

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[\_3000K

Luminaire Tested: 696-8LED3010-12-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: P27781[\_3000K  
 Test Lab: INNOVATION CENTER(G2)  
 Issue Date: 3/3/2020  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: LUMIERE  
 Catalog Number: 696-8LED3010-12-BK-LSL  
 Description: BOCA 696, 8 WATT, 3000K CCT, 10 DEGREE SPOT OPTIC,  
 FLUSH HOOD BLACK, LINEAR SPREAD LENS  
 Light Source: (1) SORAA 3000K 90 CRI LED  
 SM16-07-10D-930-03  
 Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
 Luminaire Lumens: 313.4 lumens  
 Efficiency: N/A  
 Efficacy: 39.2 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

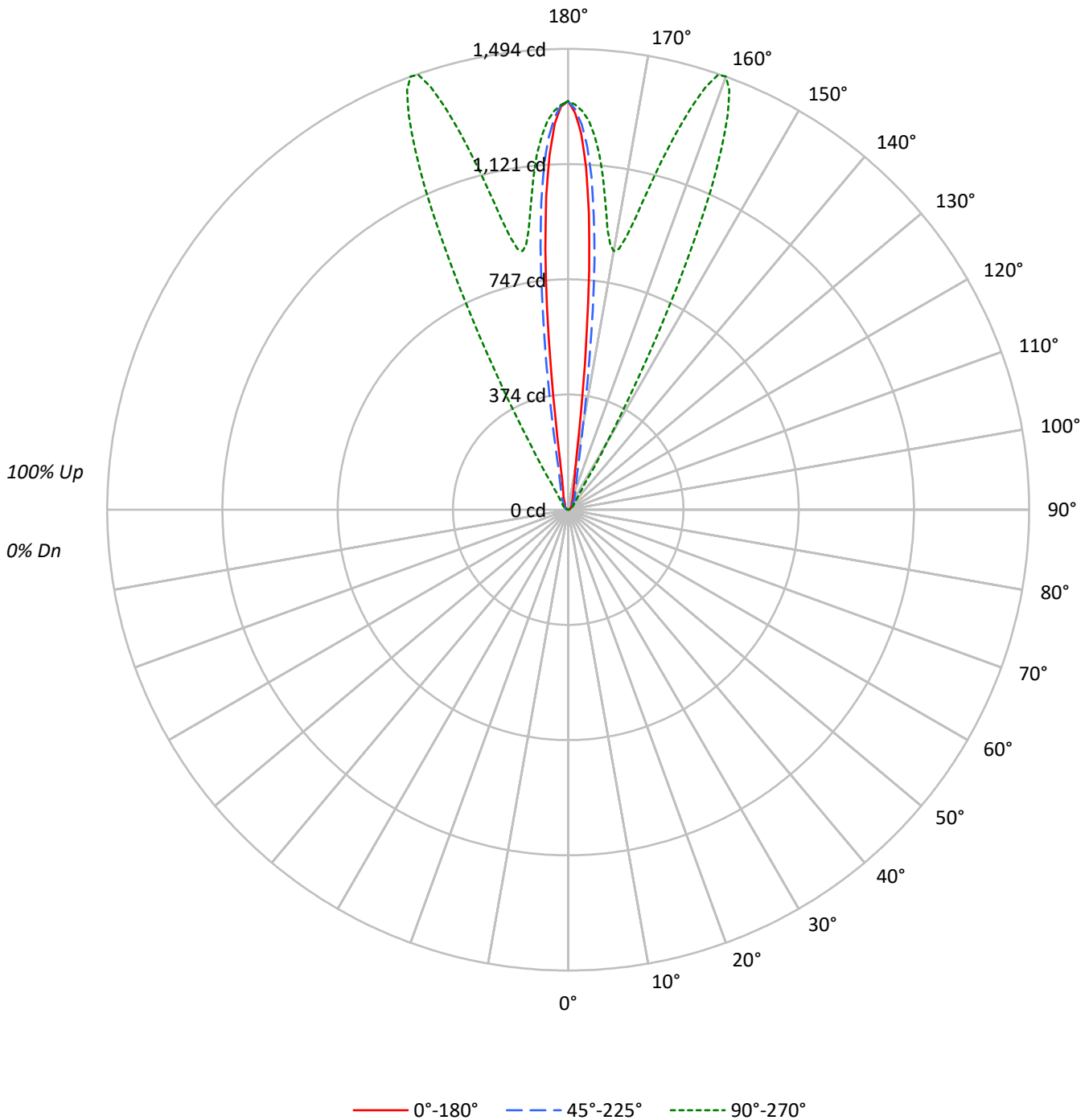


Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	P3	10/30/2015	4/30/2016
Power Meter	IN0214	1/12/2016	1/12/2017
AC Power Source	IN0062	1/12/2016	1/12/2017
DC Power Supply	--	--	--
Room Thermometer	IN0145	1/13/2016	1/13/2017

TEST NUMBER: P27781[\_3000K

CATALOG NUMBER: 696-8LED3010-12-BK-LSL

### Luminous Intensity Polar Plot



TEST NUMBER: P27781[\_3000K

CATALOG NUMBER: 696-8LED3010-12-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	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°	135°	180°
95°	0	5633	0	5633	5633
100°	2827	5654	5654	2827	2827
105°	3793	5705	7811	5705	3793
110°	5911	8793	8793	7346	5911
115°	7116	9439	10601	9439	7116
120°	7978	10931	13003	9950	6996
125°	9529	11335	14765	11335	8673
130°	10115	12412	16327	11648	9351
135°	10589	12677	18318	12677	9894
140°	11056	13700	23469	13700	10415
145°	11542	16412	35957	15813	11542
150°	13252	21897	137124	21331	12685
155°	17064	27497	532866	26955	15435
160°	23903	37161	784655	36639	22855
165°	34115	55276	597576	54768	32530
170°	64316	139288	426519	152994	67369
175°	385600	471236	573440	495813	420658

**MAXIMUM LUMINANCE 45°-90°:**

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

TEST NUMBER: P27781[\_3000K  
 CATALOG NUMBER: 696-8LED3010-12-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°	0.7	0.2
100°-110°	3.3	1.1
110°-120°	7.6	2.4
120°-130°	11.6	3.7
130°-140°	14.8	4.7
140°-150°	22.1	7.1
150°-160°	86.3	27.5
160°-170°	95.1	30.3
170°-180°	72.0	23.0
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°	11.6	3.7
90°-150°	60.1	19.2
90°-180°	313.0	99.9
0°-180°	313.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
90°	0	0	0	0	0	
95°	0	1	0	1	1	1
105°	2	3	4	3	2	3
115°	6	8	9	8	6	6
125°	11	13	17	13	10	9
135°	15	18	26	18	14	12
145°	19	27	60	26	19	12
155°	31	51	979	50	28	15
165°	67	108	1170	107	64	20
175°	779	951	1158	1001	849	49
180°	1325	1325	1325	1325	1325	

TEST NUMBER: P27781\_3000K

CATALOG NUMBER: 696-8LED3010-12-BK-LSL

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
100°	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0
102.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
105°	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
107.5°	3.0	3.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1
110°	4.1	4.1	4.1	4.1	5.1	5.1	5.1	6.1	6.1	6.1	6.1
112.5°	5.1	5.1	5.1	5.1	6.1	6.1	6.1	7.1	7.1	7.1	7.1
115°	6.1	6.1	6.1	6.1	7.1	7.1	8.1	8.1	8.1	8.1	8.1
117.5°	7.1	7.1	7.1	7.1	8.1	9.1	9.1	9.1	9.1	9.1	9.1
120°	8.1	8.1	8.1	8.1	10.1	10.1	10.1	10.1	10.1	11.1	11.1
122.5°	9.1	9.1	9.1	10.1	11.1	11.1	11.1	12.2	12.2	12.2	12.2
125°	11.1	10.1	11.1	11.1	12.2	12.2	13.2	13.2	13.2	13.2	13.2
127.5°	11.1	12.2	12.2	12.2	13.2	14.2	14.2	14.2	14.2	14.2	15.2
130°	13.2	13.2	13.2	14.2	14.2	15.2	15.2	15.2	16.2	15.2	16.2
132.5°	14.2	14.2	14.2	15.2	16.2	16.2	16.2	16.2	17.2	17.2	17.2
135°	15.2	15.2	15.2	16.2	17.2	17.2	17.2	17.2	18.2	18.2	18.2
137.5°	16.2	16.2	17.2	17.2	18.2	18.2	18.2	18.2	19.2	19.2	19.2
140°	17.2	17.2	18.2	18.2	19.2	19.2	19.2	20.3	20.3	20.3	21.3
142.5°	18.2	18.2	18.2	19.2	20.3	20.3	20.3	21.3	21.3	22.3	24.3
145°	19.2	19.2	20.3	20.3	21.3	21.3	21.3	22.3	23.3	25.3	27.2
147.5°	21.3	21.3	21.3	22.3	22.3	23.3	23.3	24.3	26.3	29.4	33.3
150°	23.3	22.3	23.3	23.3	24.3	25.3	26.3	28.4	31.3	34.3	38.4
151°	24.3	23.3	24.3	25.3	26.3	26.3	27.2	30.4	33.3	37.4	40.4
152°	25.3	25.3	25.3	26.3	27.2	28.4	29.4	32.3	36.4	39.4	43.5
153°	26.3	26.3	27.2	28.4	29.4	30.4	32.3	35.4	38.4	42.4	45.5
154°	28.4	28.4	29.4	30.4	32.3	33.3	34.3	38.4	41.4	44.5	48.5
155°	31.3	30.4	31.3	32.3	34.3	36.4	37.4	41.4	44.5	47.5	50.5
156°	33.3	33.3	34.3	35.4	37.4	39.4	40.4	43.5	46.5	49.5	53.6
157°	36.4	36.4	37.4	38.4	40.4	42.4	43.5	46.5	49.5	52.6	57.6
158°	39.4	39.4	40.4	42.4	44.5	45.5	46.5	49.5	52.6	55.6	61.7
159°	42.4	42.4	43.5	45.5	47.5	48.5	49.5	52.6	55.6	59.7	65.7
160°	45.5	45.5	46.5	48.5	50.5	51.6	52.6	55.6	58.6	63.7	70.8
161°	48.5	48.5	49.5	51.6	52.6	54.6	55.6	58.6	62.7	67.8	76.9
162°	51.6	51.6	52.6	54.6	56.6	57.6	59.7	62.7	66.8	73.8	81.9
163°	55.6	55.6	56.6	58.6	60.7	62.7	63.7	66.8	71.8	79.9	88.9
164°	59.7	59.7	61.7	63.7	65.7	67.8	69.8	72.8	78.9	86.0	98.0
165°	66.8	65.7	67.8	69.8	71.8	73.8	75.9	79.9	86.0	94.0	108.2
166°	72.8	72.8	74.9	77.9	79.9	81.9	84.0	88.9	96.0	105.1	120.3
167°	83.0	83.0	84.0	86.9	88.9	92.0	93.0	99.1	108.2	118.3	139.6
168°	95.0	94.0	95.0	99.1	102.1	104.1	106.2	114.3	124.4	139.6	168.9
169°	111.2	109.2	111.2	116.3	119.3	123.4	126.4	134.5	150.6	170.9	212.3
170°	128.4	132.5	135.5	142.6	146.7	152.6	158.7	170.9	194.2	222.4	278.0

TEST NUMBER: P27781[\_3000K

CATALOG NUMBER: 696-8LED3010-12-BK-LSL

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
171°	168.9	177.0	182.0	192.1	199.2	209.3	217.4	234.6	269.9	304.4	371.1
172°	248.8	264.0	272.0	288.2	295.3	312.5	322.5	345.8	387.2	423.7	495.5
173°	386.2	405.5	415.6	438.9	442.8	467.2	478.3	504.5	550.1	579.4	651.2
174°	574.3	594.6	607.7	634.0	635.0	660.3	669.4	692.6	734.2	775.6	817.0
175°	778.6	795.7	806.9	828.2	826.1	849.4	852.5	871.6	905.0	937.3	951.5
176°	960.6	974.7	984.9	1001.1	995.0	1014.2	1014.2	1026.4	1049.6	1071.9	1082.0
177°	1111.3	1137.6	1128.5	1139.6	1134.6	1147.7	1144.7	1151.8	1164.8	1178.0	1180.0
178°	1219.4	1234.6	1228.6	1235.6	1230.6	1239.7	1236.7	1238.7	1244.8	1248.8	1249.8
179°	1286.2	1294.3	1291.3	1294.3	1292.3	1297.3	1294.3	1294.3	1297.3	1299.4	1298.3
180°	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7

TEST NUMBER: P27781\_3000K  
 CATALOG NUMBER: 696-8LED3010-12-BK-LSL

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
97.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
100°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
102.5°	2.0	2.0	2.0	2.0	2.0	2.0	3.0	2.0	3.0	3.0	2.0
105°	3.0	3.0	3.0	3.0	4.1	3.0	3.0	4.1	4.1	4.1	4.1
107.5°	4.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
110°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
112.5°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	8.1	8.1	8.1
115°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	9.1	9.1	9.1	9.1
117.5°	10.1	10.1	10.1	9.1	9.1	9.1	10.1	10.1	10.1	11.1	11.1
120°	11.1	11.1	11.1	11.1	11.1	11.1	11.1	12.2	12.2	13.2	12.2
122.5°	12.2	12.2	12.2	12.2	13.2	13.2	13.2	13.2	14.2	15.2	14.2
125°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	15.2	16.2	17.2	16.2
127.5°	15.2	15.2	15.2	15.2	15.2	15.2	16.2	16.2	18.2	18.2	18.2
130°	16.2	16.2	16.2	17.2	17.2	17.2	17.2	18.2	20.3	21.3	20.3
132.5°	17.2	17.2	18.2	18.2	18.2	19.2	19.2	20.3	22.3	23.3	23.3
135°	18.2	19.2	19.2	20.3	20.3	21.3	22.3	23.3	25.3	26.3	26.3
137.5°	20.3	21.3	22.3	23.3	24.3	24.3	26.3	27.2	28.4	30.4	29.4
140°	22.3	23.3	25.3	27.2	28.4	29.4	31.3	32.3	35.4	36.4	35.4
142.5°	25.3	28.4	30.4	33.3	34.3	36.4	38.4	41.4	44.5	45.5	44.5
145°	30.4	33.3	36.4	39.4	42.4	44.5	47.5	53.6	57.6	59.7	58.6
147.5°	36.4	39.4	42.4	47.5	51.6	56.6	64.7	77.9	88.9	99.1	93.0
150°	41.4	45.5	51.6	60.7	66.8	76.9	99.1	146.7	207.2	240.7	226.5
151°	43.5	48.5	56.6	68.8	75.9	88.9	129.4	212.3	306.4	349.9	331.6
152°	46.5	52.6	61.7	76.9	86.9	106.2	174.9	308.4	430.8	482.3	462.1
153°	49.5	56.6	67.8	86.0	100.1	127.4	237.6	424.7	577.4	636.0	593.6
154°	52.6	60.7	73.8	97.0	117.3	158.7	322.5	558.1	742.2	806.9	761.4
155°	56.6	66.8	83.0	111.2	140.6	200.3	421.7	702.8	910.1	978.8	928.2
156°	60.7	72.8	91.1	127.4	169.9	251.8	530.9	848.4	1068.8	1138.6	1088.1
157°	65.7	78.9	101.1	148.6	205.2	311.5	641.1	994.0	1202.3	1272.0	1219.4
158°	70.8	86.0	111.2	171.9	246.7	372.1	739.1	1102.1	1310.5	1379.3	1340.8
159°	76.9	94.0	122.4	199.2	289.2	428.8	813.0	1177.0	1390.3	1457.1	1413.6
160°	83.0	101.1	135.5	227.5	329.6	477.3	860.5	1213.4	1424.8	1494.5	1445.9
161°	89.9	110.2	149.6	257.9	365.1	514.7	879.7	1213.4	1419.7	1490.5	1436.9
162°	97.0	120.3	165.8	286.1	396.4	540.0	874.6	1180.0	1372.2	1439.9	1393.4
163°	105.1	131.5	187.1	315.5	422.7	556.2	855.4	1128.5	1301.4	1364.1	1321.6
164°	116.3	146.7	207.2	344.8	445.9	564.2	830.2	1061.7	1210.3	1270.0	1233.6
165°	127.4	166.8	236.6	376.2	466.1	568.2	792.8	988.9	1114.3	1169.9	1138.6
166°	146.7	195.2	275.0	409.5	488.4	575.3	756.3	915.2	1015.2	1066.8	1039.4
167°	172.9	233.6	319.6	448.9	514.7	587.5	729.1	853.5	931.3	972.8	949.5
168°	211.3	285.1	372.1	491.5	547.1	607.7	717.9	811.9	871.6	902.0	885.8
169°	266.0	346.8	431.8	539.0	586.5	638.0	722.0	794.8	839.3	861.5	851.4
170°	337.7	420.7	497.5	593.6	633.0	677.4	742.2	799.8	835.2	851.4	844.4



TEST NUMBER: P27781[\_3000K

CATALOG NUMBER: 696-8LED3010-12-BK-LSL

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
171°	430.8	510.6	575.3	660.3	692.6	731.1	780.6	829.2	857.4	869.6	864.5
172°	566.2	621.8	672.5	747.2	772.5	794.8	849.4	882.7	907.1	917.1	912.1
173°	712.9	757.4	808.9	858.4	876.7	906.0	940.4	964.7	985.9	993.0	989.9
174°	866.5	901.0	940.4	977.8	990.9	1013.2	1040.5	1057.7	1074.9	1081.0	1077.9
175°	1005.1	1028.4	1055.7	1081.0	1091.0	1107.2	1125.4	1139.6	1151.8	1157.8	1154.7
176°	1121.4	1134.6	1151.8	1165.9	1174.0	1185.1	1197.3	1206.4	1214.4	1217.4	1214.4
177°	1203.3	1210.3	1221.5	1232.6	1236.7	1242.7	1249.8	1254.9	1260.0	1265.0	1265.9
178°	1263.0	1265.9	1271.0	1275.0	1277.1	1281.1	1283.2	1287.2	1290.2	1293.3	1294.3
179°	1305.4	1304.4	1305.4	1305.4	1306.4	1311.5	1309.5	1309.5	1311.5	1313.5	1314.6
180°	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7

TEST NUMBER: P27781\_3000K  
 CATALOG NUMBER: 696-8LED3010-12-BK-LSL

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0
97.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
100°	2.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0	1.0	1.0	1.0
102.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
105°	4.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
107.5°	5.1	5.1	5.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
110°	6.1	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
112.5°	7.1	7.1	7.1	7.1	7.1	7.1	6.1	6.1	6.1	6.1	6.1
115°	9.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	7.1	7.1
117.5°	10.1	10.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
120°	12.2	11.1	11.1	11.1	11.1	10.1	10.1	10.1	10.1	10.1	10.1
122.5°	14.2	13.2	12.2	12.2	12.2	12.2	12.2	12.2	11.1	11.1	11.1
125°	15.2	14.2	14.2	14.2	13.2	13.2	13.2	13.2	13.2	12.2	12.2
127.5°	17.2	16.2	15.2	15.2	15.2	14.2	14.2	14.2	14.2	13.2	13.2
130°	19.2	18.2	17.2	17.2	16.2	16.2	16.2	15.2	15.2	15.2	15.2
132.5°	21.3	20.3	19.2	18.2	18.2	17.2	17.2	17.2	16.2	16.2	16.2
135°	24.3	22.3	21.3	20.3	20.3	19.2	19.2	18.2	18.2	17.2	17.2
137.5°	27.2	26.3	24.3	23.3	23.3	21.3	20.3	19.2	19.2	18.2	18.2
140°	33.3	31.3	29.4	28.4	27.2	25.3	23.3	21.3	21.3	20.3	19.2
142.5°	41.4	38.4	35.4	34.3	32.3	29.4	27.2	24.3	23.3	21.3	21.3
145°	54.6	48.5	43.5	41.4	39.4	35.4	32.3	29.4	26.3	24.3	22.3
147.5°	80.9	66.8	56.6	52.6	48.5	42.4	38.4	35.4	31.3	28.4	25.3
150°	161.8	109.2	78.9	69.8	62.7	52.6	45.5	41.4	37.4	33.3	29.4
151°	236.6	147.7	94.0	79.9	70.8	57.6	49.5	43.5	39.4	35.4	32.3
152°	340.7	197.2	114.3	93.0	78.9	62.7	52.6	46.5	42.4	38.4	34.3
153°	464.1	296.3	142.6	108.2	89.9	68.8	56.6	49.5	44.5	41.4	36.4
154°	604.7	396.4	181.0	129.4	103.1	75.9	62.7	52.6	47.5	43.5	39.4
155°	773.6	512.6	232.6	155.7	118.3	84.0	66.8	56.6	49.5	46.5	42.4
156°	921.1	636.0	298.3	192.1	137.6	92.0	72.8	60.7	52.6	48.5	45.5
157°	1049.6	752.3	370.1	237.6	162.8	103.1	78.9	65.7	56.6	51.6	47.5
158°	1152.7	845.4	441.8	287.2	193.2	114.3	86.0	70.8	60.7	54.6	50.5
159°	1225.5	911.1	508.6	341.8	228.5	127.4	94.0	75.9	64.7	58.6	54.6
160°	1261.0	945.4	561.3	388.2	265.0	142.6	102.1	81.9	69.8	62.7	57.6
161°	1257.9	957.6	599.6	432.8	301.3	159.7	112.2	88.9	74.9	67.8	61.7
162°	1221.5	949.5	622.8	463.1	336.7	181.0	123.4	96.0	80.9	72.8	65.7
163°	1170.9	923.2	632.0	489.4	369.1	205.2	137.6	106.2	88.0	78.9	71.8
164°	1101.1	884.8	633.0	509.6	401.4	237.6	156.7	117.3	97.0	85.0	77.9
165°	1024.4	841.3	628.9	524.8	431.8	273.0	183.0	133.5	107.2	94.0	86.0
166°	946.5	798.9	625.9	540.0	463.1	319.6	218.4	155.7	121.3	105.1	96.0
167°	879.7	766.5	630.9	560.1	497.5	370.1	266.9	190.1	143.6	121.3	109.2
168°	835.2	749.2	643.1	586.5	536.9	424.7	326.7	239.7	178.0	145.7	128.4
169°	813.0	750.3	668.4	621.8	580.4	482.3	395.3	304.4	228.5	185.1	160.7
170°	816.0	769.5	702.8	663.4	632.0	548.1	472.2	386.2	305.4	249.8	216.4

TEST NUMBER: P27781[\_3000K

CATALOG NUMBER: 696-8LED3010-12-BK-LSL

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
171°	843.3	808.9	762.4	720.0	698.7	627.9	563.3	485.4	407.5	348.8	311.5
172°	896.9	872.6	839.3	799.8	785.7	730.1	681.5	609.8	541.0	503.5	450.9
173°	978.8	963.7	940.4	905.0	899.0	855.4	819.0	758.4	695.7	667.4	624.9
174°	1069.8	1060.7	1045.5	1016.2	1015.2	982.8	956.6	906.0	857.4	839.3	804.9
175°	1150.8	1143.7	1133.5	1112.3	1112.3	1090.1	1073.9	1035.4	1001.1	986.9	959.6
176°	1212.3	1210.3	1206.4	1191.2	1192.2	1180.0	1159.8	1141.6	1119.4	1108.2	1092.0
177°	1261.0	1260.0	1257.9	1249.8	1249.8	1242.7	1237.7	1221.5	1209.4	1205.4	1196.2
178°	1292.3	1292.3	1292.3	1287.2	1288.2	1284.2	1284.2	1276.1	1272.0	1272.0	1270.0
179°	1312.5	1312.5	1315.6	1313.5	1314.6	1315.6	1316.6	1313.5	1311.5	1313.5	1313.5
180°	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7

TEST NUMBER: P27781[\_3000K

CATALOG NUMBER: 696-8LED3010-12-BK-LSL

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0
97.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
100°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
102.5°	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0
105°	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
107.5°	4.1	4.1	4.1	3.0	3.0	3.0	3.0	3.0
110°	5.1	5.1	4.1	4.1	4.1	4.1	4.1	4.1
112.5°	6.1	6.1	5.1	5.1	5.1	5.1	5.1	5.1
115°	7.1	7.1	7.1	6.1	6.1	6.1	5.1	6.1
117.5°	8.1	8.1	8.1	7.1	7.1	6.1	6.1	6.1
120°	9.1	9.1	9.1	9.1	8.1	7.1	7.1	7.1
122.5°	11.1	11.1	10.1	10.1	9.1	9.1	9.1	9.1
125°	12.2	12.2	12.2	11.1	11.1	10.1	10.1	10.1
127.5°	13.2	13.2	13.2	12.2	12.2	11.1	11.1	11.1
130°	14.2	14.2	14.2	14.2	13.2	12.2	12.2	12.2
132.5°	15.2	15.2	15.2	15.2	14.2	14.2	13.2	13.2
135°	17.2	16.2	16.2	16.2	15.2	15.2	14.2	14.2
137.5°	18.2	18.2	17.2	17.2	16.2	16.2	15.2	15.2
140°	19.2	18.2	18.2	18.2	18.2	17.2	16.2	16.2
142.5°	20.3	20.3	19.2	19.2	19.2	18.2	17.2	17.2
145°	22.3	21.3	21.3	21.3	20.3	19.2	19.2	19.2
147.5°	24.3	23.3	22.3	22.3	21.3	20.3	20.3	20.3
150°	26.3	25.3	24.3	24.3	23.3	22.3	21.3	22.3
151°	28.4	26.3	25.3	25.3	24.3	23.3	22.3	22.3
152°	30.4	28.4	27.2	26.3	25.3	24.3	23.3	24.3
153°	32.3	30.4	28.4	28.4	26.3	25.3	25.3	25.3
154°	35.4	32.3	31.3	30.4	28.4	27.2	26.3	26.3
155°	38.4	34.3	33.3	32.3	30.4	29.4	28.4	28.4
156°	41.4	37.4	36.4	35.4	33.3	32.3	31.3	30.4
157°	44.5	41.4	39.4	38.4	36.4	34.3	33.3	33.3
158°	47.5	44.5	42.4	41.4	39.4	38.4	36.4	36.4
159°	50.5	48.5	46.5	45.5	43.5	41.4	40.4	40.4
160°	53.6	51.6	49.5	48.5	46.5	44.5	43.5	43.5
161°	57.6	54.6	52.6	51.6	49.5	47.5	46.5	46.5
162°	61.7	58.6	56.6	54.6	52.6	51.6	50.5	49.5
163°	65.7	62.7	60.7	59.7	56.6	55.6	53.6	52.6
164°	71.8	66.8	65.7	64.7	61.7	59.7	58.6	57.6
165°	78.9	73.8	72.8	70.8	67.8	65.7	64.7	63.7
166°	88.0	81.9	80.9	78.9	75.9	72.8	71.8	69.8
167°	100.1	93.0	91.1	89.9	85.0	81.9	80.9	79.9
168°	115.3	106.2	105.1	101.1	98.0	95.0	94.0	91.1
169°	141.6	127.4	126.4	122.4	115.3	112.2	111.2	108.2
170°	186.1	162.8	156.7	158.7	146.7	141.6	139.6	134.5

TEST NUMBER: P27781[ 3000K  
CATALOG NUMBER: 696-8LED3010-12-BK-LSL

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
171°	269.9	232.6	223.4	227.5	208.4	199.2	196.2	188.1
172°	403.4	355.9	364.0	350.9	324.5	310.5	305.4	293.2
173°	582.4	527.8	517.7	527.8	521.7	479.3	472.2	456.0
174°	766.5	717.9	735.2	722.0	719.0	681.5	673.5	661.3
175°	930.3	891.9	887.8	895.9	899.0	865.5	859.5	849.4
176°	1073.9	1060.7	1043.5	1052.6	1054.6	1029.4	1023.3	1017.3
177°	1186.1	1179.0	1167.9	1175.0	1179.0	1159.8	1155.7	1150.8
178°	1265.9	1265.0	1258.9	1263.0	1265.9	1254.9	1252.9	1251.9
179°	1312.5	1311.5	1310.5	1312.5	1314.6	1309.5	1307.5	1307.5
180°	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7	1324.7

(END OF REPORT)