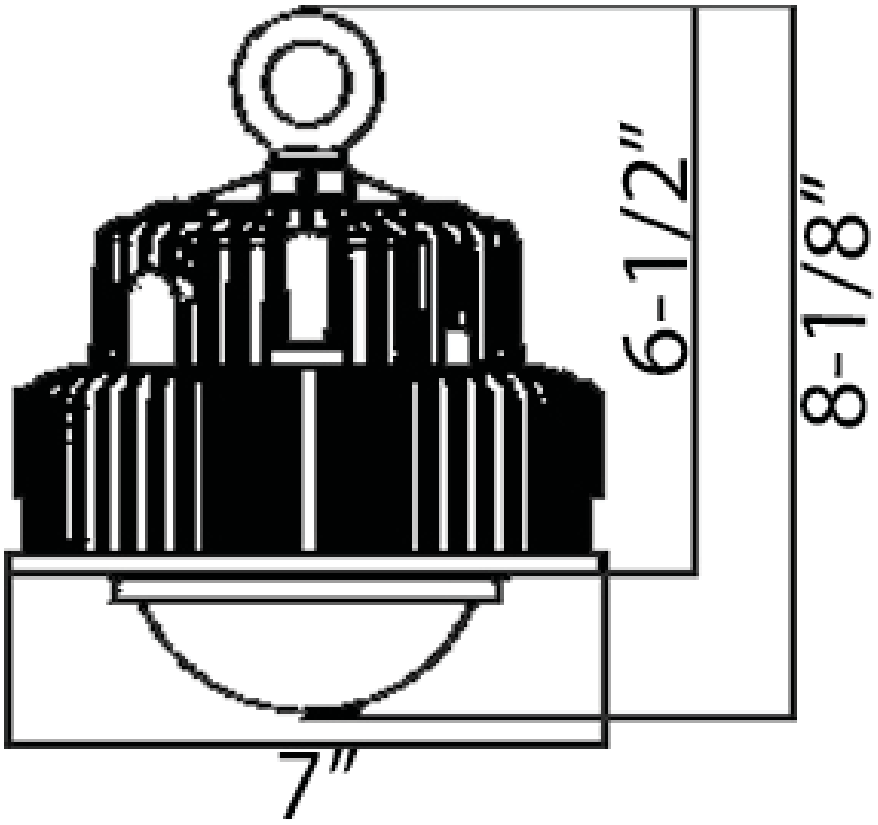
Cat# 71505
Classic Low Bay/High Bay
100 Watt
(Reflectors Sold Separatley)

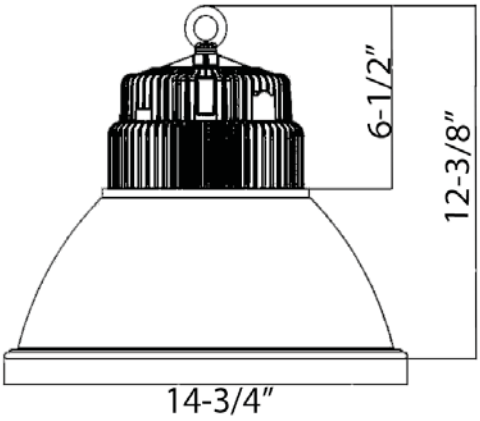
- Integral Cooling Fin Releases Heat Efficiently to Maintain the Life of LEDs & LED Driver
- Corrosion Resistant Die Cast Aluminum Housing with Superior Architectural Bronze Powder Coat Finish, Stainless Steel Hardware & Eye-Hook Mount
- cULus listed for Wet Locations
- DLC Listed When used with Reflector(Sold Separately)
- 5 Year Warranty
- No preheating time, no cooling required before restart
- Note: Reflector (Sold Separatley) must be installed for DLC Eligibility (See MORRIS Cat# 71501 60° Reflector; 71502 120° Reflector; 71503 12" PC Reflector)

	Model :	**71505**
OVERALL LAMP PARAMETERS	Input Voltage	100-277VAC
	Input Current	1.1A @100V / 0.45A @277VAC
	Input Power	100W
	Power Factor	PF≥ 0.97
	Luminance	10000 LM
	Luminous Efficiency	100 LM/W
	CRI	>83
	Beam Angle	120° or 60° (Depending on Reflector)
	Main Structure	Aluminum
LED DRIVER	Driver Manufacturer	TOWIN
	Output Voltage	60-68VDC
	Output Current	1.6A
	Driver Efficiency	92%
LED	LED Brand	3030 1W
	LED Quantity	130PCS
	LED Manufacturer	PHILIPS LumiLED Luxeon 3030
	LED Efficacy	110 LM/W
	Color Temperature	5000K
LIFESPAN & ENVIRONMENT	Lifespan	50000Hrs+
	Warranty	5 Years
	IP Rating	IP65 Wet Locations
	Operating Temperature	-40°F - 131°F
	Storage	-40℃—+80℃ , 10—90% RH
SAFETY&EMC	Safety Norms	UL1598,UL8750, IEC60598, IEC61347-2-13, IEC62031, IEC62471
	Withstand Voltage	I/P-FG: 2121VDC
	Grounding Resistance	25A 100mΩ
	Electromagnetic	EN55015, EN61000-2-3, EN61000-3-3, EN61547
OTHERS	Dimension	Pls refer to attached dimension drawing
	Net Weight	3 KG
	Gross Weight	3.5 KG
	Packing Size	410*410*230 mm
	Q'ty / Carton	4 PCS
	Volume	-----

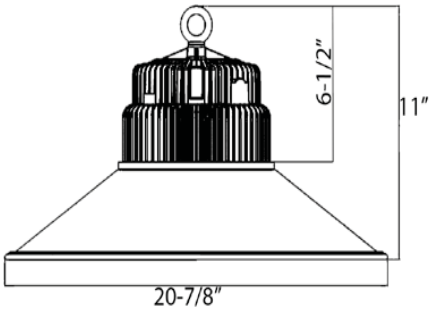
Dimensional Line Art

Cat# 71500

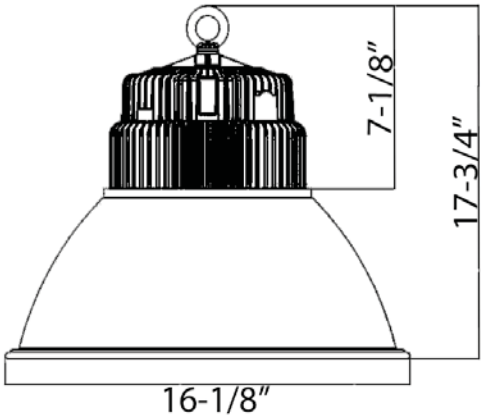




71506 60° Aluminum Reflector



71507 120° Aluminum Reflector



71508 12" PolyCarbonate Reflector

Quality Assured

NVLAP LAB CODE 0096o-D

LM-79-08 Test Report

For

Morris Products Inc.

53 Carey Rd
Queensbury, NY 12804

Brand Name: Morris

LED HIGH BAY LIGHT Model:

71505(Fixture) with 71507(120° Reflector)

Laboratory: Leading Testing Laboratories

NVLAP CODE: 200960-0
No.180S, DongLiu road, BinJiang District, Hangzhou, China
Tel: +86-571-56680806 www.ledtestlab.com

ReportNo.: HZ15ll004lo

The laboratory that conducted the testing detailed in this report has been accredited for SSL by NVLAP.

Reviewed by:

Engineer: April Zou
Dec. 09, 2015

Approved by:

Manager: Jim Zhang
Dec. 09, 2015

Note: This report does not imply product certification approval or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Test Summary

Sample Tested: 71505(Fixture) with 71507(120° Reflector)

Luminous Efficacy (Lumens /Watt)	Total Luminous Flux (Lumens)	Power (Watts)	Power Factor
110.0	10186.0	92.62	0.9771
CCT (K)	CRI	Stabilization Time (Light & Power)	BUG (Back, Up, Glare) Rating
4996	84.1	60	B3-U1-G0

Table 1: Executive Data Summary

Test specifications:	
Date of Receipt	: Nov. 30, 2015
Date of Test	: Dec. 07, 2015
Test item	: Total Luminous Flux, Luminous Distribution Intensity, Luminous Efficacy, Correlated Color Temperature, Color Rendering Index, Chromaticity Coordinate, Electrical parameters
Reference Standard	: IESNA LM-79-2008 Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products

TABLE OF CONTENT

Sample Photos

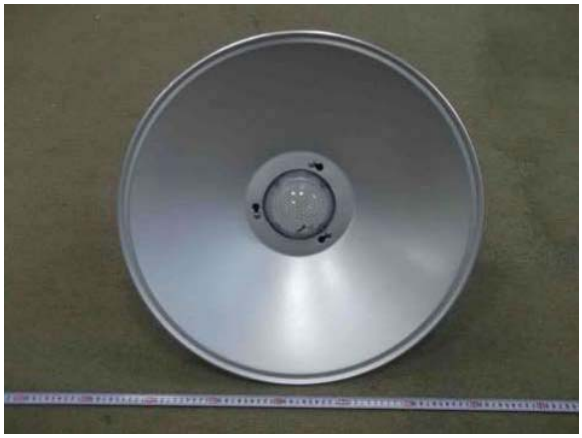



Figure 1- Overview of the sample

Equipment Under Test (EUT)	
Name	: LED HIGH BAY LIGHT
Model	: 71505(Fixture) with 71507(120° Reflector)
Electrical Ratings	: 120~277VAC, 50/60Hz, 100W
Product Description	: 5000K, High-Bay Luminaires for Commercial Buildings
Manufacturer	: Morris Products Inc.
Address	: 53 Carey Rd Queensbury, NY 12804

TEST RESULTS

Test ambient temperature was 24.4℃.

Base orientation was Light down. Test was conducted without a dimmer in the circuit.

The stabilization time of the sample was 60 minutes, and the total operating time including stabilization was 85 minutes.

Parameter	Result	
Test Voltage (V)	120.0	277.0
Voltage frequency (Hz)	60	60
Test Current (A)	0.790	0.364
Power Factor	0.9771	0.9807
Test Power (W)	92.62	99.03
THD A%	20.06	15.16
Luminous Efficacy (lm/W)	110.0	
Total Luminous Flux (lm)	10186.0	
Color Rendering Index (CRI)	84.1	
R9	12	
Correlated Color Temperature (CCT) (K)	4996	
Chromaticity (Chroma x, Chroma y)	(0.3457, 0.3566)	
Chromaticity (Chroma u, Chroma v)	(0.2099, 0.3248)	
Chromaticity (Chroma u , Chroma v)	(0.2099, 0.4872)	
Duv	0.0023	
Average Beam Angle (°)	106.5	
Center Beam Candle Power (cd)	4228	
Spacing Criteria	1.28 (0°-180°)/ 1.26(90°-270°)	
Zonal Lumens in the 0°-60°Zone	91.67%	
Zonal Lumens in the 60°-90°Zone	8.26%	
Zonal Lumens in the 90°-120°Zone	0.02%	
Zonal Lumens in the 120°-180°Zone	0.05%	

Special Color Rendering Indices	
R1	83
R2	89
R3	93
R4	84
R5	84
R6	85
R7	87
R8	69
R9	12
R10	74
R11	83
R12	65
R13	84
R14	96

Table 2: Test data per Goniophotometer Method

Note: According to CIE 1976 (u ,v) diagram, u = u = 4x/(-2x+12y+3), v = 3v/2 = 9y/(-2x+12y+3).

Quality Assured

Spectral Power Distribution

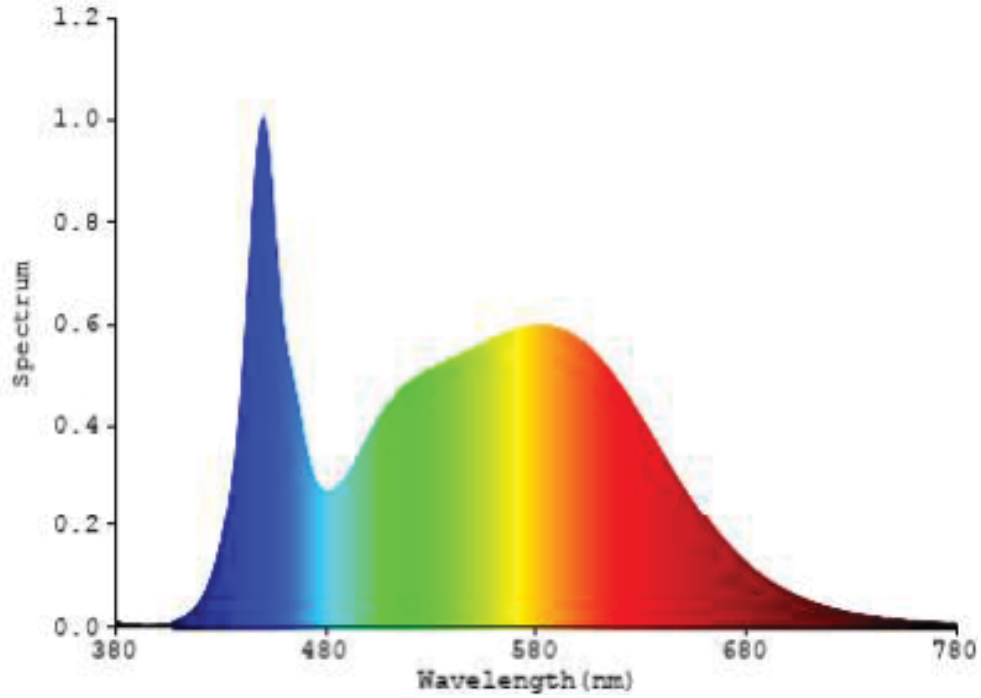


Chart 1: Spectral Power Distribution

Zonal Lumen Tabulation

γ(°)	Lumens	% Total
0- 10	398.963	3.92%
10- 20	1146.02	11.25%
20- 30	1755.993	17.24%
30- 40	2132.954	20.94%
40- 50	2104.965	20.67%
50- 60	1798.124	17.65%
60- 70	830.156	8.15%
70- 80	9.982	0.10%
80- 90	1.383	0.01%
90-100	0.363	0.00%
100-110	0.65	0.01%
110-120	0.753	0.01%
120-130	0.915	0.01%
130-140	1.199	0.01%
140-150	1.292	0.01%
150-160	1.115	0.01%
160-170	0.769	0.01%
170-180	0.295	0.00%
Total	10185.9	100%

γ(°)	Lumens	% Total
0- 60	9337.019	91.67%
60- 90	841.521	8.26%
0-90	10178.54	99.93%
90- 180	7.351	0.07%
0- 180	10185.9	100%

Table 3: Zonal Lumen Data

Note: The Flux in this table might be a little different from the total flux in Table 2 due to rounding.

Illuminance Plots

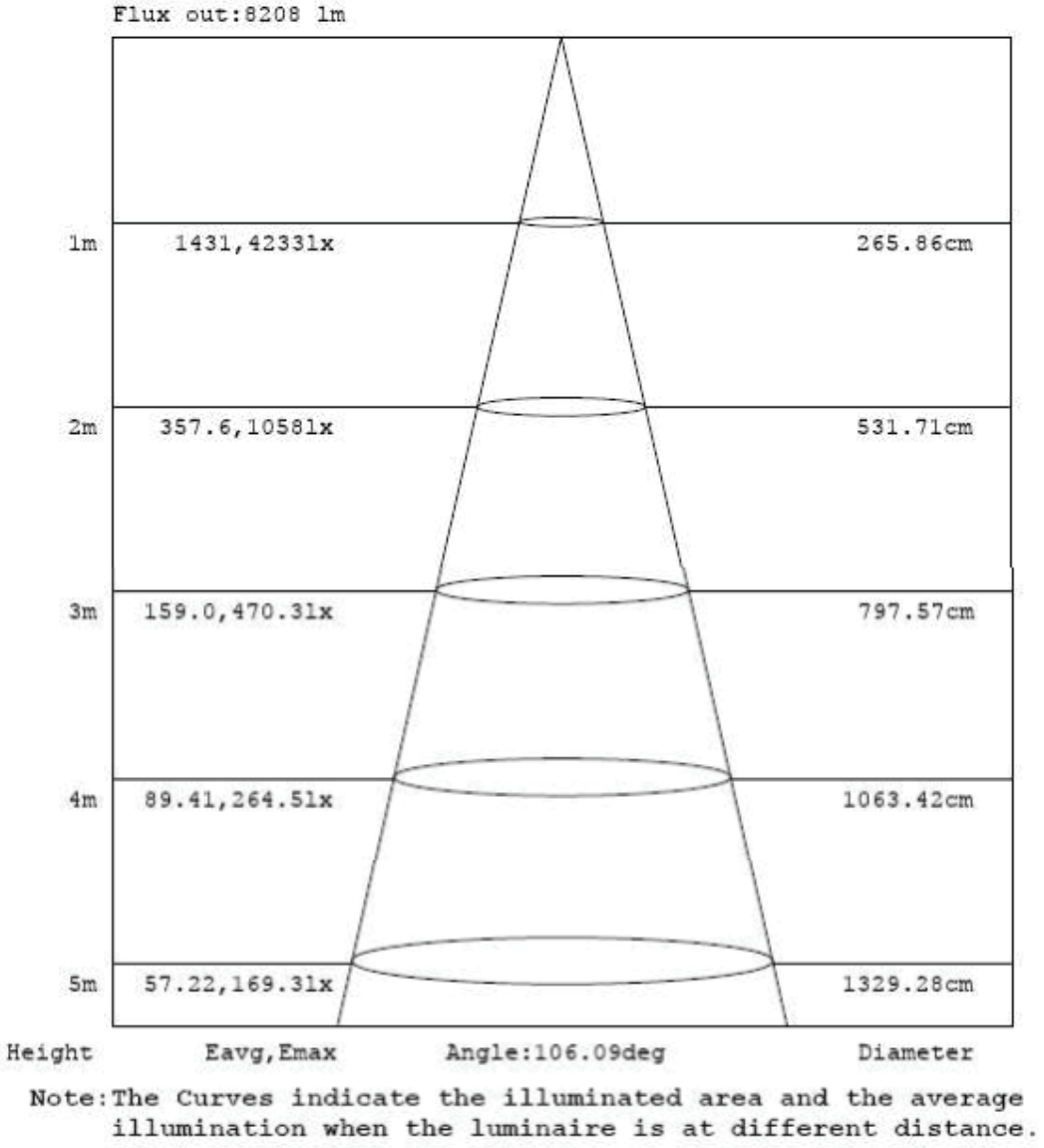


Chart 2: Beam Angle

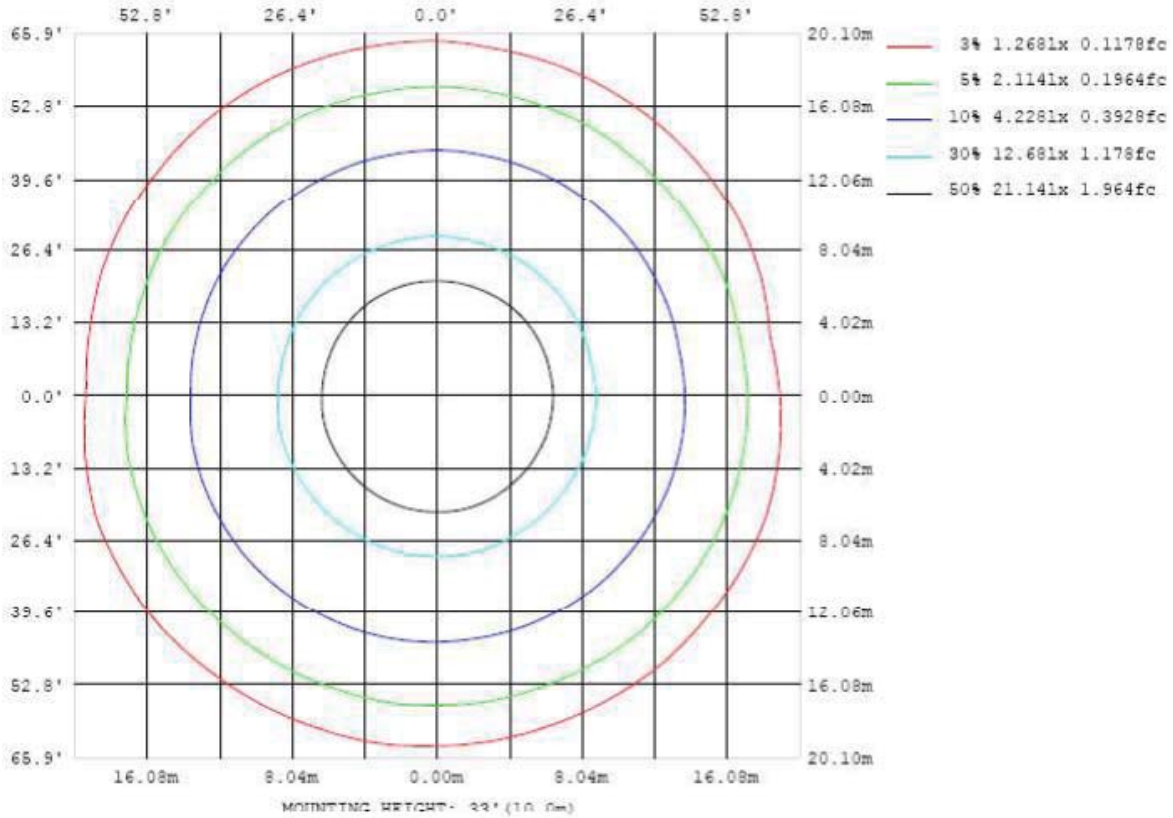


Chart 3: Illuminance Plot (Footcandles)

Luminous Intensity Distribution Plots

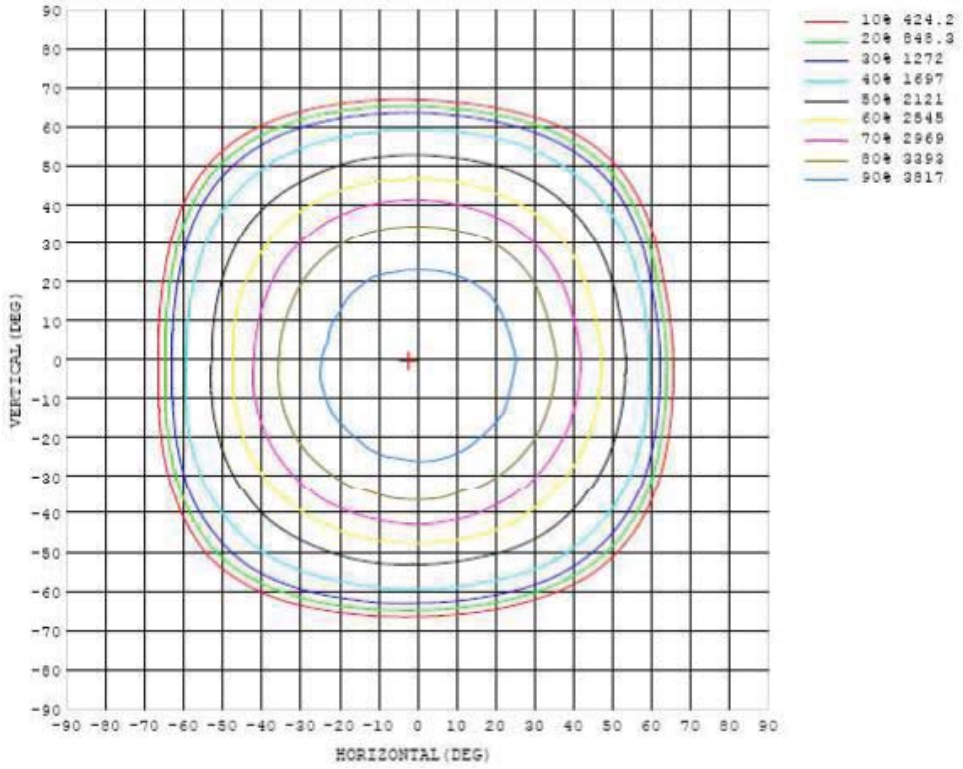


Chart 4: Isocandela Plot

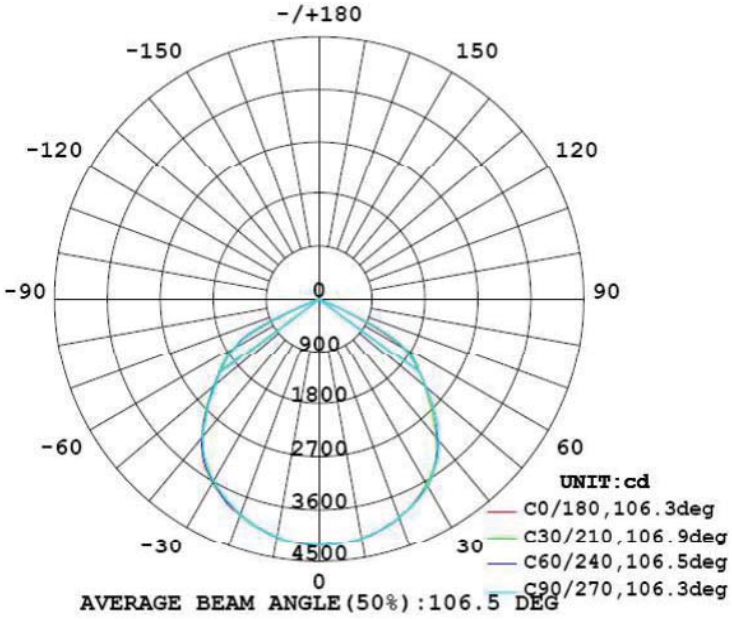


Chart 5: Polar Candela Distribution

Luminous Intensity Data

Table--1 UNIT: cd

γ (DEG) \ C (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228
5	4187	4192	4200	4207	4208	4207	4207	4208	4207	4206	4206	4215	4216	4222	4224	4225	4224	4219	4210
10	4157	4146	4139	4142	4148	4152	4153	4156	4160	4152	4147	4154	4150	4138	4132	4142	4146	4136	4122
15	4073	4077	4071	4077	4076	4074	4072	4082	4081	4080	4084	4079	4084	4081	4074	4066	4077	4056	4042
20	3964	3970	3972	3961	3972	3965	3975	3983	3982	3974	3970	3972	3977	3982	3981	3956	3957	3953	3928
25	3822	3811	3812	3840	3832	3829	3844	3850	3848	3845	3841	3856	3849	3833	3833	3844	3829	3836	3803
30	3649	3663	3664	3656	3669	3666	3692	3682	3684	3687	3688	3687	3684	3691	3675	3671	3673	3656	3627
35	3434	3428	3417	3424	3431	3442	3452	3462	3482	3467	3468	3462	3468	3450	3472	3473	3467	3458	3430
40	3100	3101	3086	3081	3090	3112	3131	3157	3165	3178	3177	3177	3174	3171	3181	3168	3165	3165	3112
45	2709	2713	2705	2712	2712	2735	2774	2783	2785	2793	2803	2801	2812	2813	2804	2784	2795	2792	2738
50	2338	2343	2331	2344	2357	2359	2372	2385	2377	2370	2389	2393	2393	2393	2408	2424	2387	2385	2337
55	2017	2030	2027	2054	2032	2028	2002	1995	1984	1992	1999	2008	2027	2044	2068	2053	2057	2039	1987
60	1659	1663	1681	1685	1678	1693	1668	1653	1662	1664	1673	1669	1691	1714	1740	1755	1750	1738	1654
65	540	634	788	790	759	742	748	757	787	830	883	965	1033	1113	1190	1198	1208	1045	802
70	17.0	19.1	22.9	23.5	23.5	22.2	22.1	23.2	23.6	24.2	25.7	29.2	32.2	38.0	49.4	106	59.9	36.9	32.6
75	5.60	5.44	5.33	5.34	5.44	5.59	5.75	5.92	6.04	6.19	6.40	6.62	6.84	7.06	7.30	7.59	7.93	8.23	7.60
80	2.99	2.80	2.65	2.59	2.61	2.66	2.74	2.82	2.88	2.97	3.11	3.26	3.41	3.58	3.76	3.94	4.13	4.30	3.86
85	1.48	1.26	1.05	0.95	0.87	0.84	0.89	0.96	1.05	1.11	1.19	1.29	1.42	1.55	1.68	1.80	1.92	2.03	1.72
90	0.29	0.29	0.31	0.31	0.32	0.33	0.34	0.36	0.37	0.38	0.38	0.37	0.35	0.32	0.29	0.26	0.24	0.22	0.13
95	0.46	0.47	0.48	0.49	0.50	0.51	0.52	0.53	0.54	0.55	0.55	0.54	0.54	0.52	0.50	0.47	0.43	0.40	0.13
100	0.70	0.71	0.73	0.75	0.76	0.77	0.76	0.76	0.75	0.74	0.74	0.73	0.73	0.72	0.70	0.68	0.66	0.64	0.20
105	0.87	0.89	0.91	0.94	0.96	0.98	0.99	1.00	1.01	1.00	1.00	0.99	0.97	0.95	0.93	0.89	0.86	0.84	0.30
110	0.90	0.92	0.91	0.94	0.98	1.02	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.02	1.00	0.97	0.94	0.93	0.42
115	0.92	0.92	0.90	0.91	0.93	0.95	0.95	0.95	0.96	0.96	0.96	0.96	0.95	0.97	0.95	0.94	0.94	0.94	0.57
120	0.94	0.93	0.92	0.90	0.92	0.93	0.94	0.93	0.91	0.89	0.90	0.94	0.95	0.96	0.95	0.94	0.95	0.96	0.77
125	1.09	1.08	1.07	1.04	1.01	1.04	1.02	1.01	1.02	1.00	0.99	0.99	1.02	1.01	1.00	1.01	1.03	1.05	1.01
130	1.29	1.30	1.30	1.31	1.27	1.27	1.27	1.27	1.25	1.22	1.21	1.23	1.25	1.22	1.22	1.23	1.23	1.24	1.27
135	1.58	1.63	1.63	1.64	1.63	1.62	1.63	1.58	1.55	1.50	1.44	1.51	1.54	1.55	1.54	1.54	1.54	1.54	1.59
140	1.93	1.97	1.96	1.97	1.93	1.97	1.98	1.95	1.92	1.86	1.84	1.86	1.89	1.89	1.88	1.87	1.87	1.85	1.82
145	2.22	2.24	2.27	2.27	2.25	2.22	2.23	2.25	2.25	2.17	2.19	2.21	2.26	2.21	2.20	2.18	2.17	2.14	1.98
150	2.44	2.48	2.53	2.55	2.52	2.43	2.41	2.42	2.36	2.34	2.46	2.42	2.48	2.49	2.49	2.49	2.45	2.39	2.16
155	2.69	2.70	2.71	2.77	2.74	2.63	2.58	2.59	2.55	2.58	2.62	2.61	2.64	2.70	2.72	2.68	2.60	2.58	2.32
160	2.82	2.83	2.83	2.88	2.93	2.89	2.78	2.77	2.72	2.68	2.72	2.71	2.72	2.82	2.87	2.85	2.80	2.75	2.50
165	2.93	2.94	2.95	2.95	2.99	3.02	2.98	2.93	2.86	2.84	2.84	2.83	2.81	2.87	2.92	2.90	2.90	2.85	2.62
170	3.17	3.20	3.24	3.26	3.25	3.25	3.20	3.13	3.09	3.08	3.11	3.05	3.01	3.05	3.08	3.08	3.07	3.00	2.77
175	3.30	3.31	3.35	3.39	3.37	3.37	3.30	3.22	3.18	3.18	3.22	3.15	3.16	3.21	3.23	3.23	3.21	3.19	3.20
180	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24

Table 4: Luminous Intensity Data

Table--2 UNIT: cd

γ (DEG) \ C (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350
0	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228	4228
5	4202	4202	4198	4194	4195	4195	4192	4189	4181	4174	4176	4173	4176	4187	4196	4195	4189
10	4115	4108	4111	4112	4122	4133	4130	4119	4117	4125	4130	4135	4145	4142	4132	4142	4145
15	4045	4057	4039	4030	4027	4030	4030	4031	4026	4029	4033	4041	4048	4049	4045	4059	4060
20	3920	3918	3914	3930	3927	3908	3908	3908	3907	3909	3931	3939	3943	3944	3954	3941	3941
25	3791	3798	3780	3781	3770	3784	3771	3744	3747	3746	3768	3783	3790	3803	3802	3798	3800
30	3619	3611	3615	3619	3610	3606	3592	3597	3583	3584	3588	3601	3618	3631	3636	3623	3620
35	3414	3403	3401	3398	3394	3396	3383	3369	3360	3361	3375	3407	3405	3411	3404	3376	3379
40	3084	3077	3093	3084	3092	3091	3075	3070	3077	3057	3047	3052	3058	3056	3063	3052	3039
45	2739	2739	2729	2710	2699	2699	2706	2695	2682	2689	2674	2662	2663	2657	2666	2654	2671
50	2345	2349	2339	2336	2309	2323	2313	2301	2295	2300	2299	2292	2298	2298	2300	2277	2291
55	2000	2013	2036	2013	1992	1991	1976	1980	1980	1977	1984	1991	1980	1991	1996	2004	1979
60	1655	1670	1685	1679	1691	1669	1663	1631	1639	1627	1624	1647	1626	1624	1623	1636	1599
65	897	1076	1116	1110	1076	1035	1004	955	911	848	812	786	752	721	685	555	371
70	42.3	52.9	72.6	66.9	64.6	58.7	49.8	39.0	30.2	24.9	28.2	28.5	29.7	27.6	22.7	14.6	11.1
75	7.71	7.82	7.88	7.85	7.75	7.52	7.18	6.76	6.29	5.89	5.54	5.15	4.87	4.69	4.62	4.69	4.94
80	3.87	3.86	3.85	3.80	3.72	3.58	3.39	3.15	2.92	2.74	2.58	2.42	2.31	2.26	2.26	2.37	2.60
85	1.68	1.63	1.57	1.48	1.39	1.28	1.17	1.05	0.96	0.90	0.84	0.79	0.77	0.77	0.74	0.66	0.59
90	0.12	0.12	0.12	0.13	0.13	0.13	0.14	0.14	0.15	0.15	0.14	0.14	0.15	0.15	0.15	0.15	0.15
95	0.12	0.13	0.13	0.13	0.14	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
100	0.19	0.19	0.20	0.21	0.21	0.22	0.23	0.23	0.23	0.24	0.25	0.25	0.25	0.24	0.24	0.23	0.23
105	0.27	0.27	0.29	0.30	0.32	0.31	0.33	0.34	0.34	0.35	0.35	0.35	0.34	0.34	0.33	0.32	0.33
110	0.38	0.37	0.37	0.39	0.42	0.43	0.39	0.42	0.43	0.44	0.45	0.45	0.44	0.45	0.44	0.44	0.46
115	0.54	0.51	0.53	0.52	0.54	0.55	0.55	0.52	0.56	0.58	0.57	0.59	0.59	0.60	0.59	0.59	0.63
120	0.75	0.72	0.71	0.71	0.72	0.73	0.72	0.70	0.75	0.76	0.76	0.78	0.78	0.79	0.81	0.81	0.85
125	1.01	0.98	0.96	0.93	0.96	0.93	0.93	0.95	0.97	0.97	0.98	1.01	1.01	1.03	1.07	1.07	1.10
130	1.29	1.26	1.26	1.21	1.21	1.22	1.22	1.25	1.21	1.25	1.26	1.28	1.25	1.28	1.31	1.34	1.36
135	1.65	1.60	1.60	1.60	1.57	1.53	1.49	1.58	1.47	1.52	1.48	1.52	1.54	1.55	1.55	1.59	1.64
140	1.85	1.81	1.80	1.82	1.83	1.80	1.76	1.77	1.70	1.74	1.71	1.75	1.74	1.73	1.78	1.84	1.84
145	1.99	2.01	1.98	1.94	1.91	1.92	1.88	1.87	1.83	1.87	1.84	1.85	1.86	1.87	1.89	1.94	1.95
150	2.17	2.19	2.18	2.11	2.10	2.04	1.96	1.99	1.92	1.96	1.95	1.98	2.02	2.06	2.12	2.09	2.11
155	2.31	2.31	2.33	2.27	2.18	2.09	2.06	2.08	1.95	2.05	2.08	2.10	2.15	2.23	2.28	2.25	2.29
160	2.50	2.48	2.47	2.45	2.33	2.23	2.19	2.17	2.09	2.18	2.25	2.30	2.38	2.42	2.41	2.39	2.42
165	2.65	2.64	2.62	2.63	2.54	2.46	2.44	2.39	2.39	2.41	2.49	2.58	2.61	2.60	2.60	2.61	2.61
170	2.78	2.79	2.78	2.77	2.70	2.60	2.56	2.59	2.62	2.57	2.58	2.67	2.72	2.74	2.76	2.77	2.79
175	3.24	3.26	3.25	3.24	3.22	3.16	3.08	3.11	3.07	2.98	2.99	3.07	3.13	3.14	3.16	3.18	3.20
180	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24

Table 5: Luminous Intensity Data

EQUIPMENT LIST

Test Equipment	Model	Equipment No.	Calibration Date	Calibration Due date
Goniophotometer system	GO-R5000	HZTE011-01	Jul. 17, 2015	Jul. 16, 2016
Digital Power Meter	PF2010A	HZTE028-01	Jul. 17, 2015	Jul. 16, 2016
AC Power Supply	PCR 500L	HZTE001-08	Jul. 17, 2015	Jul. 16, 2016
DC Power Supply	WY12010	HZTE004-03	Jul. 17, 2015	Jul. 16, 2016
Temperature Meter	TES1310	HZTE017-01	Jul. 17, 2015	Jul. 16, 2016
Standard Source	D908	HZTE012-01	Jul. 23, 2015	Jul. 22, 2016
Standard source	SCL-1400	HZTE012-02	Oct. 21, 2015	Oct. 20, 2016

Table 6: Test Equipment List

TEST METHODS

Seasoning of SSL Product

For the purpose of rating new SSL products, SSL products shall be tested with no seasoning.
Therefore, no seasoning was performed.

Goniophotometer Method

Photometric and Electrical Measurements

An EVERFINE Type C Model GO-R5000 Goniophotometer was used to measure the intensity at each angle of distribution for each sample. The photometric distance is 2.475m for near-field measurement or 30m for far-field measurement. Bandwidth of spectroradiometer is 380nm-780nm.
Ambient temperature was measured at the same height of the sample mounted on the Goniophotometer equipment. Each SSL unit was operated on the client provided driver at the rated input voltage in its designated orientation.
The stabilization time typically ranges from 30 min (small integrated LED lamps) to 2 or more hours for large SSL luminaires). It can be judged that stability is reached when the variation (maximum minimum) of at least 3 readings of the light output and electrical power over a period of 30 min, taken 15 minutes apart, is less than 0.5 %.
Electrical measurements including voltage, current, and power were measured using the Everfine Digital Power Meter.
Some graphics were created with Photometric Plus software.
The standard reference of the Goniophotometer system is halogen incandescent lamp, the intensity distribution type is omni-directional, and is traceable to the National Institute of Metrology P.R. China.
The uncertainty of goniophotometer system reported in this document is expended uncertainty is 1.94% with a coverage factor k=2.

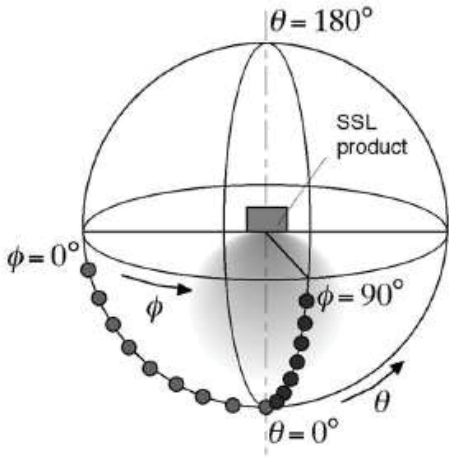
Color Characteristics Measurements

The color characteristics of SSL products include chromaticity coordinates, correlated color temperature, and color rendering index. These characteristics of SSL products may be spatially non-uniform, and thus, in order that they can be specified accurately, the color quantities shall be measured as values that are spatially average, weighted to intensity, over the angular range where light is intentionally emitted from the SSL product. The color characteristics measurements are using gonio-spectroradiometer.

Color Spatial Uniformity

The characteristics of SSL products may be spatially non-uniform, the chromaticity coordinate shall be measured at two vertical planes (C=0°/180° and C=90°/270°) and at 10° or less intervals for vertical angle until the light output dropped to below 10% of the peak intensity. The averaged weighted chromaticity coordinate was calculated from these points. The data was then analyzed to check for delta color differences of the u', v' chromaticity coordinates. The spatial non-uniformity of chromaticity, Δ u'v', is determined as the maximum deviation (distance on the CIE (u', v') diagram) among all measured points from the spatially averaged chromaticity coordinate.

The geometry for the chromaticity measurement using gonio-spectroradiometer is shown as following.



*** End of Report ***