

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[\_3000K

Luminaire Tested: 696-8LED3036-12-BK-LSL

Issue Date: 3/3/2020

Tested By:

Approved By:



NVLAP Lab Code: 200050-0

Cooper Lighting Solutions laboratories have been accredited by National Voluntary Laboratory Accreditation Program (NVLAP) that it adheres to the requirements of ISO/IEC 17025:2005 and appropriate IESNA test methods. This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government. Results contained in this report are valid for luminaire sample tested, as supplied by requestor. Information related to the luminaire tested has been supplied by requestor and can affect the validity of the test results. Report shall not be reproduced except in full without approval of Cooper Lighting Solutions Lighting Laboratory. Test performed at address noted above.

**Test Information**

Test Method: LM-79-2019  
 Report Number: P27782[\_3000K  
 Test Lab: INNOVATION CENTER(G2)  
 Issue Date: 3/3/2020  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: LUMIERE  
 Catalog Number: 696-8LED3036-12-BK-LSL  
 Description: BOCA 696, 8 WATT, 3000K CCT, 36 DEGREE WIDE OPTIC,  
 FLUSH HOOD BLACK, LINEAR SPREAD LENS  
 Light Source: (1) SORAA 3000K 90 CRI LED  
 SM16-07-36D-930-03  
 Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
 Luminaire Lumens: 375.2 lumens  
 Efficiency: N/A  
 Efficacy: 48.7 lumens/watt  
 N/A  
 Luminous Opening: Circular (Dia: 0.17' x H: 0')  
 CIE Type: Indirect

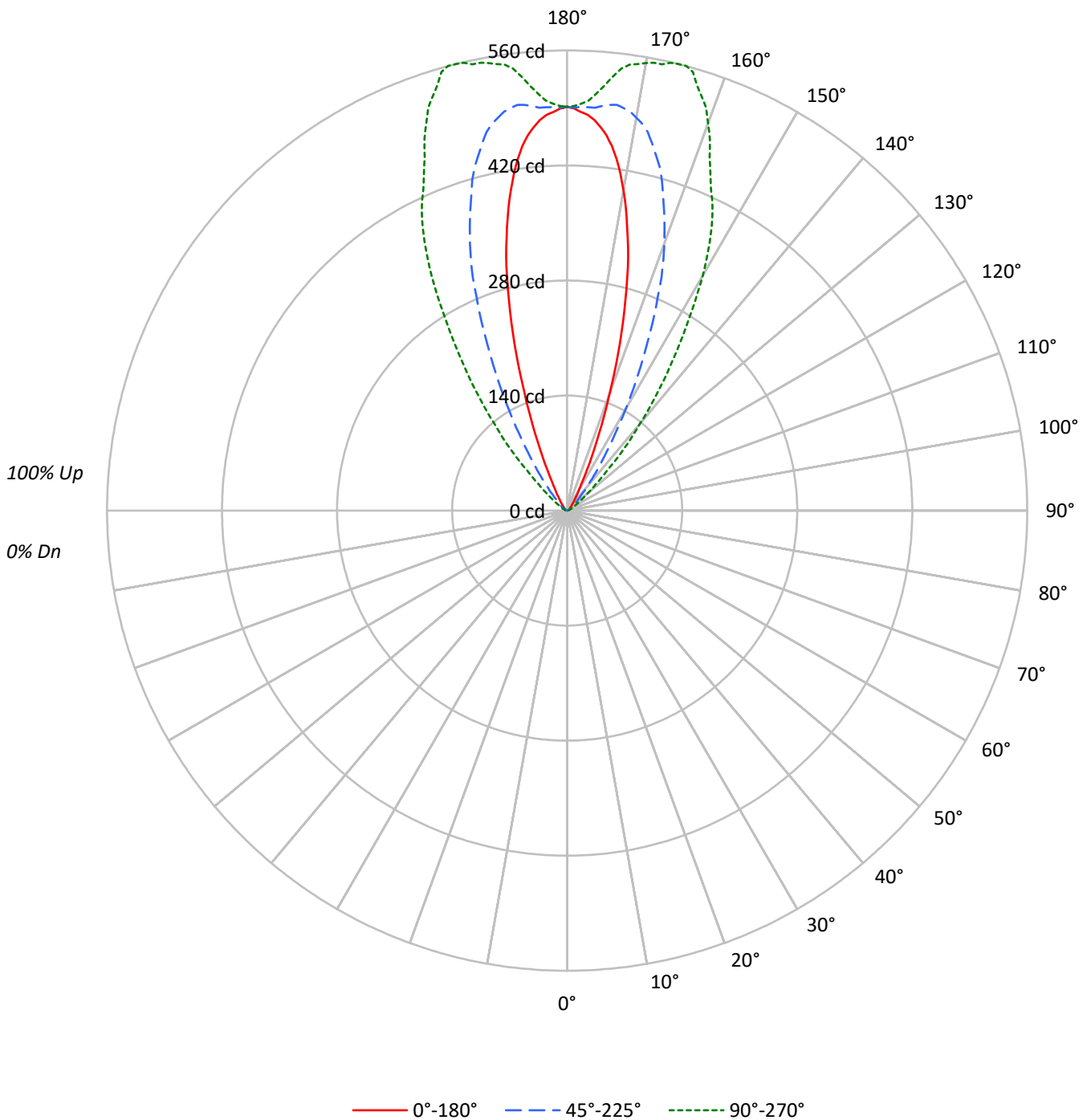
Input Watts (W): 7.7  
 Input Voltage (V): NR  
 Input Current (Ain): NR  
 Voltage Rise (V): NR  
 Power Factor: NR  
 Total Harmonic Distortion (THDi): NR  
 Frequency (hertz): 60  
 Stabilization Time: NR  
 Operation Time: NR  
 Ambient Temperature (°C): NR  
 Test Distance: 24 FT



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

TEST NUMBER: P27782[\_3000K  
CATALOG NUMBER: 696-8LED3036-12-BK-LSL

### Luminous Intensity Polar Plot



TEST NUMBER: P27782[\_3000K

CATALOG NUMBER: 696-8LED3036-12-BK-LSL

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

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
95°	0	0	0
100°	0	0	0
105°	1895	1895	1895
110°	2882	2882	4316
115°	2332	3493	5946
120°	2953	4045	8959
125°	3526	6100	13910
130°	3909	8503	25588
135°	4248	12677	47993
140°	5848	23470	88606
145°	9141	44434	135832
150°	16154	80648	187796
155°	36362	129883	227330
160°	79615	181569	263336
165°	142008	221559	286114
170°	198054	243171	277076
175°	231885	244888	256902

**MAXIMUM LUMINANCE 45°-90°:**

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

TEST NUMBER: P27782[\_3000K  
 CATALOG NUMBER: 696-8LED3036-12-BK-LSL

**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°	3.4	0.9
120°-130°	8.2	2.2
130°-140°	24.4	6.5
140°-150°	64.5	17.2
150°-160°	110.1	29.3
160°-170°	116.6	31.1
170°-180°	46.8	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°	4.5	1.2
90°-150°	101.7	27.1
90°-180°	375.0	99.9
0°-180°	375.2	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	13	16	4
135°	6	9	18	53	69	5
145°	15	22	74	189	226	10
155°	67	97	239	377	418	33
165°	278	324	434	528	560	75
175°	468	476	494	513	519	42
180°	491	491	491	491	491	

TEST NUMBER: P27782[\_3000K

CATALOG NUMBER: 696-8LED3036-12-BK-LSL

**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	2.0	2.0
110°	2.0	2.0	2.0	2.0	3.0
112.5°	2.0	2.0	2.0	3.0	4.1
115°	2.0	3.0	3.0	4.1	5.1
117.5°	3.0	3.0	4.1	5.1	6.1
120°	3.0	3.0	4.1	7.1	9.1
122.5°	4.1	4.1	5.1	10.1	12.2
125°	4.1	5.1	7.1	13.2	16.2
127.5°	4.1	5.1	9.1	17.2	22.3
130°	5.1	6.1	11.1	24.3	33.3
132.5°	5.1	7.1	14.2	37.4	46.5
135°	6.1	9.1	18.2	52.6	68.8
137.5°	8.1	11.1	25.3	73.8	104.1
140°	9.1	14.2	36.4	104.1	137.6
142.5°	12.2	17.2	52.6	144.6	180.0
145°	15.2	22.3	73.8	189.1	225.5
147.5°	20.3	30.4	103.1	239.7	275.0
150°	28.4	43.5	141.6	288.2	329.6
151°	32.3	50.5	159.7	308.4	349.9
152°	38.4	60.7	179.0	325.5	369.1
153°	46.5	70.8	197.2	342.8	387.2
154°	55.6	84.0	217.4	359.0	403.4
155°	66.8	97.0	238.6	377.2	417.6
156°	78.9	113.2	260.9	398.4	429.8
157°	93.0	130.5	282.1	418.6	445.9
158°	111.2	151.6	306.4	438.9	463.1
159°	130.5	173.9	326.7	456.0	484.4
160°	151.6	199.2	345.8	471.2	501.6
161°	173.9	223.4	364.0	486.4	518.7
162°	201.3	249.8	382.3	503.5	529.9
163°	226.5	275.0	399.4	518.7	541.0
164°	252.8	300.3	418.6	525.8	555.2
165°	278.0	323.5	433.8	527.8	560.1
166°	305.4	345.8	445.9	530.9	560.1
167°	329.6	367.1	459.0	531.9	559.2
168°	351.9	387.2	471.2	533.9	555.2
169°	375.2	404.5	479.3	534.9	555.2
170°	395.3	420.7	485.4	536.9	553.1

TEST NUMBER: P27782[\_3000K  
CATALOG NUMBER: 696-8LED3036-12-BK-LSL

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
171°	414.6	435.9	491.5	535.9	550.1
172°	431.8	447.9	494.5	534.9	548.1
173°	446.9	459.0	497.5	529.9	542.0
174°	459.0	469.2	496.5	519.7	530.9
175°	468.2	476.3	494.5	512.6	518.7
176°	476.3	482.3	491.5	503.5	508.6
177°	482.3	485.4	491.5	496.5	499.6
178°	485.4	487.4	491.5	494.5	495.5
179°	489.4	489.4	490.4	491.5	492.5
180°	491.5	491.5	491.5	491.5	491.5

(END OF REPORT)