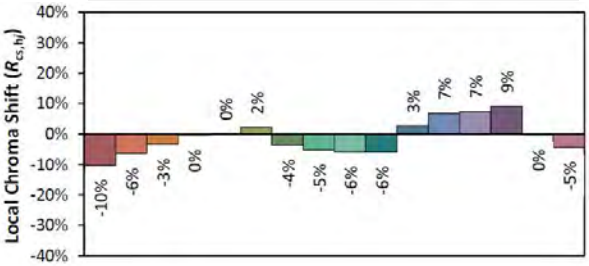
7/4 Step Quadrangle

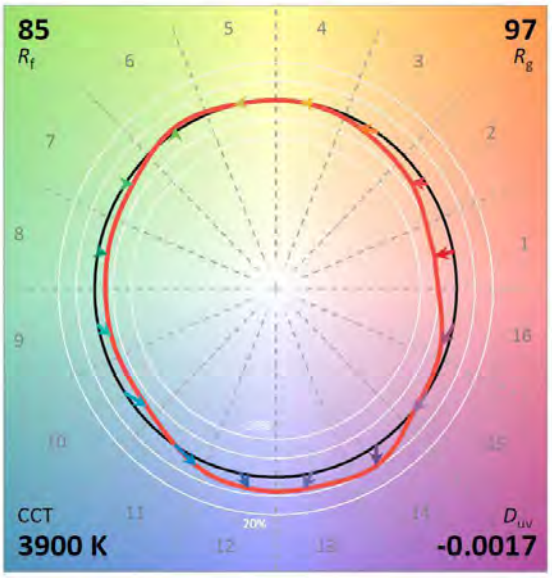


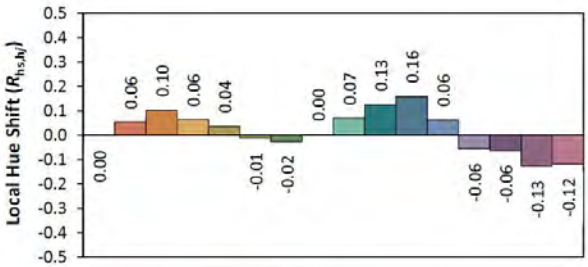
ANSI/IES TM-30-18 Color Rendition Report

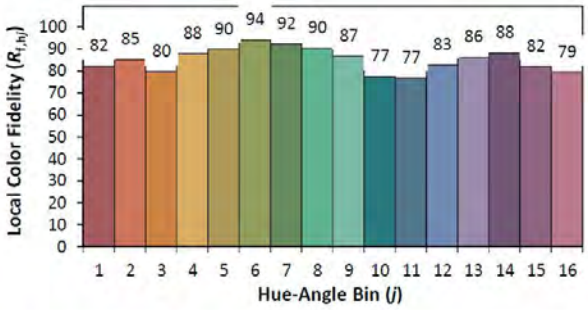
Source:	BL210817025-9	**Manufacturer:**	RAB Lighting Inc
Date:	2021-10-11	**Model:**	HIDFA-45S-XXX-8CCT-BYP/3SP, 4000K at 277V

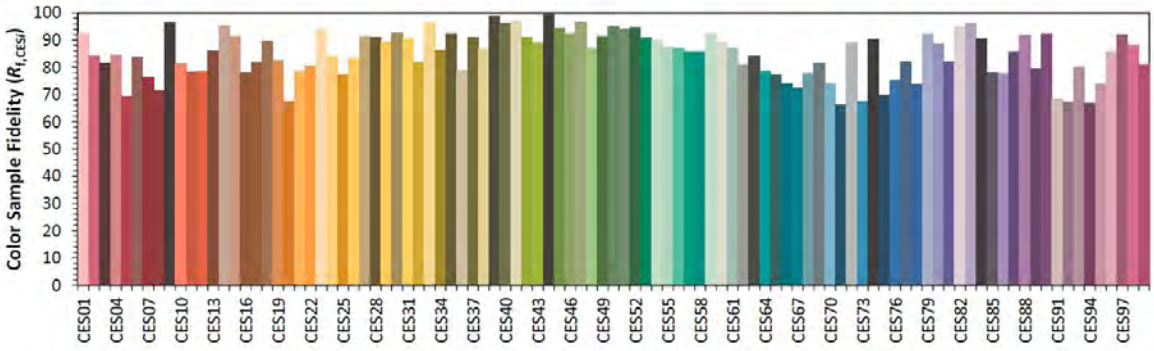












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3837
y	0.3752
u'	0.2279
v'	0.5014

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-45S-XXX-8CCT-BYP/3SP, 5000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.09	60	0.182	44.72	0.888

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
6251.81	141.7	4816

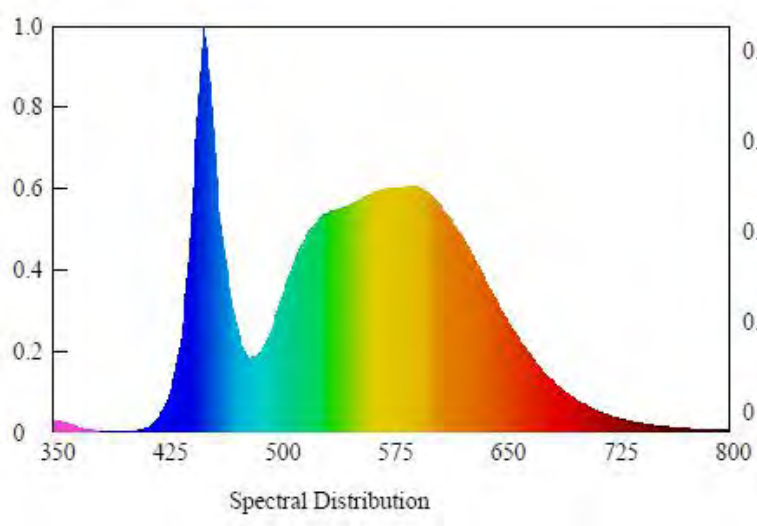
Chromaticity Coordinate

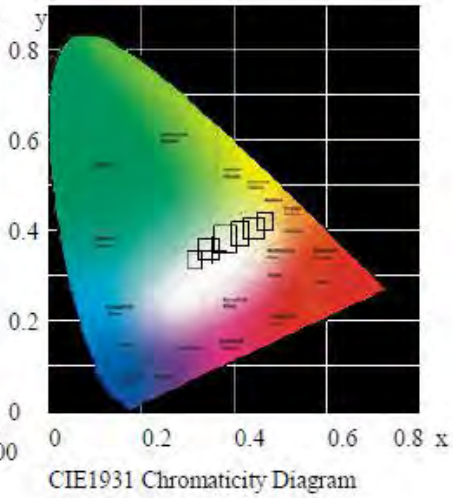
Duv	x	y	u'	v'
+0.00134	0.3509	0.3589	0.2125	0.4890

Color Rendering

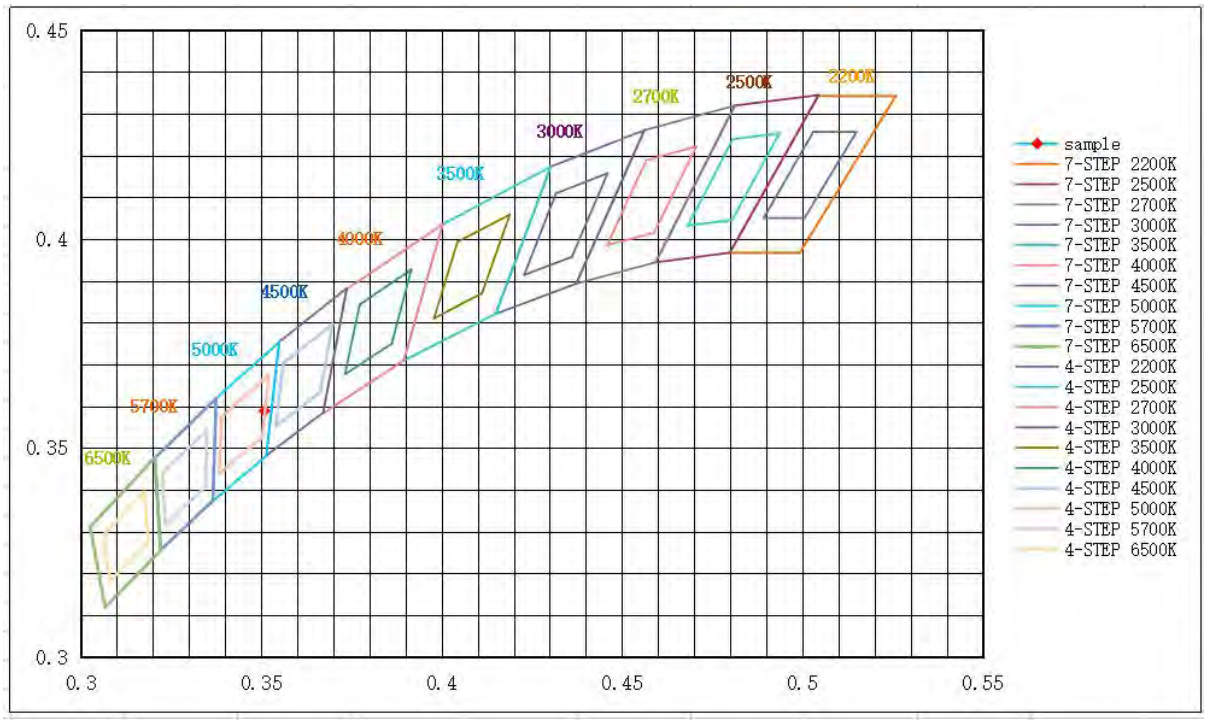
CRI	R9	Rf	Rg	Rcs,h1(%)
81.6	9	82	97	-12

Spectral Distribution



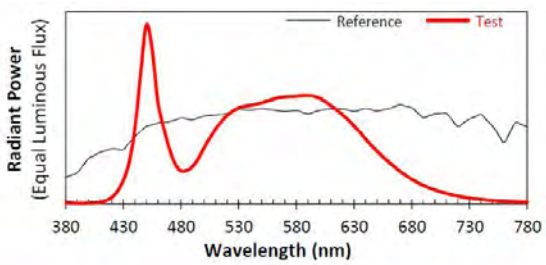


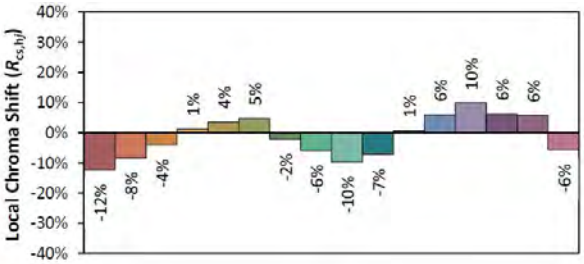
7/4 Step Quadrangle

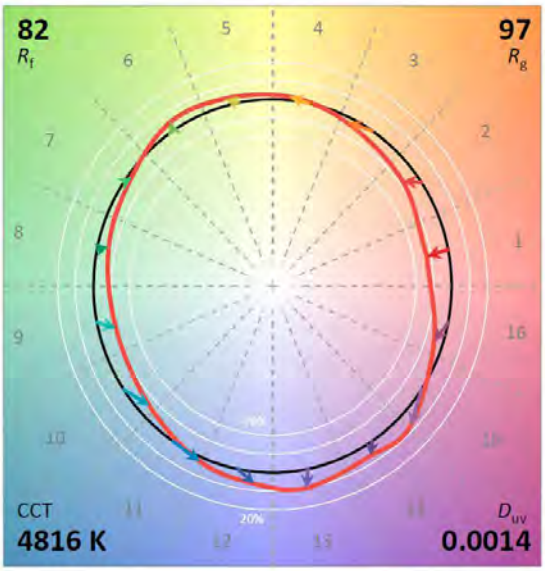


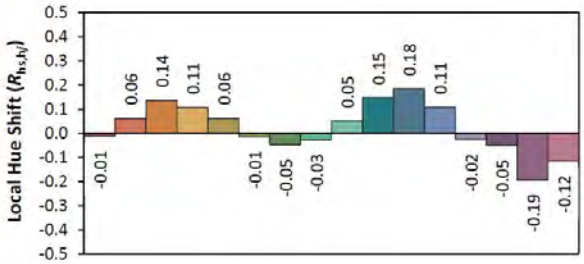
ANSI/IES TM-30-18 Color Rendition Report

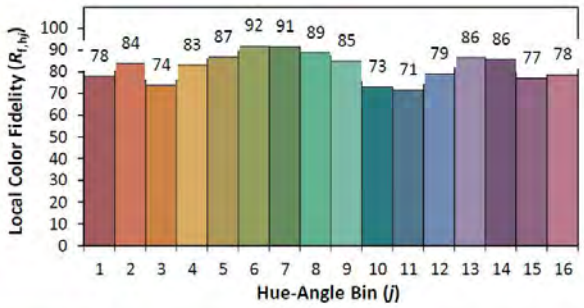
Source:	BL210817025-9	**Manufacturer:**	RAB Lighting Inc
Date:	2021-10-11	**Model:**	HIDFA-45S-XXX-8CCT-BYP/3SP, 5000K at 277V

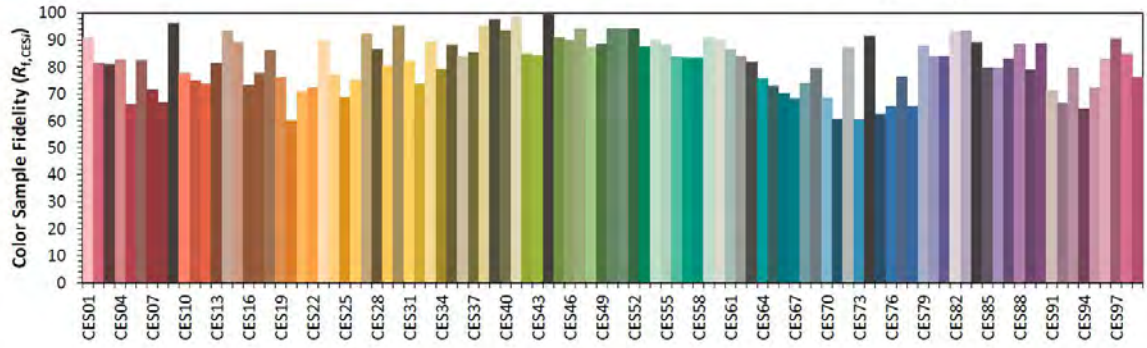












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3509
y	0.3588
u'	0.2125
v'	0.4890

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-45S-XXX-8CCT-BYP/3SP, 3000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.100	60	0.373	44.245	0.988

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
6006.53	135.76	27.38	57.11

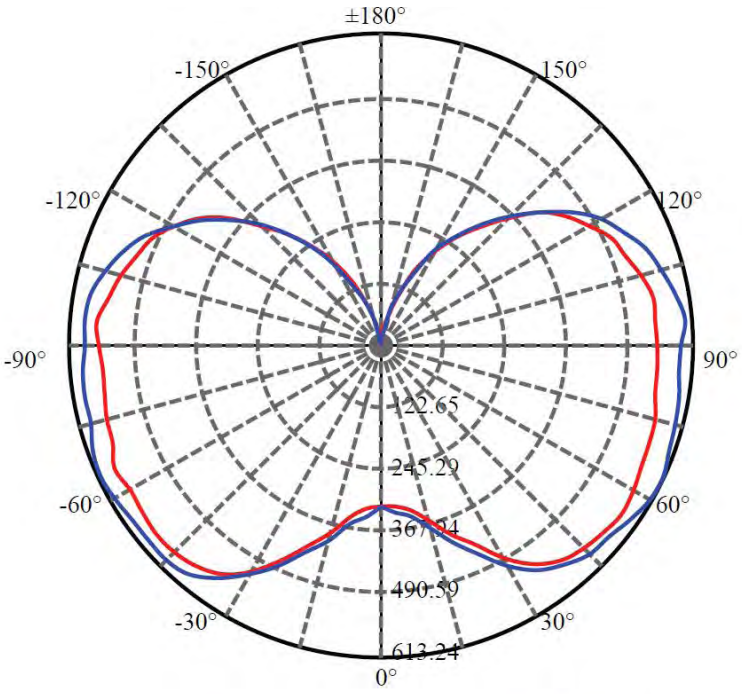
Zonal Flux Diagram

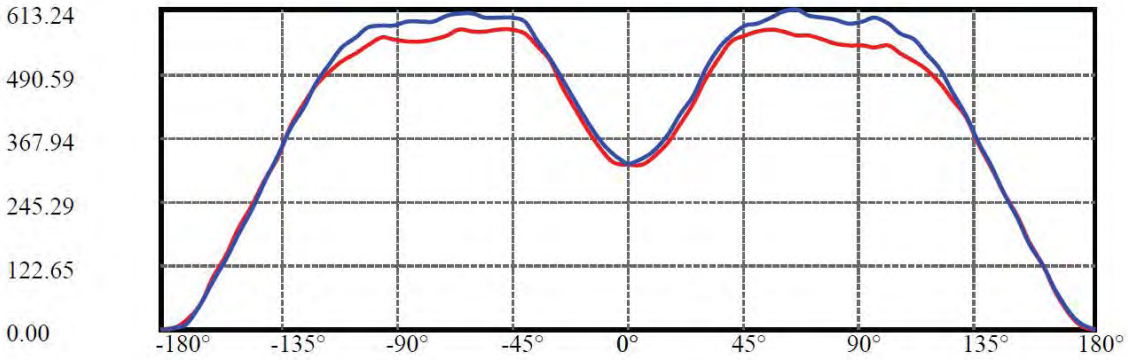
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	317.181	0.000	0	0.00%	0.00%
5.0	321.175	7.631	7.631	0.00%	0.13%
10.0	338.755	23.608	31.239	0.00%	0.52%
15.0	370.969	42.100	73.34	0.00%	1.22%
20.0	409.387	64.312	137.652	0.00%	2.29%
25.0	451.807	90.323	227.975	0.00%	3.80%
30.0	497.380	120.120	348.096	0.00%	5.80%
35.0	535.424	152.088	500.183	0.00%	8.33%
40.0	559.916	182.749	682.932	0.00%	11.37%
45.0	571.770	209.541	892.473	0.00%	14.86%
50.0	577.716	232.270	1124.744	0.00%	18.73%
55.0	579.337	251.582	1376.325	0.00%	22.91%
60.0	581.139	268.241	1644.566	0.00%	27.38%
65.0	581.409	282.618	1927.184	0.00%	32.08%
70.0	574.009	292.559	2219.743	0.00%	36.96%
75.0	566.171	298.025	2517.768	0.00%	41.92%
80.0	561.667	301.778	2819.546	0.00%	46.94%
85.0	558.282	304.317	3123.863	0.00%	52.01%
90.0	560.187	306.245	3430.108	0.00%	57.11%
95.0	560.611	306.883	3736.991	0.00%	62.22%
100.0	553.507	302.733	4039.724	0.00%	67.26%
105.0	538.745	292.256	4331.98	0.00%	72.12%
110.0	521.100	277.026	4609.006	0.00%	76.73%
115.0	500.302	258.625	4867.632	0.00%	81.04%
120.0	469.632	235.793	5103.424	0.00%	84.96%
125.0	436.144	209.368	5312.792	0.00%	88.45%
130.0	392.269	180.125	5492.917	0.00%	91.45%
135.0	343.118	148.596	5641.513	0.00%	93.92%
140.0	293.388	117.854	5759.367	0.00%	95.89%
145.0	246.296	90.042	5849.409	0.00%	97.38%
150.0	199.706	65.677	5915.086	0.00%	98.48%
155.0	152.498	44.572	5959.658	0.00%	99.22%
160.0	105.960	27.108	5986.765	0.00%	99.67%
165.0	60.593	13.726	6000.492	0.00%	99.90%
170.0	23.076	4.963	6005.455	0.00%	99.98%
175.0	5.006	1.005	6006.459	0.00%	100.00%
180.0	0.618	0.067	6006.527	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:164.1 Right:166.8

:C90/270Left:163.4 Right:166.8

Beam Angle(50%Imax):C0/180Left:139.9 Right:142.1

:C90/270Left:137.8 Right:140.4

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	317.18	317.53	330.30	357.69	394.14	432.44	481.45	523.46	552.49
22.5	317.18	313.21	323.71	352.75	389.61	425.85	471.97	511.92	541.16
45.0	317.18	310.12	321.45	349.86	387.96	426.67	470.74	510.69	530.05
67.5	317.18	311.36	324.74	350.69	390.02	430.58	480.21	516.66	537.66
90.0	317.18	329.06	342.86	371.48	410.20	450.97	498.54	540.14	563.20
112.5	317.18	325.77	342.86	376.63	414.32	453.65	506.36	545.49	569.38
135.0	317.18	323.92	342.45	373.13	411.23	460.65	504.30	546.72	577.61
157.5	317.18	323.71	341.21	374.16	415.14	462.50	505.33	543.02	564.85
180.0	317.18	320.62	341.83	379.72	418.23	466.00	513.57	546.31	565.88
202.5	317.18	318.77	341.63	375.19	414.11	461.47	501.22	537.87	556.20
225.0	317.18	316.92	341.01	375.60	415.96	461.88	502.04	534.78	554.34
247.5	317.18	316.30	339.15	374.78	415.35	456.94	507.81	541.99	563.40
270.0	317.18	335.24	358.92	394.96	434.29	479.39	517.69	557.64	588.53
292.5	317.18	330.51	350.69	387.34	422.76	463.33	511.92	549.61	578.23
315.0	317.18	323.92	342.66	378.07	418.64	459.21	503.89	543.84	567.32
337.5	317.18	321.86	334.62	363.45	398.25	437.38	481.04	516.66	548.37
360.0	317.18	317.53	330.30	357.69	394.14	432.44	481.45	523.46	552.49

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	562.79	572.67	575.76	571.64	565.46	561.96	556.20	549.20	544.87
22.5	556.20	562.99	562.99	563.20	566.08	563.61	552.90	556.40	548.17
45.0	549.61	552.90	552.70	557.02	554.34	547.96	544.87	542.81	535.81
67.5	548.58	561.96	565.46	563.61	561.14	555.17	550.43	543.84	539.52
90.0	581.53	585.85	596.15	608.09	613.24	601.91	598.62	593.47	588.32
112.5	584.20	594.09	594.50	593.68	588.73	580.91	575.35	565.26	561.35
135.0	593.68	597.38	594.70	596.97	597.79	591.82	579.26	568.76	564.64
157.5	575.76	584.41	584.82	588.53	588.32	586.67	575.14	573.29	570.61
180.0	573.91	576.17	572.26	570.41	576.17	562.99	556.20	552.49	550.84
202.5	561.96	567.52	575.35	582.14	582.76	569.79	561.35	560.52	557.64
225.0	558.26	561.14	565.88	570.20	567.52	551.46	547.14	543.43	541.78
247.5	574.52	575.35	572.67	570.61	572.05	561.55	553.52	552.28	548.17
270.0	597.59	597.38	597.79	604.18	606.65	602.53	591.20	589.97	588.53
292.5	590.59	592.03	588.32	587.70	589.35	582.56	569.79	562.79	564.43
315.0	576.17	586.67	588.53	590.17	590.17	583.38	572.05	567.73	565.26
337.5	562.99	574.94	581.53	580.08	582.76	579.88	574.73	564.43	562.58
360.0	562.79	572.67	575.76	571.64	565.46	561.96	556.20	549.20	544.87

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	543.64	540.96	543.22	528.40	512.95	498.13	471.97	443.56	405.67
22.5	552.90	548.17	547.55	534.78	519.75	496.27	464.36	436.14	388.58
45.0	538.08	532.72	536.63	523.87	506.36	488.45	462.91	434.09	393.52
67.5	540.34	537.87	539.31	525.10	510.07	495.66	465.18	441.70	397.64
90.0	591.41	598.62	587.29	568.96	554.55	527.78	498.33	455.91	409.79
112.5	566.29	572.26	558.26	546.93	531.49	511.72	483.09	452.62	409.99
135.0	567.73	571.23	558.46	540.96	525.31	506.16	473.42	446.85	398.67
157.5	572.88	574.52	560.32	547.34	525.72	499.98	466.21	425.85	379.72
180.0	556.40	558.87	542.81	529.22	512.75	496.69	467.24	432.44	390.22
202.5	560.93	564.23	549.81	532.10	510.48	486.39	452.00	414.11	373.75
225.0	546.11	548.58	533.34	518.10	496.27	473.42	446.23	408.96	365.92
247.5	553.52	555.99	540.14	526.13	509.45	491.54	461.68	431.41	384.87
270.0	583.58	582.35	578.23	561.14	539.11	511.72	470.74	427.91	384.87
292.5	560.93	559.90	558.05	541.99	523.04	507.19	479.39	441.29	401.55
315.0	566.49	565.67	566.08	548.58	535.81	512.13	483.92	445.62	402.17
337.5	561.76	557.84	556.61	546.31	524.49	501.63	467.44	439.85	389.40
360.0	543.64	540.96	543.22	528.40	512.95	498.13	471.97	443.56	405.67

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	356.25	307.24	262.35	216.01	168.03	121.08	72.69	31.51	7.00
22.5	345.54	296.73	250.40	204.28	158.77	114.29	70.22	32.12	8.24
45.0	347.39	298.59	254.52	210.87	166.80	120.88	71.87	33.36	8.44
67.5	350.69	303.32	259.26	214.37	167.00	118.20	71.25	31.09	8.44
90.0	361.39	310.94	262.14	214.78	165.15	120.47	76.60	34.60	11.12
112.5	356.86	304.77	258.85	211.28	164.94	116.96	67.75	23.27	7.00
135.0	348.01	296.53	252.05	203.86	157.12	108.93	63.84	17.71	4.32
157.5	332.57	279.23	231.25	183.89	137.56	93.49	53.33	17.30	2.27
180.0	333.18	286.85	239.90	193.57	144.76	97.81	49.22	18.12	2.27
202.5	323.50	272.02	223.22	178.74	132.82	87.52	46.33	16.47	2.06
225.0	316.09	269.35	224.66	180.39	134.26	86.90	45.51	16.27	1.44
247.5	330.92	284.17	237.84	191.10	143.12	95.75	48.39	15.86	1.65
270.0	336.27	283.14	232.49	183.68	135.50	89.58	47.98	12.97	2.88
292.5	348.63	300.03	253.90	202.63	153.21	106.46	57.45	18.12	2.47
315.0	355.83	302.29	249.78	202.22	154.65	105.64	60.13	22.65	4.32
337.5	346.77	299.00	248.14	203.66	156.30	111.40	66.93	27.80	6.18
360.0	356.25	307.24	262.35	216.01	168.03	121.08	72.69	31.51	7.00

C/γ(°)	180.0
0.0	0.62
22.5	0.62
45.0	0.62
67.5	0.62
90.0	0.62
112.5	0.62
135.0	0.62
157.5	0.62
180.0	0.62
202.5	0.62
225.0	0.62
247.5	0.62
270.0	0.62
292.5	0.62
315.0	0.62
337.5	0.62
360.0	0.62

3.2.2 Model Number: HIDFA-45S-XXX-8CCT-BYP/3SP, 3000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.010	60	0.179	43.880	0.885

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
5810.97	132.43	27.31	57.04

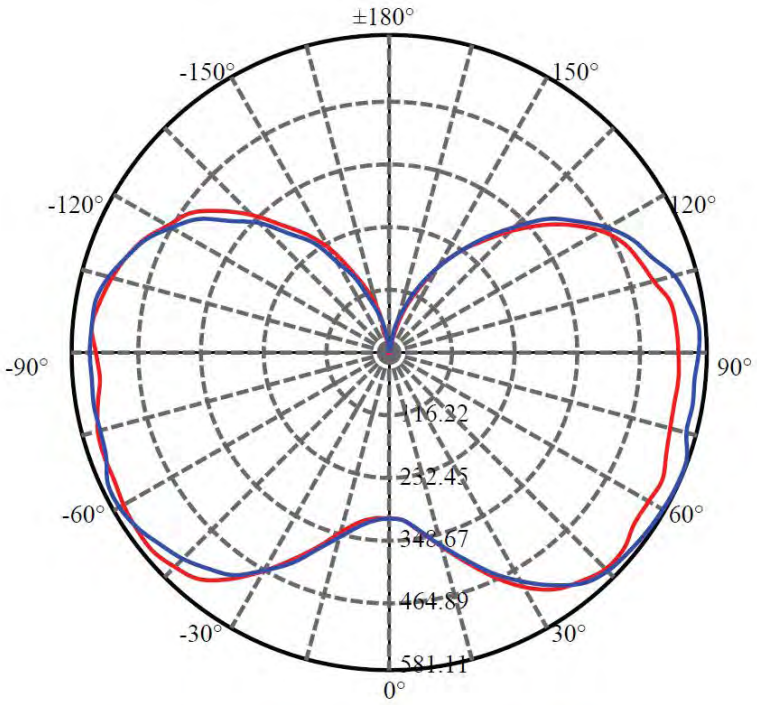
Zonal Flux Diagram

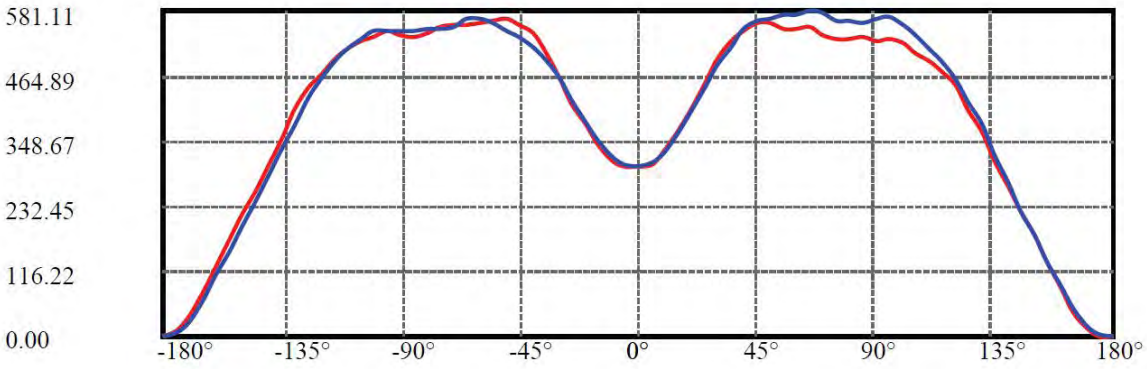
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	302.694	0.000	0	0.00%	0.00%
5.0	307.146	7.290	7.29	0.00%	0.13%
10.0	325.036	22.615	29.906	0.00%	0.51%
15.0	356.104	40.405	70.31	0.00%	1.21%
20.0	393.132	61.748	132.058	0.00%	2.27%
25.0	434.728	86.827	218.885	0.00%	3.77%
30.0	478.345	115.550	334.435	0.00%	5.76%
35.0	515.386	146.334	480.769	0.00%	8.27%
40.0	540.469	176.161	656.931	0.00%	11.31%
45.0	553.751	202.604	859.534	0.00%	14.79%
50.0	558.719	224.791	1084.325	0.00%	18.66%
55.0	559.852	243.215	1327.54	0.00%	22.85%
60.0	561.409	259.176	1586.716	0.00%	27.31%
65.0	561.654	273.019	1859.735	0.00%	32.00%
70.0	554.639	282.653	2142.388	0.00%	36.87%
75.0	548.629	288.377	2430.764	0.00%	41.83%
80.0	544.112	292.387	2723.151	0.00%	46.86%
85.0	541.435	294.969	3018.12	0.00%	51.94%
90.0	540.958	296.368	3314.488	0.00%	57.04%
95.0	544.369	297.171	3611.659	0.00%	62.15%
100.0	536.351	293.658	3905.316	0.00%	67.21%
105.0	522.181	283.234	4188.55	0.00%	72.08%
110.0	504.781	268.431	4456.981	0.00%	76.70%
115.0	484.484	250.488	4707.47	0.00%	81.01%
120.0	455.822	228.590	4936.06	0.00%	84.94%
125.0	422.000	202.906	5138.966	0.00%	88.44%
130.0	380.712	174.536	5313.502	0.00%	91.44%
135.0	332.372	144.089	5457.591	0.00%	93.92%
140.0	283.903	114.108	5571.699	0.00%	95.88%
145.0	238.574	87.171	5658.871	0.00%	97.38%
150.0	193.940	63.691	5722.562	0.00%	98.48%
155.0	147.749	43.241	5765.803	0.00%	99.22%
160.0	101.957	26.190	5791.992	0.00%	99.67%
165.0	58.109	13.192	5805.184	0.00%	99.90%
170.0	21.854	4.743	5809.927	0.00%	99.98%
175.0	5.225	0.969	5810.896	0.00%	100.00%
180.0	0.666	0.070	5810.966	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:163.3

:C90/270Left:165.8 Right:164.0

Beam Angle(50%Imax):C0/180Left:142.4 Right:138.2

:C90/270Left:139.6 Right:138.4

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	302.69	307.85	333.18	367.16	403.81	451.79	494.83	527.16	545.08
22.5	302.69	310.94	335.04	368.40	407.73	452.21	489.07	522.84	539.31
45.0	302.69	310.33	335.45	370.04	408.96	456.74	492.98	527.99	542.61
67.5	302.69	311.15	338.54	375.60	413.49	458.18	503.48	537.66	556.40
90.0	302.69	309.71	329.89	363.66	400.52	443.56	482.07	517.69	550.23
112.5	302.69	307.85	325.56	359.13	397.64	432.85	481.24	519.54	549.61
135.0	302.69	303.74	320.21	352.95	391.87	431.20	477.95	517.07	544.87
157.5	302.69	304.97	318.97	345.33	378.28	416.79	461.27	497.51	532.52
180.0	302.69	304.97	315.47	341.63	377.25	415.14	461.88	508.22	541.16
202.5	302.69	304.35	313.83	340.80	377.25	415.35	459.83	500.80	535.19
225.0	302.69	303.94	316.09	343.48	379.10	414.93	460.44	500.60	529.63
247.5	302.69	304.56	314.44	343.27	384.46	425.02	473.00	513.16	539.11
270.0	302.69	306.62	321.65	349.25	383.63	423.17	463.53	495.86	515.22
292.5	302.69	304.35	325.56	358.72	394.34	433.26	480.01	515.63	533.96
315.0	302.69	311.97	330.71	357.69	393.52	437.59	479.80	519.34	546.11
337.5	302.69	307.03	325.98	360.57	398.25	447.88	492.16	525.10	546.52
360.0	302.69	307.85	333.18	367.16	403.81	451.79	494.83	527.16	545.08

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	561.14	559.70	548.99	547.96	552.70	538.69	531.69	530.87	533.13
22.5	542.19	544.25	550.43	558.46	555.17	545.28	537.46	535.60	536.02
45.0	548.99	550.23	551.05	553.11	548.58	533.75	530.25	529.43	527.78
67.5	566.70	566.29	557.64	555.99	554.96	544.67	539.11	535.81	535.19
90.0	564.02	568.14	572.47	574.94	581.11	578.23	564.85	564.02	560.93
112.5	563.82	569.38	569.58	565.26	565.46	561.55	544.46	539.93	537.66
135.0	555.58	566.49	566.08	569.79	573.08	567.73	556.81	548.58	547.75
157.5	550.43	557.43	562.79	569.38	574.11	573.91	569.99	560.11	556.20
180.0	555.17	565.26	564.02	559.90	555.99	556.40	551.46	541.78	533.13
202.5	554.96	558.67	559.29	560.32	566.08	564.64	558.67	560.11	552.70
225.0	548.78	547.55	547.14	550.64	551.87	547.34	545.90	543.64	532.10
247.5	551.87	560.32	562.99	559.70	558.46	557.23	557.64	547.96	542.61
270.0	534.58	546.52	560.32	567.93	566.49	551.67	549.40	549.20	546.11
292.5	547.14	555.99	556.81	557.23	553.31	542.40	539.72	529.43	532.31
315.0	561.14	565.88	564.43	565.26	564.43	554.96	547.14	538.69	537.25
337.5	553.52	557.43	563.61	566.70	564.64	555.79	553.52	550.64	552.08
360.0	561.14	559.70	548.99	547.96	552.70	538.69	531.69	530.87	533.13

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	528.19	528.81	524.07	503.69	489.68	471.97	446.65	404.43	365.10
22.5	530.25	530.87	523.04	510.28	487.01	462.09	424.61	388.58	349.86
45.0	521.81	525.10	520.57	503.48	480.62	460.03	431.20	395.58	351.72
67.5	530.46	531.90	527.57	505.95	490.51	470.53	444.79	402.78	364.90
90.0	566.29	569.17	555.17	539.31	513.78	491.33	459.21	417.61	377.66
112.5	538.69	541.99	529.84	516.45	501.63	485.77	458.59	427.50	390.02
135.0	551.67	557.64	545.70	534.58	521.60	505.13	476.71	447.68	405.87
157.5	560.32	567.52	553.73	540.96	524.07	499.98	469.71	435.73	391.46
180.0	537.87	546.31	535.81	525.72	511.10	493.18	467.24	442.73	404.84
202.5	557.02	564.64	554.55	541.58	527.99	505.13	479.59	442.32	402.37
225.0	533.75	543.43	532.31	519.13	508.84	486.80	463.74	433.26	392.90
247.5	543.84	551.05	541.16	531.07	516.87	498.95	475.89	448.29	412.05
270.0	546.31	544.46	544.05	532.10	510.89	491.95	458.38	426.26	375.60
292.5	530.05	527.99	526.54	510.69	494.83	477.12	450.56	418.64	379.31
315.0	533.13	530.87	526.75	513.37	494.21	473.42	441.91	412.67	366.95
337.5	545.70	548.17	540.75	526.54	502.86	478.36	444.38	407.93	360.78
360.0	528.19	528.81	524.07	503.69	489.68	471.97	446.65	404.43	365.10

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	312.38	266.46	224.66	180.39	132.00	85.66	41.60	13.18	1.03
22.5	302.71	252.67	207.36	164.74	120.05	76.60	39.33	12.36	0.62
45.0	307.85	259.67	215.60	171.53	126.44	81.96	39.33	10.50	1.03
67.5	311.15	267.91	223.43	179.15	132.00	86.69	41.19	10.09	1.44
90.0	324.33	274.29	225.49	179.36	133.23	88.96	50.04	16.68	2.68
112.5	335.86	285.00	241.14	197.07	150.94	104.40	58.89	20.18	4.53
135.0	357.89	305.59	255.55	210.66	162.06	111.40	65.48	26.56	6.38
157.5	346.77	295.09	247.73	202.42	153.41	109.96	68.37	31.09	8.65
180.0	355.42	302.50	261.11	216.63	172.98	123.76	78.05	35.63	10.50
202.5	356.45	306.62	256.37	212.10	165.97	120.05	75.57	36.86	11.33
225.0	346.98	301.47	257.61	215.60	169.06	122.52	77.43	37.27	11.33
247.5	356.66	307.85	265.64	220.75	172.56	126.03	79.69	37.48	10.91
270.0	334.83	286.44	241.75	193.98	150.74	106.87	64.04	24.92	6.38
292.5	330.30	285.00	239.90	196.04	149.09	102.76	57.66	16.47	3.09
315.0	320.62	276.97	231.05	187.39	142.29	97.81	49.22	7.83	2.06
337.5	317.74	268.94	222.81	175.24	131.17	85.87	43.86	12.56	1.65
360.0	312.38	266.46	224.66	180.39	132.00	85.66	41.60	13.18	1.03

C/γ(°)	180.0
0.0	0.67
22.5	0.67
45.0	0.67
67.5	0.67
90.0	0.67
112.5	0.67
135.0	0.67
157.5	0.67
180.0	0.67
202.5	0.67
225.0	0.67
247.5	0.67
270.0	0.67
292.5	0.67
315.0	0.67
337.5	0.67
360.0	0.67

3.2.3 Model Number: HIDFA-45S-XXX-8CCT-BYP/3SP, 4000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.090	60	0.364	43.150	43.150

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
6472.72	150.01	26.27	56.00

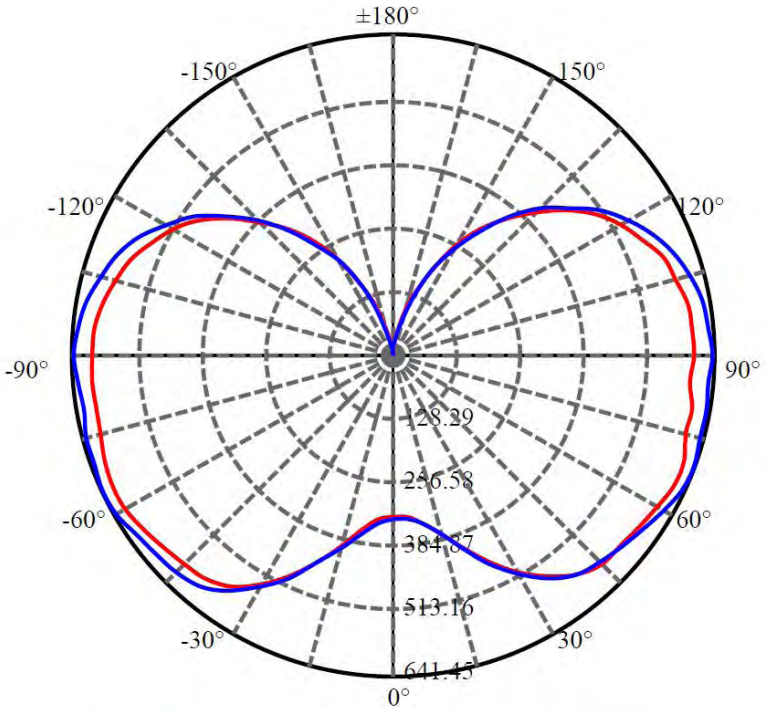
Zonal Flux Diagram

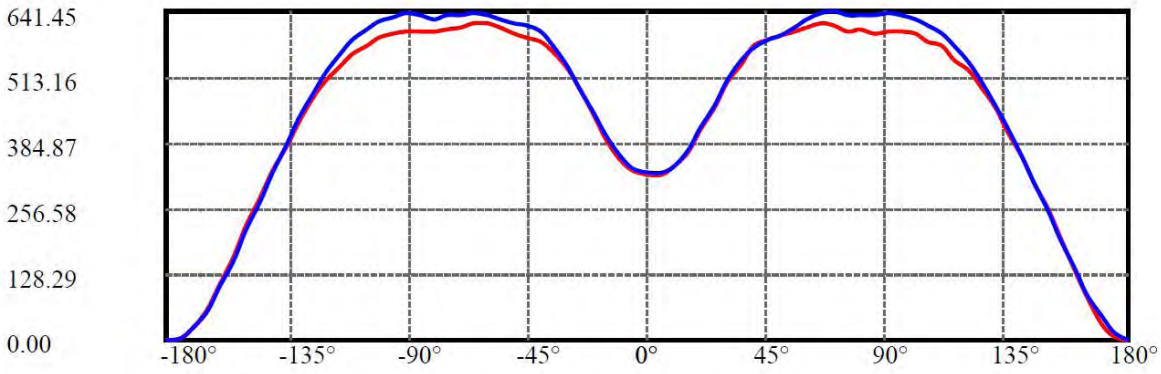
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	322.732	0.000	0	0.00%	0.00%
5.0	326.876	7.766	7.766	0.00%	0.12%
10.0	345.113	24.039	31.805	0.00%	0.49%
15.0	379.194	42.965	74.77	0.00%	1.16%
20.0	422.605	66.079	140.85	0.00%	2.18%
25.0	468.088	93.417	234.267	0.00%	3.62%
30.0	513.455	124.215	358.482	0.00%	5.54%
35.0	550.663	156.699	515.181	0.00%	7.96%
40.0	575.335	187.864	703.045	0.00%	10.86%
45.0	587.729	215.351	918.396	0.00%	14.19%
50.0	595.747	239.138	1157.534	0.00%	17.88%
55.0	604.601	260.996	1418.53	0.00%	21.92%
60.0	614.202	281.723	1700.253	0.00%	26.27%
65.0	620.676	300.201	2000.454	0.00%	30.91%
70.0	616.687	313.308	2313.762	0.00%	35.75%
75.0	610.419	320.746	2634.508	0.00%	40.70%
80.0	609.775	326.490	2960.998	0.00%	45.75%
85.0	606.995	330.626	3291.623	0.00%	50.85%
90.0	610.007	333.225	3624.848	0.00%	56.00%
95.0	606.738	333.154	3958.002	0.00%	61.15%
100.0	601.821	328.394	4286.397	0.00%	66.22%
105.0	586.712	318.018	4604.415	0.00%	71.14%
110.0	571.216	302.664	4907.079	0.00%	75.81%
115.0	547.368	283.233	5190.312	0.00%	80.19%
120.0	517.831	258.952	5449.263	0.00%	84.19%
125.0	482.168	231.147	5680.41	0.00%	87.76%
130.0	439.773	200.461	5880.871	0.00%	90.86%
135.0	391.471	167.965	6048.836	0.00%	93.45%
140.0	339.824	135.405	6184.241	0.00%	95.54%
145.0	288.124	104.768	6289.01	0.00%	97.16%
150.0	234.082	76.899	6365.908	0.00%	98.35%
155.0	178.303	52.188	6418.096	0.00%	99.16%
160.0	120.593	31.349	6449.445	0.00%	99.64%
165.0	70.786	15.772	6465.217	0.00%	99.88%
170.0	30.837	6.028	6471.245	0.00%	99.98%
175.0	7.619	1.376	6472.621	0.00%	100.00%
180.0	0.901	0.102	6472.723	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:164.8 Right:167.2

:C90/270Left:164.2 Right:167.9

Beam Angle(50%Imax):C0/180Left:141.9 Right:144.7

:C90/270Left:140.5 Right:143.7

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	321.65	324.12	339.15	368.40	409.99	455.30	501.22	539.31	572.47
22.5	321.24	320.83	334.01	362.42	401.76	441.70	484.95	523.46	555.58
45.0	320.21	320.83	333.18	363.25	405.67	448.09	494.63	533.34	561.96
67.5	318.56	320.00	334.83	364.90	406.70	449.74	493.60	530.66	552.28
90.0	326.59	327.42	340.18	370.04	412.46	457.77	506.57	545.08	569.58
112.5	325.15	329.68	342.86	375.81	422.14	467.03	514.60	555.79	578.85
135.0	325.56	327.42	343.69	375.60	415.76	463.74	509.45	544.87	571.23
157.5	322.89	327.42	350.07	385.90	430.79	475.27	522.22	558.46	577.61
180.0	321.65	329.89	350.89	391.67	439.23	488.24	530.46	562.79	582.14
202.5	321.24	327.62	351.51	390.02	431.41	476.71	515.63	550.43	569.17
225.0	320.21	327.01	350.89	389.61	432.85	481.04	525.93	558.05	578.23
247.5	318.56	326.59	348.22	386.31	433.88	479.39	527.99	567.52	594.29
270.0	326.59	334.62	359.54	399.08	440.88	491.33	534.58	574.94	600.26
292.5	325.15	330.30	352.95	389.61	437.79	483.30	533.96	569.99	592.03
315.0	325.56	329.48	348.83	382.40	423.38	469.09	513.37	551.67	578.85
337.5	322.89	326.80	341.01	372.10	416.99	461.68	506.16	544.25	570.82
360.0	321.65	324.12	339.15	368.40	409.99	455.30	501.22	539.31	572.47

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	587.50	593.68	600.88	607.68	615.91	615.50	603.35	605.41	596.35
22.5	574.52	583.17	590.79	595.53	602.53	605.82	600.47	601.50	597.59
45.0	572.47	581.11	588.32	597.38	604.59	604.18	591.20	597.18	585.03
67.5	566.08	575.35	589.97	601.29	612.41	608.71	604.18	609.12	604.18
90.0	583.79	594.50	608.50	624.56	636.51	640.21	635.27	635.27	632.80
112.5	588.73	595.73	606.65	619.00	627.86	620.24	609.53	609.94	604.38
135.0	586.67	596.15	607.06	615.71	620.65	617.77	610.77	611.18	609.12
157.5	589.97	597.18	602.74	613.65	618.39	608.71	606.03	600.88	600.26
180.0	591.20	598.82	608.91	615.71	619.42	611.38	604.59	600.26	603.56
202.5	578.44	587.29	598.41	609.53	615.71	614.27	608.09	608.09	609.12
225.0	587.50	597.38	606.85	616.33	618.39	606.65	600.47	599.44	599.65
247.5	607.88	615.09	624.36	633.83	641.45	638.77	634.65	634.65	633.62
270.0	613.03	616.12	624.15	634.65	638.15	634.65	634.45	626.62	632.39
292.5	603.97	611.18	616.12	626.42	625.80	616.12	610.97	603.15	603.35
315.0	591.20	600.26	605.21	613.65	625.18	621.89	615.71	616.12	613.24
337.5	580.70	588.94	594.70	602.32	607.88	602.12	596.97	597.59	587.29
360.0	587.50	593.68	600.88	607.68	615.91	615.50	603.35	605.41	596.35

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	602.12	600.06	599.44	583.17	572.26	547.55	524.07	493.18	452.62
22.5	603.77	603.15	600.68	587.70	571.23	551.05	519.34	480.42	442.32
45.0	592.65	589.97	590.38	574.11	566.29	544.46	521.19	490.10	453.65
67.5	611.18	608.50	607.47	593.47	578.64	554.55	526.54	491.95	450.76
90.0	636.30	632.59	626.62	613.44	596.76	574.52	543.02	504.51	460.03
112.5	607.47	604.59	599.24	586.88	574.52	553.52	531.69	497.72	457.35
135.0	611.59	608.30	598.82	587.91	567.93	544.05	513.57	474.86	432.44
157.5	599.65	595.73	589.56	571.23	558.05	534.58	505.13	470.95	426.88
180.0	600.06	596.76	591.00	574.94	558.67	534.16	505.54	472.39	426.88
202.5	607.27	604.79	593.68	575.76	558.67	532.10	495.04	453.03	409.79
225.0	594.29	592.23	587.09	569.99	554.14	531.49	502.25	467.24	425.44
247.5	630.33	629.09	621.68	604.18	587.70	559.49	526.13	486.60	439.85
270.0	637.95	629.92	623.33	604.38	585.03	557.02	521.19	482.68	434.91
292.5	609.74	602.74	598.41	588.53	567.73	546.93	516.25	485.15	443.56
315.0	621.06	616.74	613.03	595.94	580.29	552.28	520.78	481.86	438.20
337.5	594.70	592.65	588.73	575.76	561.55	540.14	513.57	482.07	441.70
360.0	602.12	600.06	599.44	583.17	572.26	547.55	524.07	493.18	452.62

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	405.67	356.86	306.83	255.55	199.33	136.94	83.61	33.57	9.06
22.5	394.75	342.86	291.59	236.40	185.12	131.79	82.37	39.13	11.74
45.0	408.34	357.69	310.12	256.79	201.19	137.35	84.84	39.74	11.12
67.5	401.14	350.89	298.18	245.87	191.10	133.64	80.72	36.86	10.09
90.0	413.29	360.16	306.41	251.23	193.98	139.20	89.16	46.54	16.68
112.5	409.17	358.31	308.27	254.73	199.13	135.70	84.43	40.77	12.97
135.0	385.49	331.95	281.29	229.40	174.42	121.70	74.13	34.80	10.30
157.5	378.07	328.24	281.70	228.78	171.12	110.17	63.84	26.77	7.41
180.0	377.04	328.86	278.61	223.43	163.91	107.49	59.92	23.68	4.53
202.5	361.39	306.83	252.05	197.69	148.68	94.31	48.39	17.50	3.30
225.0	374.16	324.53	274.50	220.96	162.06	104.61	56.84	21.00	2.27
247.5	389.40	334.01	279.44	223.22	165.36	108.11	53.75	18.33	4.12
270.0	383.22	325.56	270.38	215.19	157.33	103.17	56.63	22.24	3.91
292.5	395.17	345.33	292.82	237.84	177.09	118.41	66.31	25.95	2.27
315.0	390.64	337.92	281.29	226.31	172.98	115.32	68.57	30.48	3.50
337.5	396.61	347.19	296.53	241.96	190.07	131.58	79.07	36.04	8.65
360.0	405.67	356.86	306.83	255.55	199.33	136.94	83.61	33.57	9.06

C/γ(°)	180.0
0.0	0.82
22.5	0.82
45.0	0.82
67.5	0.82
90.0	1.24
112.5	1.03
135.0	0.82
157.5	0.82
180.0	0.82
202.5	0.82
225.0	0.82
247.5	0.82
270.0	1.24
292.5	1.03
315.0	0.82
337.5	0.82
360.0	0.82

3.2.4 Model Number: HIDFA-45S-XXX-8CCT-BYP/3SP, 4000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.080	60	0.176	42.917	0.883

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
6321.84	147.30	26.22	55.99

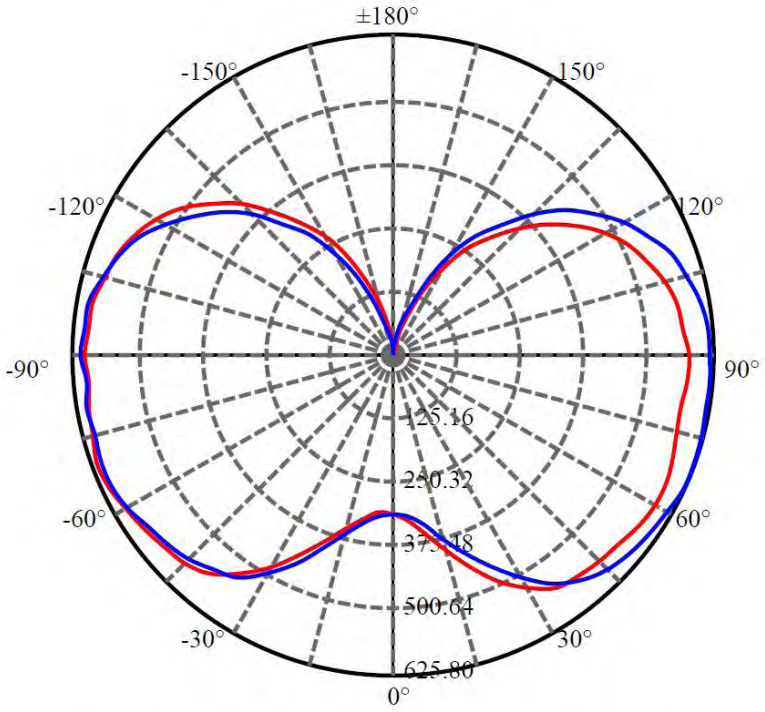
Zonal Flux Diagram

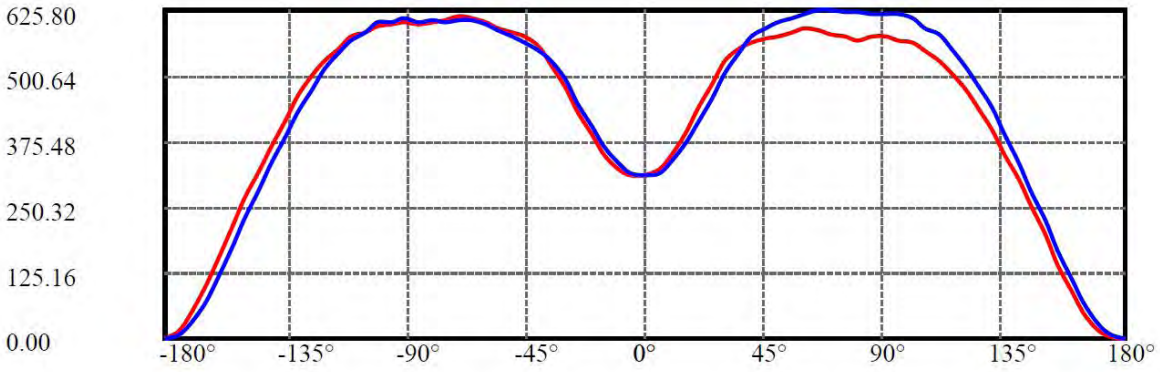
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	312.796	0.000	0	0.00%	0.00%
5.0	317.314	7.533	7.533	0.00%	0.12%
10.0	336.233	23.379	30.912	0.00%	0.49%
15.0	369.361	41.855	72.768	0.00%	1.15%
20.0	411.176	64.327	137.095	0.00%	2.17%
25.0	456.736	91.028	228.123	0.00%	3.61%
30.0	500.868	121.186	349.308	0.00%	5.53%
35.0	536.904	152.819	502.128	0.00%	7.94%
40.0	560.547	183.101	685.229	0.00%	10.84%
45.0	572.876	209.863	895.091	0.00%	14.16%
50.0	580.483	233.053	1128.145	0.00%	17.85%
55.0	589.736	254.445	1382.589	0.00%	21.87%
60.0	599.891	274.979	1657.568	0.00%	26.22%
65.0	606.210	293.205	1950.774	0.00%	30.86%
70.0	603.031	306.188	2256.961	0.00%	35.70%
75.0	597.561	313.816	2570.777	0.00%	40.67%
80.0	595.078	319.117	2889.894	0.00%	45.71%
85.0	594.923	323.352	3213.246	0.00%	50.83%
90.0	597.497	326.494	3539.74	0.00%	55.99%
95.0	592.002	325.694	3865.434	0.00%	61.14%
100.0	588.552	320.785	4186.218	0.00%	66.22%
105.0	573.662	310.976	4497.195	0.00%	71.14%
110.0	557.625	295.700	4792.895	0.00%	75.81%
115.0	534.794	276.608	5069.502	0.00%	80.19%
120.0	505.784	252.966	5322.469	0.00%	84.19%
125.0	470.623	225.694	5548.163	0.00%	87.76%
130.0	429.464	195.709	5743.872	0.00%	90.86%
135.0	382.501	164.070	5907.941	0.00%	93.45%
140.0	331.510	132.205	6040.146	0.00%	95.54%
145.0	281.020	102.196	6142.342	0.00%	97.16%
150.0	228.239	74.992	6217.334	0.00%	98.35%
155.0	173.760	50.873	6268.207	0.00%	99.15%
160.0	118.341	30.636	6298.843	0.00%	99.64%
165.0	69.229	15.458	6314.302	0.00%	99.88%
170.0	31.648	5.984	6320.286	0.00%	99.98%
175.0	8.597	1.440	6321.725	0.00%	100.00%
180.0	0.927	0.114	6321.839	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:168.9 Right:163.2

:C90/270Left:166.2 Right:165.5

Beam Angle(50%Imax):C0/180Left:146.0 Right:139.4

:C90/270Left:142.2 Right:141.9

Luminous Intensity Distribution Data

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	312.38	323.09	350.69	392.08	439.44	487.63	526.75	553.52	563.40
22.5	313.62	323.92	350.89	392.28	433.26	480.01	518.72	548.17	556.40
45.0	313.83	327.42	355.83	394.96	440.88	487.21	529.43	557.64	570.61
67.5	315.27	324.33	356.45	395.58	441.09	491.13	530.87	565.05	585.23
90.0	310.74	316.50	336.89	372.72	411.64	457.97	503.48	543.43	574.73
112.5	311.97	311.97	331.33	364.69	411.64	456.12	502.66	540.34	568.96
135.0	313.00	314.24	324.74	356.86	400.11	445.00	491.33	528.40	560.52
157.5	311.56	313.21	324.95	349.45	388.37	435.94	484.54	524.07	552.70
180.0	312.38	309.30	322.48	349.45	387.55	433.06	477.95	521.19	555.58
202.5	313.62	313.00	321.65	346.16	384.05	423.79	468.89	510.48	544.25
225.0	313.83	314.24	323.09	346.77	387.34	431.82	478.56	521.40	551.26
247.5	315.27	313.41	323.30	350.89	392.28	438.20	481.45	522.22	551.26
270.0	310.74	314.86	332.36	364.69	405.05	447.68	492.57	528.40	547.96
292.5	311.97	316.30	337.71	370.46	414.11	457.15	502.45	538.28	557.84
315.0	313.00	319.59	339.15	375.60	414.52	460.65	502.66	537.46	559.90
337.5	311.56	321.65	348.22	387.13	427.50	474.45	521.60	550.43	568.14
360.0	312.38	323.09	350.69	392.08	439.44	487.63	526.75	553.52	563.40

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	570.61	574.94	582.76	589.35	588.12	580.29	575.55	569.38	574.32
22.5	564.02	572.47	584.41	595.12	598.41	595.53	592.44	587.09	595.32
45.0	576.38	583.38	592.23	600.88	600.88	585.64	580.50	577.82	582.97
67.5	592.03	596.97	604.59	615.30	616.74	612.21	610.77	603.15	608.50
90.0	592.65	601.09	610.15	617.56	625.80	625.18	622.71	620.45	619.62
112.5	582.14	594.09	601.71	612.83	613.86	609.94	595.32	591.62	593.88
135.0	575.76	586.26	599.24	609.33	622.30	624.36	615.30	616.33	617.36
157.5	566.49	574.11	587.29	596.97	603.15	601.50	591.20	591.20	585.64
180.0	573.91	583.79	591.62	601.71	612.00	615.30	604.59	601.09	597.38
202.5	565.67	575.76	584.41	598.00	605.41	609.53	607.47	603.97	604.59
225.0	566.29	573.08	581.53	592.44	604.18	606.03	593.88	594.29	588.32
247.5	565.05	573.49	587.29	603.97	620.24	623.95	616.94	616.74	612.62
270.0	562.17	574.32	585.85	598.82	606.65	607.88	603.77	608.09	601.91
292.5	565.88	570.61	574.11	583.38	589.35	577.00	578.02	576.17	569.38
315.0	570.82	576.17	585.03	590.79	598.82	591.20	593.26	591.00	589.76
337.5	576.17	577.20	583.58	591.82	593.47	582.97	579.26	572.88	577.20
360.0	570.61	574.94	582.76	589.35	588.12	580.29	575.55	569.38	574.32

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	577.00	567.11	564.02	547.34	529.22	505.13	475.68	440.67	396.20
22.5	596.35	586.88	580.08	558.87	540.34	510.48	474.65	434.29	387.96
45.0	583.38	573.91	568.14	555.99	534.99	510.69	480.62	445.41	403.20
67.5	609.12	598.21	595.32	579.26	552.90	527.78	491.13	450.15	404.84
90.0	618.59	617.56	608.91	592.44	578.64	550.43	518.51	480.21	437.59
112.5	592.03	589.14	587.09	571.85	561.55	538.90	511.72	481.65	443.35
135.0	616.94	615.09	611.38	596.97	581.94	558.46	531.90	492.57	451.18
157.5	588.94	585.85	581.11	570.61	556.20	538.49	513.37	482.68	443.76
180.0	601.91	596.97	596.35	583.17	574.11	552.70	530.46	499.77	461.06
202.5	606.03	604.38	601.09	592.23	573.29	557.84	529.02	491.13	449.53
225.0	590.79	587.50	586.47	573.91	563.61	548.17	524.69	494.01	458.18
247.5	618.18	616.33	612.00	601.29	585.64	568.14	540.14	506.78	467.03
270.0	611.18	603.77	602.74	584.82	567.73	543.22	511.51	474.24	433.26
292.5	574.32	570.61	569.58	553.31	541.37	519.34	492.57	461.27	422.55
315.0	596.15	588.94	583.38	566.91	547.96	518.10	487.63	451.38	409.37
337.5	579.05	569.79	569.17	549.61	532.52	508.84	478.98	443.76	402.37
360.0	577.00	567.11	564.02	547.34	529.22	505.13	475.68	440.67	396.20

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	350.89	301.47	251.23	197.48	140.03	90.81	45.10	13.80	2.47
22.5	339.98	286.64	235.37	182.04	131.17	80.31	33.77	10.71	1.24
45.0	352.13	304.97	253.49	201.60	140.85	88.75	40.36	12.56	1.65
67.5	357.28	303.53	249.58	194.60	141.68	88.55	41.80	13.39	2.27
90.0	387.96	332.36	280.26	224.87	168.03	112.23	66.72	28.01	6.38
112.5	396.61	348.22	299.21	245.67	190.07	129.11	78.05	35.42	8.24
135.0	403.40	352.13	297.35	240.52	188.21	133.03	80.10	38.71	7.83
157.5	399.49	349.25	300.24	250.40	197.07	141.26	90.40	47.57	12.15
180.0	417.82	365.72	317.94	266.46	213.75	153.21	99.26	50.66	16.89
202.5	404.43	354.60	301.27	247.73	196.66	146.41	93.90	50.66	18.74
225.0	415.35	364.90	317.12	267.49	213.75	152.38	99.05	55.39	19.36
247.5	418.02	365.72	316.30	264.20	209.01	150.12	98.64	51.48	18.53
270.0	386.72	334.21	284.79	230.43	175.45	116.55	71.66	32.33	9.06
292.5	374.37	326.59	278.41	227.34	170.30	113.88	64.04	26.56	6.18
315.0	361.60	309.91	260.49	206.95	155.88	102.55	57.66	22.03	3.91
337.5	353.98	303.94	253.29	204.07	148.26	94.31	47.16	17.09	2.68
360.0	350.89	301.47	251.23	197.48	140.03	90.81	45.10	13.80	2.47

C/γ(°)	180.0
0.0	0.82
22.5	0.62
45.0	1.03
67.5	0.82
90.0	1.65
112.5	0.82
135.0	0.82
157.5	0.82
180.0	0.82
202.5	0.62
225.0	1.03
247.5	0.82
270.0	1.65
292.5	0.82
315.0	0.82
337.5	0.82
360.0	0.82

3.2.5 Model Number: HIDFA-45S-XXX-8CCT-BYP/3SP, 5000K at 120V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.120	60	0.373	44.260	0.988

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
6448.57	145.70	25.48	55.20

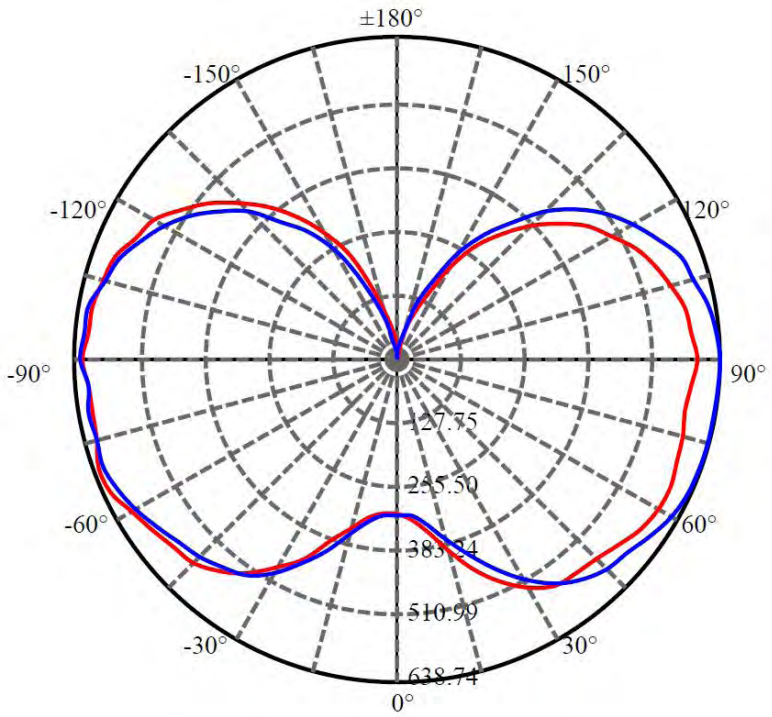
Zonal Flux Diagram

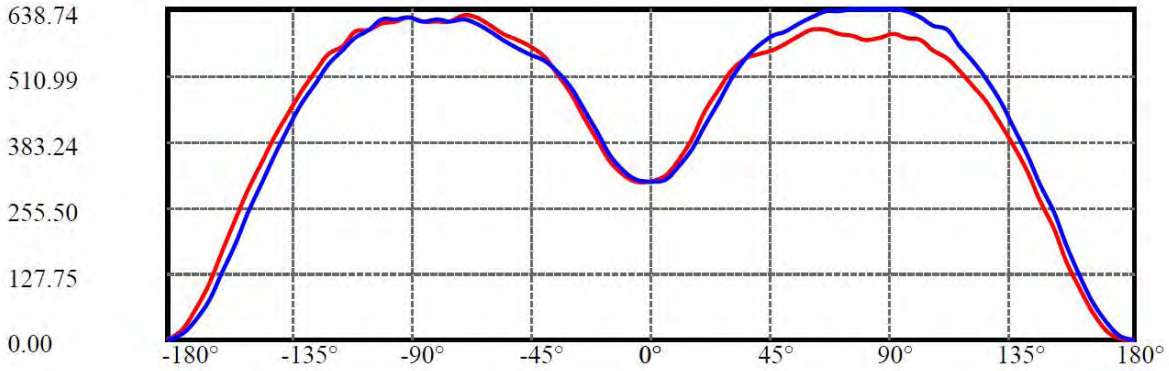
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	308.016	0.000	0	0.00%	0.00%
5.0	312.392	7.417	7.417	0.00%	0.12%
10.0	331.433	23.032	30.448	0.00%	0.47%
15.0	365.257	41.327	71.776	0.00%	1.11%
20.0	408.463	63.765	135.541	0.00%	2.10%
25.0	454.915	90.552	226.093	0.00%	3.51%
30.0	496.663	120.423	346.517	0.00%	5.37%
35.0	530.789	151.300	497.816	0.00%	7.72%
40.0	552.261	180.699	678.515	0.00%	10.52%
45.0	564.377	206.755	885.269	0.00%	13.73%
50.0	573.799	229.985	1115.254	0.00%	17.29%
55.0	587.202	252.440	1367.694	0.00%	21.21%
60.0	603.575	275.245	1642.939	0.00%	25.48%
65.0	614.574	296.134	1939.073	0.00%	30.07%
70.0	613.142	310.865	2249.939	0.00%	34.89%
75.0	608.450	319.304	2569.243	0.00%	39.84%
80.0	606.598	325.113	2894.356	0.00%	44.88%
85.0	609.292	330.386	3224.743	0.00%	50.01%
90.0	613.983	334.942	3559.685	0.00%	55.20%
95.0	607.951	334.575	3894.26	0.00%	60.39%
100.0	602.340	328.865	4223.125	0.00%	65.49%
105.0	588.884	318.738	4541.863	0.00%	70.43%
110.0	574.587	304.113	4845.976	0.00%	75.15%
115.0	551.249	285.069	5131.045	0.00%	79.57%
120.0	523.483	261.269	5392.314	0.00%	83.62%
125.0	489.462	234.139	5626.453	0.00%	87.25%
130.0	450.736	204.430	5830.884	0.00%	90.42%
135.0	405.901	173.096	6003.98	0.00%	93.11%
140.0	356.032	141.078	6145.058	0.00%	95.29%
145.0	303.207	109.989	6255.047	0.00%	97.00%
150.0	246.571	80.959	6336.006	0.00%	98.25%
155.0	186.978	54.866	6390.872	0.00%	99.11%
160.0	126.518	32.880	6423.752	0.00%	99.62%
165.0	74.639	16.578	6440.33	0.00%	99.87%
170.0	34.967	6.502	6446.831	0.00%	99.97%
175.0	9.921	1.606	6448.437	0.00%	100.00%
180.0	0.894	0.129	6448.567	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:169.3 Right:163.6

:C90/270Left:166.6 Right:165.9

Beam Angle(50%Imax):C0/180Left:147.8 Right:141.0

:C90/270Left:143.8 Right:143.4

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	306.54	316.64	345.44	390.22	440.26	483.79	521.00	544.13	553.38
22.5	307.60	318.95	346.91	388.75	432.06	477.90	513.01	542.03	547.07
45.0	308.23	319.79	349.44	392.75	437.95	480.00	522.47	548.33	558.21
67.5	309.70	320.84	347.12	390.22	440.05	489.25	526.68	558.84	575.88
90.0	307.39	311.38	331.77	368.36	410.83	458.77	503.13	543.71	568.94
112.5	308.44	308.23	328.83	360.58	410.20	455.19	499.98	536.98	563.89
135.0	309.28	309.28	319.79	353.22	397.58	447.83	490.51	525.63	556.95
157.5	306.97	307.81	320.42	345.44	384.76	435.85	482.31	522.05	551.07
180.0	306.54	306.12	317.69	343.34	383.08	434.17	475.17	515.32	546.02
202.5	307.60	306.33	315.59	340.82	378.66	420.71	465.49	506.49	537.61
225.0	308.23	308.65	317.90	343.55	381.39	429.75	474.32	515.11	542.66
247.5	309.70	309.91	320.00	344.18	388.96	437.74	478.95	513.85	540.13
270.0	307.39	309.70	326.31	356.58	400.95	446.36	486.31	519.74	538.03
292.5	308.44	311.80	334.30	365.84	410.41	452.04	494.72	526.68	543.92
315.0	309.28	316.01	335.14	373.40	410.83	457.92	498.08	530.46	552.75
337.5	306.97	316.85	346.28	386.86	427.44	471.38	514.48	543.29	559.69
360.0	306.54	316.64	345.44	390.22	440.26	483.79	521.00	544.13	553.38

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	559.90	572.09	586.39	597.74	598.58	589.75	585.55	577.35	585.13
22.5	559.69	570.83	581.97	595.22	608.04	608.25	604.26	600.05	608.88
45.0	560.32	572.51	594.80	608.25	609.52	594.17	590.38	588.70	595.85
67.5	585.34	594.17	604.47	620.45	628.02	624.44	621.71	614.56	623.18
90.0	587.44	596.27	609.94	623.60	635.17	634.53	636.85	637.90	638.74
112.5	575.88	587.65	599.21	621.29	623.18	617.08	605.52	605.73	612.88
135.0	571.88	581.55	597.95	613.30	628.86	634.53	628.02	633.06	638.11
157.5	562.42	570.20	585.55	601.11	613.51	613.30	602.16	603.00	603.63
180.0	567.89	578.82	589.75	606.15	622.76	628.02	616.87	613.30	614.14
202.5	561.16	573.14	585.55	604.05	611.83	618.35	619.19	614.98	618.14
225.0	557.16	563.47	575.45	598.37	616.87	620.24	605.94	602.16	601.95
247.5	553.59	564.52	579.45	600.68	620.87	632.64	625.91	625.49	624.02
270.0	551.07	564.94	578.61	594.80	609.52	618.35	615.82	619.82	613.72
292.5	548.33	552.33	564.94	584.29	596.90	584.08	586.18	585.34	580.92
315.0	560.74	567.89	577.14	589.33	606.36	599.84	603.21	601.74	601.32
337.5	567.25	570.41	584.08	598.58	603.21	592.70	587.65	582.39	588.07
360.0	559.90	572.09	586.39	597.74	598.58	589.75	585.55	577.35	585.13

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	592.27	583.65	578.40	561.37	543.29	521.42	488.20	458.35	415.03
22.5	612.46	603.42	596.27	573.98	556.32	527.73	491.78	459.61	408.94
45.0	599.42	590.80	584.29	570.41	551.70	528.57	493.88	461.50	423.44
67.5	627.18	616.87	610.36	593.96	570.20	548.12	507.12	469.28	427.44
90.0	636.85	633.90	621.92	608.46	597.74	567.47	537.19	503.13	461.71
112.5	609.31	603.42	599.00	587.86	583.02	554.22	525.20	499.55	464.86
135.0	635.17	631.17	626.97	615.82	601.53	575.88	555.06	515.95	473.69
157.5	608.67	603.84	595.22	587.02	575.88	556.11	535.30	502.08	464.86
180.0	621.92	614.14	609.94	600.90	594.80	568.52	552.75	518.90	481.05
202.5	625.49	620.03	614.77	605.94	590.80	577.56	547.49	509.02	475.38
225.0	607.83	600.26	597.74	590.80	578.82	562.00	546.02	509.65	472.64
247.5	633.90	630.96	621.50	614.98	602.79	585.34	557.58	521.42	488.41
270.0	624.65	620.03	618.98	599.63	582.39	558.42	531.72	496.19	455.61
292.5	587.02	585.13	583.23	565.99	554.64	532.56	506.70	477.69	443.42
315.0	609.09	604.89	596.69	580.71	563.05	533.19	510.49	468.65	431.85
337.5	592.49	584.71	582.18	564.31	546.44	522.89	489.25	460.45	423.44
360.0	592.27	583.65	578.40	561.37	543.29	521.42	488.20	458.35	415.03

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	375.09	324.42	271.43	212.35	149.70	96.51	49.83	16.19	2.94
22.5	360.37	308.02	252.51	194.90	140.87	85.15	37.43	11.77	1.68
45.0	379.08	328.20	273.96	218.03	149.28	94.40	44.99	14.30	2.10
67.5	380.55	325.05	267.86	211.09	152.43	94.61	47.10	14.93	2.10
90.0	413.35	358.06	301.50	244.52	180.82	119.42	71.06	30.91	7.36
112.5	420.92	375.09	323.79	268.91	205.62	134.77	83.68	39.32	9.67
135.0	425.34	375.51	322.31	259.03	202.89	144.02	86.20	43.10	9.25
157.5	422.60	376.56	326.31	270.59	213.40	151.80	96.93	51.09	14.09
180.0	439.63	393.59	343.97	289.94	232.75	164.84	105.76	56.14	19.13
202.5	428.28	381.39	326.31	267.44	208.57	158.32	100.71	55.51	21.24
225.0	438.58	392.33	342.92	287.83	232.75	163.57	105.55	58.03	22.08
247.5	440.68	391.28	337.03	286.57	226.23	160.42	103.02	58.66	21.45
270.0	412.51	357.85	306.76	247.67	188.17	126.15	76.53	35.95	10.30
292.5	396.74	351.96	300.87	245.99	183.97	119.84	70.22	29.86	7.36
315.0	384.55	331.77	281.10	220.76	166.10	110.80	63.50	24.39	4.84
337.5	376.14	325.47	272.69	219.50	158.11	99.66	51.72	19.34	3.15
360.0	375.09	324.42	271.43	212.35	149.70	96.51	49.83	16.19	2.94

C/γ(°)	180.0
0.0	0.84
22.5	0.84
45.0	0.84
67.5	1.05
90.0	1.05
112.5	0.84
135.0	0.84
157.5	0.84
180.0	0.84
202.5	0.84
225.0	0.84
247.5	1.05
270.0	1.05
292.5	0.84
315.0	0.84
337.5	0.84
360.0	0.84

3.2.6 Model Number: HIDFA-45S-XXX-8CCT-BYP/3SP, 5000K at 277V

Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
277.050	60	0.179	43.994	0.885

Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
6264.89	142.40	25.51	55.21

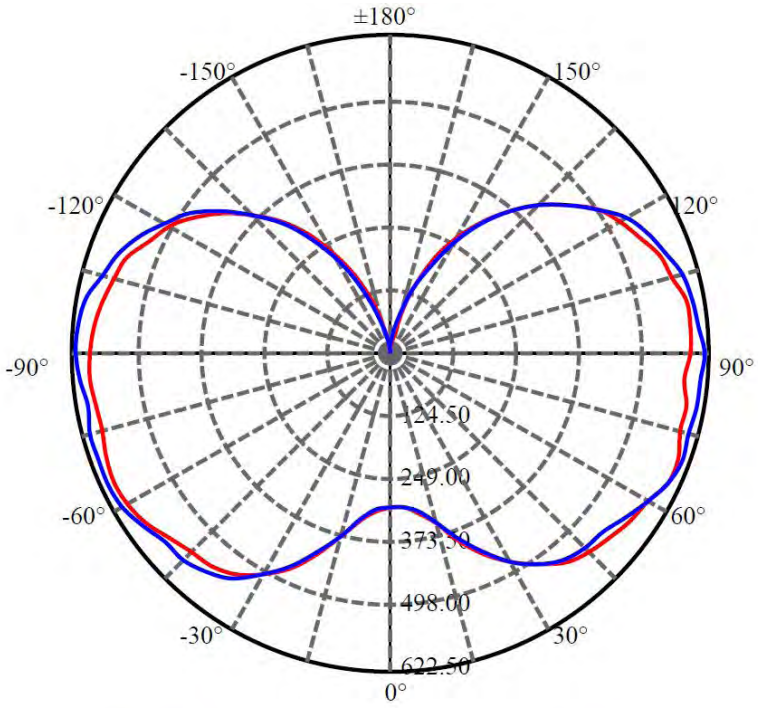
Zonal Flux Diagram

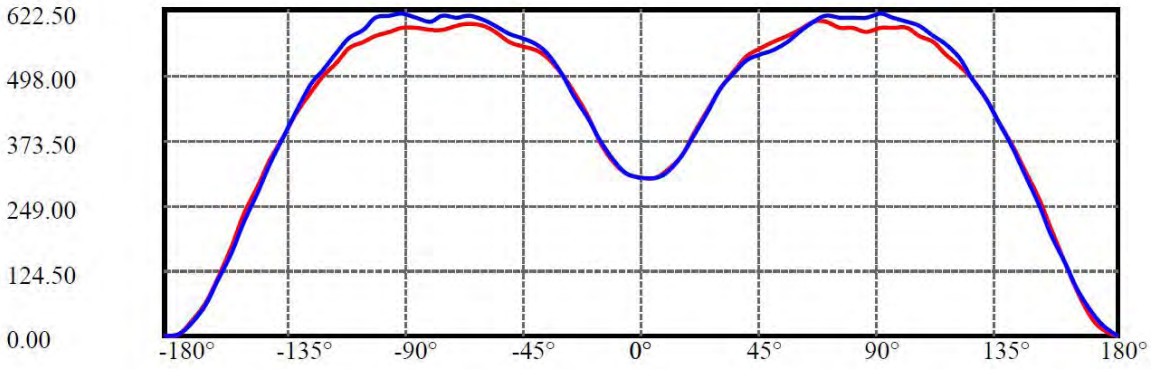
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	300.492	0.000	0	0.00%	0.00%
5.0	304.958	7.238	7.238	0.00%	0.12%
10.0	321.883	22.424	29.662	0.00%	0.47%
15.0	354.380	40.115	69.777	0.00%	1.11%
20.0	398.898	62.081	131.858	0.00%	2.10%
25.0	442.695	88.268	220.126	0.00%	3.51%
30.0	482.888	117.133	337.259	0.00%	5.38%
35.0	516.376	147.149	484.408	0.00%	7.73%
40.0	537.921	175.902	660.309	0.00%	10.54%
45.0	549.453	201.336	861.645	0.00%	13.75%
50.0	558.192	223.816	1085.461	0.00%	17.33%
55.0	570.972	245.518	1330.979	0.00%	21.25%
60.0	585.721	267.366	1598.345	0.00%	25.51%
65.0	596.712	287.452	1885.797	0.00%	30.10%
70.0	595.116	301.779	2187.575	0.00%	34.92%
75.0	590.174	309.816	2497.391	0.00%	39.86%
80.0	591.358	316.145	2813.536	0.00%	44.91%
85.0	590.225	321.065	3134.6	0.00%	50.03%
90.0	594.189	324.302	3458.902	0.00%	55.21%
95.0	591.422	324.630	3783.532	0.00%	60.39%
100.0	585.180	319.711	4103.243	0.00%	65.50%
105.0	571.525	309.502	4412.745	0.00%	70.44%
110.0	558.140	295.276	4708.022	0.00%	75.15%
115.0	534.909	276.767	4984.789	0.00%	79.57%
120.0	508.680	253.699	5238.487	0.00%	83.62%
125.0	476.415	227.702	5466.189	0.00%	87.25%
130.0	437.611	198.740	5664.929	0.00%	90.42%
135.0	394.367	168.113	5833.042	0.00%	93.11%
140.0	345.924	137.071	5970.113	0.00%	95.29%
145.0	294.920	106.920	6077.033	0.00%	97.00%
150.0	240.118	78.788	6155.821	0.00%	98.26%
155.0	181.971	53.416	6209.237	0.00%	99.11%
160.0	121.726	31.852	6241.089	0.00%	99.62%
165.0	72.523	16.009	6257.098	0.00%	99.88%
170.0	32.407	6.224	6263.323	0.00%	99.97%
175.0	8.327	1.457	6264.78	0.00%	100.00%
180.0	0.927	0.111	6264.891	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:165.4 Right:167.5

:C90/270Left:164.6 Right:168.4

Beam Angle(50%Imax):C0/180Left:143.7 Right:146.6

:C90/270Left:142.0 Right:145.1

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	301.68	303.12	317.33	345.74	387.96	434.50	472.18	504.92	535.19
22.5	301.27	302.09	313.21	338.74	380.34	418.64	457.56	493.18	523.46
45.0	299.62	301.27	313.00	340.39	385.28	429.14	467.24	503.89	528.40
67.5	296.94	300.03	313.21	342.45	383.63	425.85	465.39	498.95	515.63
90.0	301.06	302.29	313.21	342.66	384.25	428.53	473.00	504.10	526.96
112.5	299.21	305.38	318.36	348.63	394.96	438.00	481.86	517.28	533.75
135.0	301.06	304.15	320.62	350.89	388.58	434.29	476.92	509.04	532.31
157.5	303.12	304.77	324.95	359.13	407.32	450.97	490.71	524.69	543.64
180.0	301.68	309.71	328.86	367.57	417.41	462.71	499.16	528.60	545.90
202.5	301.27	307.65	328.65	365.92	408.55	450.97	488.45	518.51	532.93
225.0	299.62	307.03	327.83	366.54	412.26	458.38	494.21	525.31	540.14
247.5	296.94	307.03	328.86	362.84	411.85	455.71	499.36	534.37	559.08
270.0	301.06	308.27	332.15	370.25	412.88	458.18	498.95	536.22	556.81
292.5	299.21	305.59	327.62	363.87	413.90	457.97	501.22	536.02	552.70
315.0	301.06	305.59	324.53	356.86	399.49	441.50	482.27	516.25	543.84
337.5	303.12	305.38	317.74	347.60	393.72	437.79	477.74	510.69	536.02
360.0	301.68	303.12	317.33	345.74	387.96	434.50	472.18	504.92	535.19

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	550.64	559.29	571.23	582.35	597.79	598.41	587.09	586.88	579.05
22.5	545.28	557.84	570.82	576.38	584.00	588.32	585.44	586.88	581.94
45.0	537.87	543.02	554.34	575.35	590.38	590.79	573.91	581.53	569.38
67.5	529.63	541.37	556.81	568.96	587.91	588.53	588.12	592.85	586.88
90.0	536.22	545.70	560.52	580.70	597.38	609.33	605.41	607.47	608.91
112.5	540.75	548.17	562.37	585.23	601.09	592.03	580.08	583.38	583.17
135.0	546.52	560.52	572.88	581.94	592.85	591.82	585.64	590.17	591.82
157.5	552.70	558.87	567.93	585.23	596.15	586.47	582.76	582.56	584.00
180.0	551.67	562.17	580.08	592.03	596.76	590.38	583.38	583.79	588.94
202.5	541.78	550.84	562.37	578.02	589.97	595.94	589.56	593.47	596.97
225.0	548.17	562.37	576.58	593.06	597.18	586.67	584.82	587.70	589.35
247.5	572.26	577.61	592.23	606.44	620.65	621.06	620.65	622.30	622.50
270.0	569.79	575.55	590.38	603.97	609.33	607.68	609.33	600.88	608.71
292.5	566.29	576.58	588.32	602.53	599.44	590.38	587.91	582.56	584.61
315.0	555.99	558.67	568.14	582.14	599.65	598.82	597.18	597.18	595.94
337.5	545.70	552.49	560.52	577.20	586.88	585.23	581.53	582.14	571.44
360.0	550.64	559.29	571.23	582.35	597.79	598.41	587.09	586.88	579.05

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	588.73	589.35	587.29	570.82	560.73	538.28	516.04	491.33	450.76
22.5	589.35	594.70	589.97	575.14	560.52	542.81	517.48	472.18	446.44
45.0	578.64	580.70	579.26	561.35	554.76	533.75	515.42	484.95	453.65
67.5	595.73	599.03	596.15	579.05	566.91	545.08	520.78	486.80	451.59
90.0	613.03	605.41	599.65	591.41	573.08	555.79	528.81	489.89	452.00
112.5	588.32	582.35	574.52	567.52	555.79	532.10	518.31	486.60	445.82
135.0	594.91	589.56	576.38	570.20	551.26	531.90	504.30	469.09	427.29
157.5	583.79	575.76	569.38	556.20	545.49	517.48	493.60	465.18	424.82
180.0	585.85	581.11	571.85	559.29	548.58	520.16	496.07	463.53	425.44
202.5	594.29	588.32	576.17	561.96	546.31	519.95	489.89	452.41	411.02
225.0	581.94	577.41	570.61	558.26	549.40	523.25	492.98	462.91	426.88
247.5	616.12	614.27	606.44	591.82	579.05	551.67	520.78	483.71	440.26
270.0	616.53	611.38	605.21	584.41	566.91	540.14	506.57	478.36	429.55
292.5	591.82	586.47	581.32	570.20	552.70	532.93	497.51	476.30	436.14
315.0	605.41	602.12	599.03	582.56	568.14	541.78	514.19	482.07	439.44
337.5	582.56	584.82	579.67	564.23	550.64	531.49	506.16	477.33	440.67
360.0	588.73	589.35	587.29	570.82	560.73	538.28	516.04	491.33	450.76

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	409.58	364.28	316.30	262.96	204.28	139.62	84.63	34.80	10.09
22.5	397.43	350.27	299.00	242.78	188.63	134.06	82.58	41.19	12.97
45.0	413.08	367.78	320.00	265.43	207.57	138.79	86.69	42.01	11.94
67.5	407.32	357.89	305.59	254.11	195.22	134.88	82.58	39.54	10.91
90.0	409.58	360.98	308.88	252.05	193.98	140.23	90.61	48.19	17.50
112.5	407.73	360.36	312.59	259.46	203.04	135.09	85.46	42.63	13.80
135.0	385.69	336.07	286.03	234.55	176.89	122.11	77.22	36.45	11.53
157.5	381.57	334.62	287.67	233.72	174.42	110.99	65.28	28.83	8.24
180.0	383.02	335.86	286.85	231.05	169.68	108.32	62.81	25.33	5.15
202.5	367.37	315.06	259.05	203.86	152.80	96.99	50.66	18.53	3.71
225.0	380.55	333.59	281.91	228.57	166.18	106.05	60.34	22.65	2.68
247.5	393.31	341.01	288.09	230.22	170.09	109.14	56.01	19.15	4.74
270.0	382.60	329.89	274.91	216.01	158.56	103.17	58.07	22.65	4.32
292.5	398.46	348.01	297.97	244.43	179.56	116.55	67.75	27.59	2.88
315.0	390.84	345.13	287.06	231.46	176.68	119.02	69.40	31.51	3.50
337.5	401.76	353.98	306.83	251.23	193.98	132.61	80.31	37.48	9.27
360.0	409.58	364.28	316.30	262.96	204.28	139.62	84.63	34.80	10.09

C/γ(°)	180.0
0.0	0.82
22.5	0.82
45.0	0.82
67.5	0.82
90.0	1.44
112.5	1.03
135.0	0.82
157.5	0.82
180.0	0.82
202.5	0.82
225.0	0.82
247.5	0.82
270.0	1.44
292.5	1.03
315.0	0.82
337.5	0.82
360.0	0.82

4 Additional Test

Model Number	Test Voltage (V)	Frequency(Hz)	Power Factor	THD
HIDFA-45S-XXX-8CCT-BYP/3SP	120	60	0.988	10.0%
	277	60	0.924	11.3%

Photo Document

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