

LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: LUMIERE

Report Number: P27782[_4000K

Luminaire Tested: 696-8LED4036-12-BK-LSL

Issue Date: 3/3/2020

Tested By:

Approved By:



NVLAP Lab Code: 200050-0

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Test Information

Test Method: LM-79-2019
 Report Number: P27782[_4000K
 Test Lab: INNOVATION CENTER(G2)
 Issue Date: 3/3/2020
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: LUMIERE
 Catalog Number: 696-8LED4036-12-BK-LSL
 Description: BOCA 696, 8 WATT, 4000K CCT, 36 DEGREE WIDE OPTIC,
 FLUSH HOOD BLACK, LINEAR SPREAD LENS
 Light Source: (1) SORAA 4000K 90 CRI LED
 SM16-07-36D-940-03
 Ballast/Driver: -

Summary

Lumens per Lamp: N/A
 Luminaire Lumens: 394.0 lumens
 Efficiency: N/A
 Efficacy: 51.2 lumens/watt
 N/A
 Luminous Opening: Circular (Dia: 0.17' x H: 0')
 CIE Type: Indirect

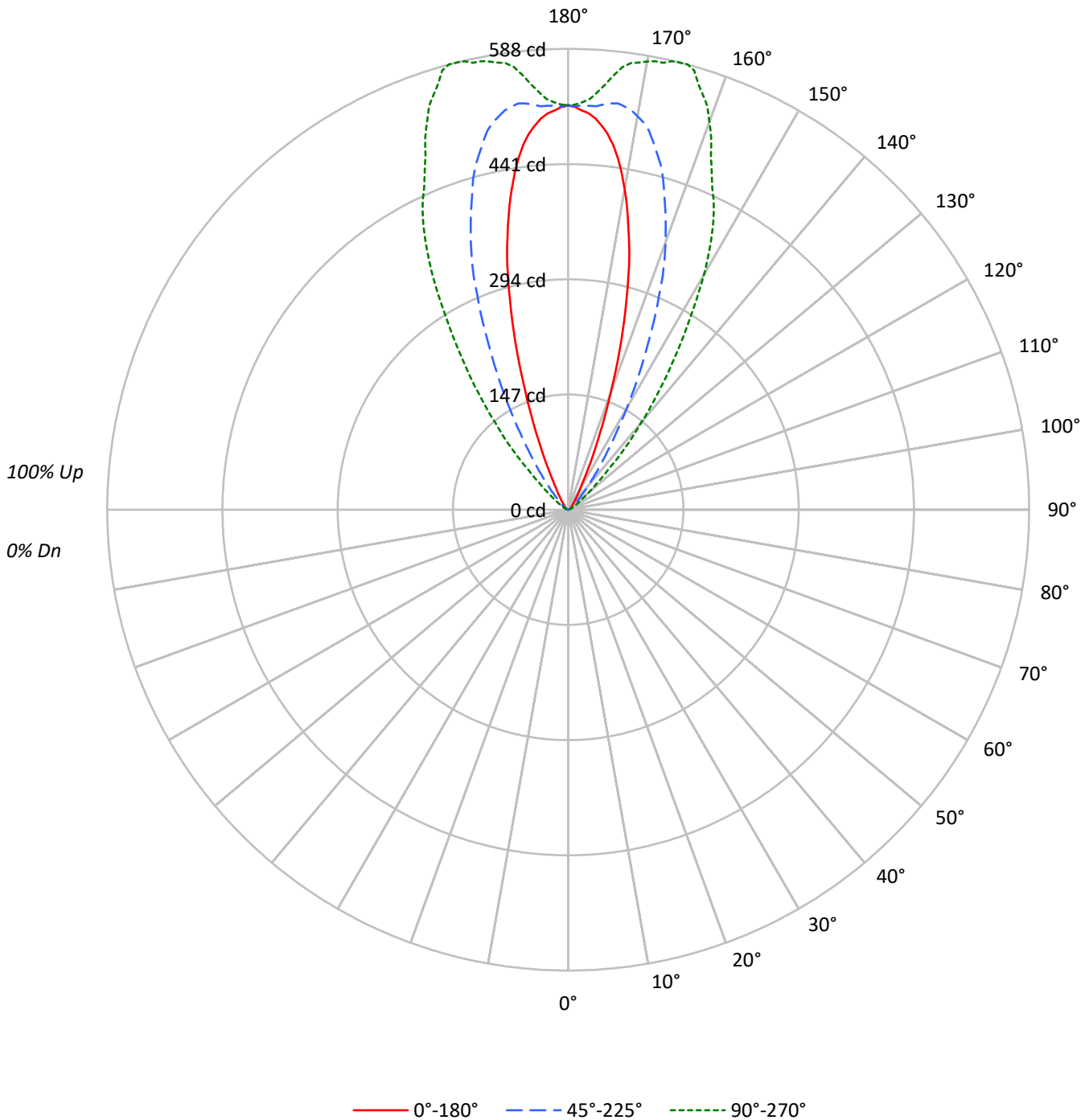
Input Watts (W): 7.7
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 24 FT



Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	P3	10/30/2015	4/30/2016
Power Meter	IN0214	1/12/2016	1/12/2017
AC Power Source	IN0062	1/12/2016	1/12/2017
DC Power Supply	--	--	--
Room Thermometer	IN0145	1/13/2016	1/13/2017

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									20									
RC	80									70									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																			
RCR																																														
0	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10	0																												
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	8	0																												
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7	0																												
3	72	63	57	51	61	54	49	44	37	34	31	21	20	18	7	6	6	0																												
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0																												
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	5	5	4	0																												
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4	0																												
7	50	39	32	27	43	34	28	23	23	19	17	14	11	10	4	4	3	0																												
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0																												
9	43	32	25	20	37	27	22	18	19	15	13	11	9	8	4	3	3	0																												
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
95°	0	0	0
100°	0	0	0
105°	1990	1990	1990
110°	3026	3026	4532
115°	2449	3668	6243
120°	3100	4247	9407
125°	3702	6405	14605
130°	4105	8928	26867
135°	4460	13311	50392
140°	6140	24644	93037
145°	9598	46655	142624
150°	16962	84681	197186
155°	38180	136377	238697
160°	83596	190648	276503
165°	149108	232637	300420
170°	207956	255330	290930
175°	243480	257133	269747

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 0°
 Luminance: 0 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	0.0	0.0
10°-20°	0.0	0.0
20°-30°	0.0	0.0
30°-40°	0.0	0.0
40°-50°	0.0	0.0
50°-60°	0.0	0.0
60°-70°	0.0	0.0
70°-80°	0.0	0.0
80°-90°	0.0	0.0
90°-100°	0.0	0.0
100°-110°	1.2	0.3
110°-120°	3.5	0.9
120°-130°	8.6	2.2
130°-140°	25.6	6.5
140°-150°	67.8	17.2
150°-160°	115.6	29.3
160°-170°	122.5	31.1
170°-180°	49.2	12.5
0°-30°	0.0	0.0
0°-40°	0.0	0.0
0°-60°	0.0	0.0
0°-90°	0.0	0.0
90°-120°	4.8	1.2
90°-150°	106.7	27.1
90°-180°	394.0	100.0
0°-180°	394.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
90°	0	0	0	0	0	
95°	0	0	0	0	0	0
105°	1	1	1	1	1	1
115°	2	3	3	4	5	2
125°	4	5	7	14	17	4
135°	6	10	19	55	72	5
145°	16	23	77	199	237	11
155°	70	102	251	396	438	34
165°	292	340	455	554	588	78
175°	492	500	519	538	545	45
180°	516	516	516	516	516	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
90°	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0
102.5°	1.0	1.0	1.0	1.0	1.0
105°	1.0	1.0	1.0	1.0	1.0
107.5°	1.0	1.0	1.0	2.1	2.1
110°	2.1	2.1	2.1	2.1	3.1
112.5°	2.1	2.1	2.1	3.1	4.3
115°	2.1	3.1	3.1	4.3	5.3
117.5°	3.1	3.1	4.3	5.3	6.4
120°	3.1	3.1	4.3	7.4	9.5
122.5°	4.3	4.3	5.3	10.6	12.8
125°	4.3	5.3	7.4	13.8	17.0
127.5°	4.3	5.3	9.5	18.0	23.4
130°	5.3	6.4	11.6	25.5	35.0
132.5°	5.3	7.4	14.9	39.3	48.9
135°	6.4	9.5	19.1	55.2	72.2
137.5°	8.5	11.6	26.5	77.5	109.3
140°	9.5	14.9	38.3	109.3	144.5
142.5°	12.8	18.0	55.2	151.8	189.0
145°	15.9	23.4	77.5	198.5	236.8
147.5°	21.3	31.9	108.3	251.7	288.8
150°	29.8	45.7	148.6	302.6	346.1
151°	34.0	53.0	167.7	323.8	367.4
152°	40.4	63.7	187.9	341.8	387.5
153°	48.9	74.3	207.0	360.0	406.6
154°	58.4	88.2	228.3	376.9	423.6
155°	70.1	101.9	250.5	396.0	438.5
156°	82.8	118.9	273.9	418.4	451.3
157°	97.7	137.0	296.2	439.5	468.2
158°	116.8	159.2	321.7	460.8	486.3
159°	137.0	182.6	343.0	478.8	508.6
160°	159.2	209.1	363.1	494.8	526.6
161°	182.6	234.6	382.2	510.7	544.7
162°	211.3	262.3	401.4	528.7	556.4
163°	237.8	288.8	419.4	544.7	568.0
164°	265.4	315.3	439.5	552.1	582.9
165°	291.9	339.7	455.5	554.2	588.2
166°	320.6	363.1	468.2	557.4	588.2
167°	346.1	385.4	482.0	558.5	587.1
168°	369.5	406.6	494.8	560.6	582.9
169°	393.9	424.7	503.2	561.6	582.9
170°	415.1	441.7	509.6	563.7	580.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
171°	435.3	457.7	516.0	562.7	577.6
172°	453.4	470.3	519.2	561.6	575.5
173°	469.3	482.0	522.3	556.4	569.1
174°	482.0	492.7	521.3	545.7	557.4
175°	491.6	500.1	519.2	538.3	544.7
176°	500.1	506.4	516.0	528.7	534.1
177°	506.4	509.6	516.0	521.3	524.5
178°	509.6	511.7	516.0	519.2	520.2
179°	513.8	513.8	514.9	516.0	517.1
180°	516.0	516.0	516.0	516.0	516.0

(END OF REPORT)