

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: P27781[_4000K

Luminaire Tested: 696-8LED4010-12-BK

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: P27781[_4000K
 Test Lab: INNOVATION CENTER(G2)
 Issue Date: 3/3/2020
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: LUMIERE
 Catalog Number: 696-8LED4010-12-BK
 Description: BOCA 696 , 8 WATT, 4000K CCT, 10 DEGREE SPOT OPTIC,
 FLUSH HOOD BLACK
 Light Source: (1) SORAA 4000K 90 CRI LED
 SM16-07-10D-940-03
 Ballast/Driver: -

Summary

Lumens per Lamp: N/A
 Luminaire Lumens: 372.9 lumens
 Efficiency: N/A
 Efficacy: 46.6 lumens/watt
 N/A
 Luminous Opening: Circular (Dia: 0.17' x H: 0')
 CIE Type: Indirect

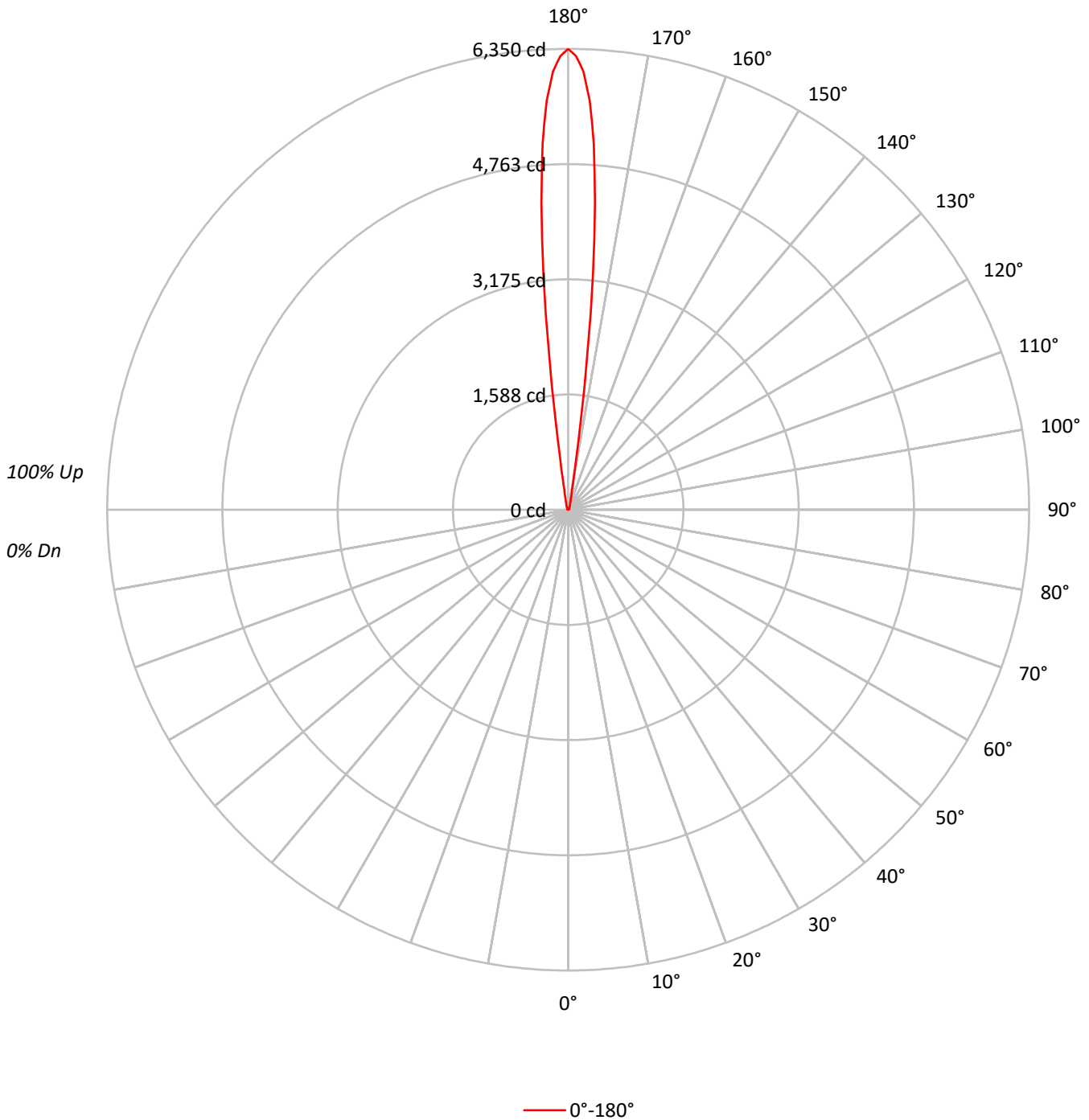
Input Watts (W): 8
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 24 FT



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									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	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	28	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°
95°	0
100°	2967
105°	5989
110°	9225
115°	9915
120°	10441
125°	12806
130°	13839
135°	14037
140°	15731
145°	16604
150°	18159
155°	24254
160°	40122
165°	65056
170°	210131
175°	2096692

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°	0.7	0.2
100°-110°	3.5	0.9
110°-120°	8.4	2.3
120°-130°	12.9	3.5
130°-140°	16.0	4.3
140°-150°	17.2	4.6
150°-160°	21.9	5.9
160°-170°	41.5	11.1
170°-180°	251.2	67.4
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°	12.6	3.4
90°-150°	58.6	15.7
90°-180°	373.0	100.0
0°-180°	372.9	100.0

CANDELA DISTRIBUTION:

	0°	Flux
90°	0	
95°	0	1
105°	3	3
115°	8	8
125°	15	13
135°	20	16
145°	28	17
155°	45	22
165°	127	42
175°	4233	251
180°	6350	

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CANDELA DISTRIBUTION (FULL):

	0°
90°	0.0
92.5°	0.0
95°	0.0
97.5°	1.0
100°	1.0
102.5°	2.1
105°	3.1
107.5°	4.3
110°	6.4
112.5°	7.4
115°	8.5
117.5°	9.5
120°	10.6
122.5°	11.6
125°	14.9
127.5°	17.0
130°	18.0
132.5°	19.1
135°	20.1
137.5°	22.3
140°	24.4
142.5°	25.5
145°	27.6
147.5°	28.6
150°	31.9
152.5°	36.1
155°	44.6
157.5°	59.4
160°	76.4
162.5°	93.4
165°	127.4
166°	149.7
167°	179.5
168°	223.0
169°	293.1
170°	419.4
171°	697.7
172°	1259.3
173°	2172.5
174°	3279.9
175°	4233.5
176°	5051.1
177°	5645.6
178°	6039.6
179°	6252.0

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269


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CANDELA DISTRIBUTION (continued):

180° $\overbrace{\quad\quad\quad}^{0^\circ}$
6349.7

(END OF REPORT)