

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-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: 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-LSL  
 Description: BOCA 696, 8 WATT, 4000K CCT, 10 DEGREE SPOT OPTIC,  
 FLUSH HOOD BLACK, LINEAR SPREAD LENS  
 Light Source: (1) SORAA 4000K 90 CRI LED  
 SM16-07-10D-940-03  
 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

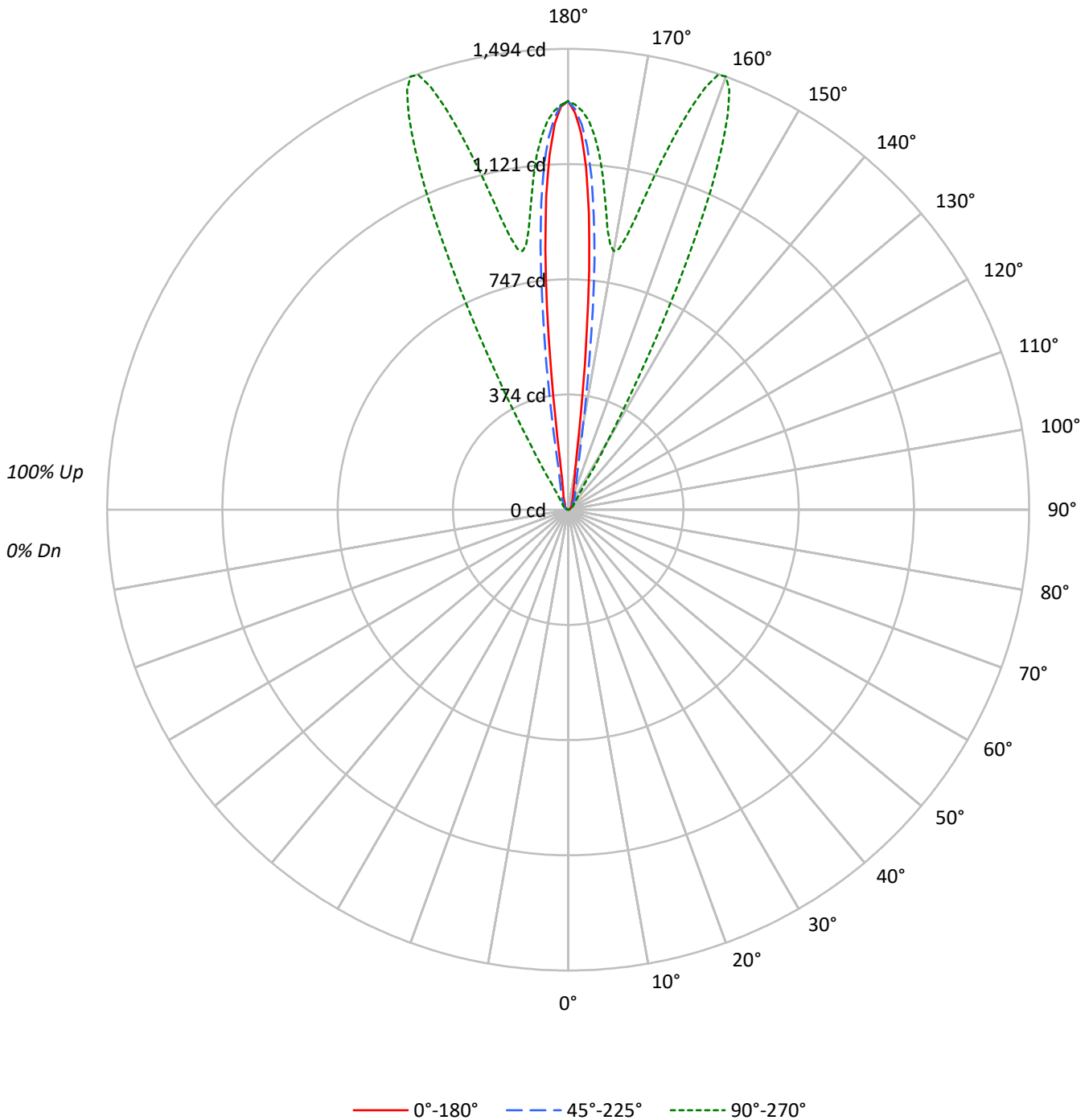


Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	P3	10/30/2015	4/30/2016
Power Meter	IN0214	1/12/2016	1/12/2017
AC Power Source	IN0062	1/12/2016	1/12/2017
DC Power Supply	--	--	--
Room Thermometer	IN0145	1/13/2016	1/13/2017

TEST NUMBER: P27781\_4000K

CATALOG NUMBER: 696-8LED4010-12-BK-LSL

### Luminous Intensity Polar Plot



TEST NUMBER: P27781\_4000K

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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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	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[ 4000K  
 CATALOG NUMBER: 696-8LED4010-12-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\_4000K  
 CATALOG NUMBER: 696-8LED4010-12-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[ 4000K

CATALOG NUMBER: 696-8LED4010-12-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\_4000K  
 CATALOG NUMBER: 696-8LED4010-12-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[ 4000K

CATALOG NUMBER: 696-8LED4010-12-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\_4000K  
 CATALOG NUMBER: 696-8LED4010-12-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[ 4000K

CATALOG NUMBER: 696-8LED4010-12-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\_4000K

CATALOG NUMBER: 696-8LED4010-12-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[ 4000K

CATALOG NUMBER: 696-8LED4010-12-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)