

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-LVR

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-LVR  
 Description: BOCA 696, 8 WATT, 4000K CCT, 10 DEGREE SPOT OPTIC,  
 FLUSH HOOD BLACK, HEX CELL LOUVER  
 Light Source: (1) SORAA 4000K 90 CRI LED  
 SM16-07-10D-940-03  
 Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
 Luminaire Lumens: 258.0 lumens  
 Efficiency: N/A  
 Efficacy: 32.7 lumens/watt  
 N/A  
 Luminous Opening: Circular (Dia: 0.17' x H: 0')  
 CIE Type: Indirect

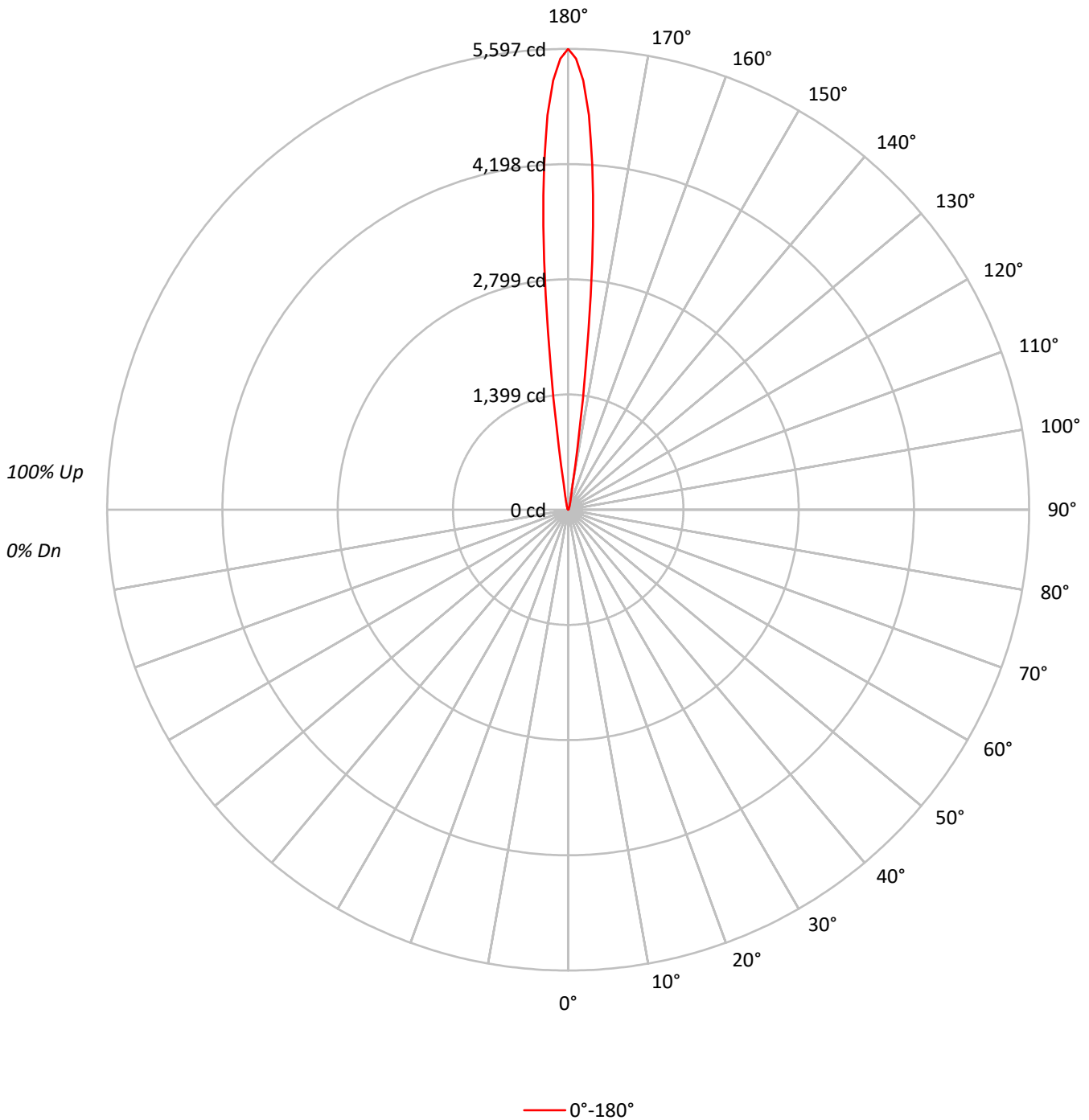
Input Watts (W): 7.9  
 Input Voltage (V): NR  
 Input Current (Ain): NR  
 Voltage Rise (V): NR  
 Power Factor: NR  
 Total Harmonic Distortion (THDi): NR  
 Frequency (hertz): 60  
 Stabilization Time: NR  
 Operation Time: NR  
 Ambient Temperature (°C): NR  
 Test Distance: 24 FT



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	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°	0
105°	0
110°	0
115°	0
120°	1031
125°	899
130°	802
135°	2192
140°	3448
145°	5745
150°	7885
155°	13300
160°	25655
165°	46645
170°	160684
175°	1714137

**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°	0.0	0.0
110°-120°	0.6	0.2
120°-130°	0.9	0.4
130°-140°	2.4	0.9
140°-150°	5.9	2.3
150°-160°	12.1	4.7
160°-170°	29.8	11.5
170°-180°	206.5	80.0
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°	0.6	0.2
90°-150°	9.9	3.8
90°-180°	258.0	100.0
0°-180°	258.0	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
90°	0	
95°	0	0
105°	0	0
115°	0	1
125°	1	1
135°	3	2
145°	10	6
155°	24	12
165°	91	30
175°	3461	206
180°	5597	

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**CANDELA DISTRIBUTION (FULL):**

	0°
90°	0.0
92.5°	0.0
95°	0.0
97.5°	0.0
100°	0.0
102.5°	0.0
105°	0.0
107.5°	0.0
110°	0.0
112.5°	0.0
115°	0.0
117.5°	1.0
120°	1.0
122.5°	1.0
125°	1.0
127.5°	1.0
130°	1.0
132.5°	2.1
135°	3.1
137.5°	4.3
140°	5.4
142.5°	7.4
145°	9.5
147.5°	11.6
150°	13.8
151°	15.9
152°	17.0
153°	19.1
154°	21.3
155°	24.4
157.5°	35.0
160°	48.9
161°	54.2
162°	59.4
163°	66.9
164°	77.5
165°	91.3
166°	109.4
167°	133.8
168°	167.8
169°	219.9
170°	320.7
171°	540.6
172°	1000.4
173°	1732.1

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**CANDELA DISTRIBUTION (continued):**

	0°
174°	2620.0
175°	3461.1
176°	4199.1
177°	4801.3
178°	5216.5
179°	5477.8
180°	5596.7

(END OF REPORT)