

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P837723

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-1STD-27-120-EDD**

Issue Date: 5/21/2024

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

**Test Information**

Test Method: LM-79-08
Report Number: P837723
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2R-LD4-1STD-27-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

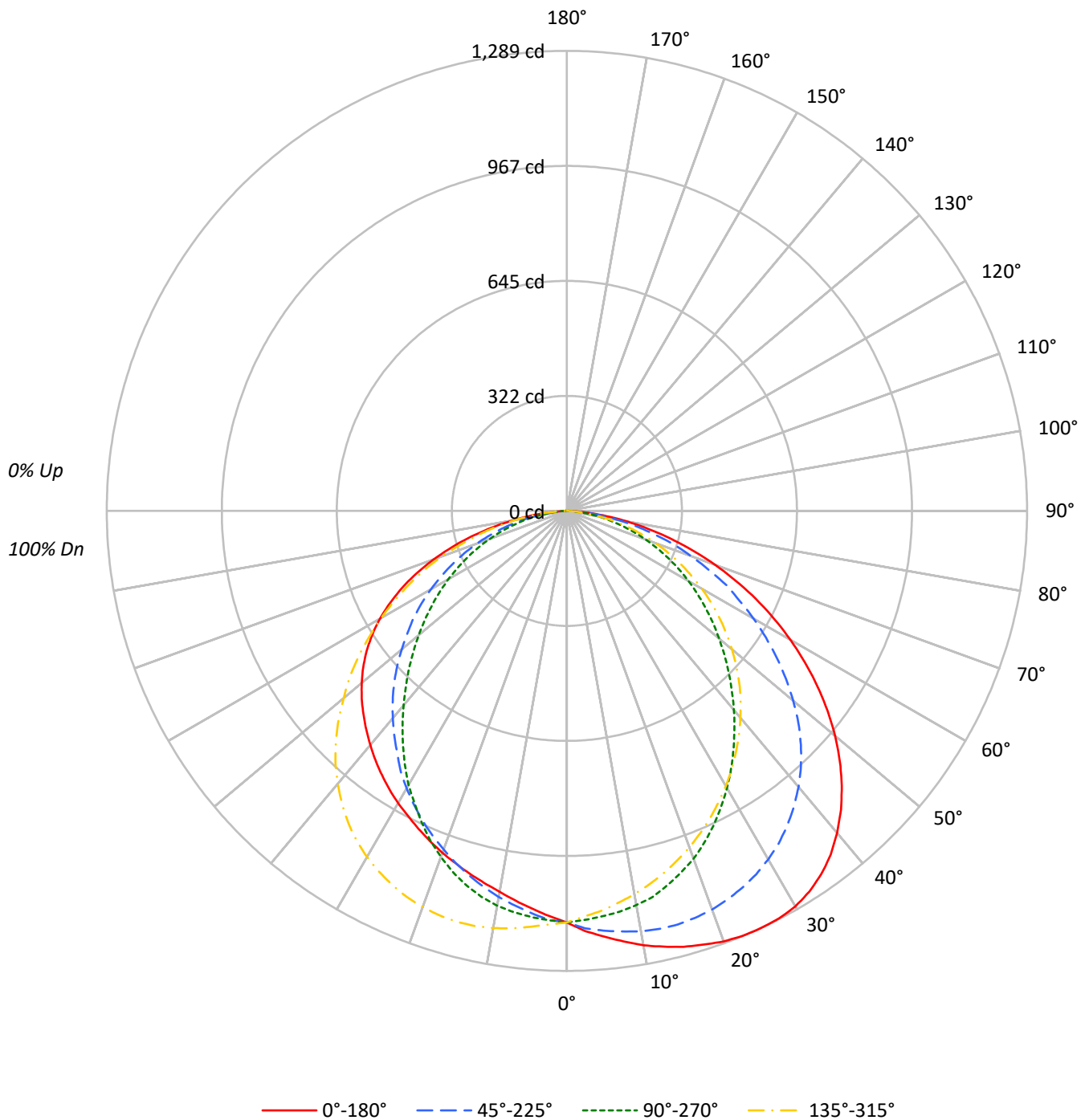
Lumens per Lamp: N/A
Luminaire Lumens: 3382.7 lumens
Efficiency: N/A
Efficacy: 101.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): 120
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: 25 FT

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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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	89		90
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	88	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		56
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	3103	3103	3103	3103
5°	3234	3081	3022	3085
10°	3378	3064	2961	3069
15°	3522	3025	2932	3026
20°	3676	2970	2919	2954
25°	3828	2888	2919	2858
30°	3976	2787	2938	2756
35°	4082	2673	2968	2630
40°	4136	2558	3009	2500
45°	4144	2441	3068	2380
50°	4105	2330	3142	2268
55°	4020	2226	3213	2164
60°	3894	2118	3256	2063
65°	3720	1994	3238	1947
70°	3474	1847	3124	1814
75°	3126	1647	2866	1639
80°	2651	1379	2410	1401
85°	1843	914	1528	939

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.5	3.2
10°-20°	317.0	9.4
20°-30°	485.8	14.4
30°-40°	590.7	17.5
40°-50°	614.1	18.2
50°-60°	554.7	16.4
60°-70°	421.7	12.5
70°-80°	235.1	7.0
80°-90°	54.1	1.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	912.3	27.0
0°-40°	1503.0	44.4
0°-60°	2671.8	79.0
0°-90°	3382.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3382.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1153	1153	1153	1153	1153	
5°	1197	1140	1119	1142	1197	115
15°	1264	1086	1052	1086	1264	358
25°	1289	972	983	963	1289	596
35°	1243	814	903	801	1243	776
45°	1089	642	806	625	1089	838
55°	857	474	685	461	857	765
65°	584	313	509	306	584	577
75°	301	158	276	158	301	319
85°	60	30	50	30	60	75
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0
2.5°	1178.5	1161.3	1161.6	1176.7	1165.1	1170.7	1154.6	1160.8	1158.9	1160.3	1147.1
5°	1197.1	1178.5	1178.3	1191.2	1178.3	1180.7	1160.3	1164.3	1158.4	1154.6	1140.4
7.5°	1216.7	1198.2	1196.3	1207.6	1190.7	1188.8	1166.2	1166.2	1155.4	1146.0	1132.6
10°	1236.1	1217.0	1214.6	1223.2	1202.2	1196.0	1168.6	1164.3	1150.0	1136.1	1121.5
12.5°	1250.6	1231.3	1229.4	1234.8	1211.1	1199.8	1168.6	1160.3	1139.3	1119.6	1108.4
15°	1264.3	1244.4	1239.3	1242.0	1214.9	1199.8	1164.8	1151.9	1125.0	1099.2	1086.0
17.5°	1274.0	1254.9	1249.8	1249.6	1216.7	1195.2	1156.8	1139.0	1106.7	1075.5	1062.4
20°	1283.7	1264.6	1258.2	1253.3	1216.2	1189.0	1144.9	1121.0	1083.3	1048.4	1037.3
22.5°	1288.6	1268.9	1261.9	1254.7	1212.7	1177.7	1130.4	1100.0	1057.0	1015.3	1006.2
25°	1289.4	1269.2	1261.7	1251.2	1205.7	1164.3	1111.6	1074.7	1026.6	980.3	972.5
27.5°	1287.2	1265.2	1257.6	1245.0	1195.2	1147.9	1089.3	1046.0	994.3	943.2	934.9
30°	1279.7	1257.4	1250.1	1233.7	1180.4	1127.7	1064.8	1014.0	958.5	904.2	897.0
32.5°	1264.6	1242.8	1236.9	1220.5	1164.3	1104.3	1036.3	979.5	919.0	867.1	856.3
35°	1242.6	1220.8	1217.0	1199.8	1141.7	1076.3	1005.1	941.9	877.1	824.1	813.6
37.5°	1213.8	1195.5	1189.8	1172.9	1115.1	1044.6	969.3	901.0	834.3	777.3	770.8
40°	1177.5	1160.3	1156.0	1140.9	1084.1	1009.4	930.6	858.8	790.2	737.2	728.1
42.5°	1136.1	1119.9	1117.5	1101.9	1046.0	970.4	888.6	814.9	744.2	693.1	683.9
45°	1089.0	1073.4	1072.9	1058.1	1004.3	927.1	844.5	770.5	699.3	646.3	641.5
47.5°	1037.1	1023.1	1023.1	1009.4	957.7	879.5	799.1	724.3	654.1	607.3	598.7
50°	980.6	967.4	963.4	956.7	906.4	827.6	751.2	679.1	609.4	564.8	556.5
52.5°	920.4	909.1	911.7	899.4	850.7	773.5	702.8	628.3	564.5	523.9	515.6
55°	856.9	840.7	843.2	838.6	792.6	717.8	648.4	586.3	520.4	482.2	474.4
57.5°	791.0	770.0	778.6	775.9	730.7	660.8	598.7	538.7	476.6	441.4	433.8
60°	723.5	703.3	712.2	709.8	667.3	603.8	547.3	491.6	433.0	401.0	393.5
62.5°	654.1	635.5	643.6	641.7	602.7	545.4	496.2	445.1	389.2	360.4	353.4
65°	584.2	566.4	573.7	572.3	536.3	492.7	443.8	397.0	345.1	320.1	313.1
67.5°	512.6	496.2	502.9	502.9	469.9	428.2	391.1	348.3	301.8	280.2	273.8
70°	441.6	426.3	432.2	431.7	403.7	369.8	337.8	299.6	257.9	240.2	234.8
72.5°	370.1	356.6	362.0	361.5	338.1	316.3	284.6	251.5	215.2	200.9	196.1
75°	300.7	288.0	293.2	292.6	273.5	253.1	231.8	204.4	173.2	163.3	158.4
77.5°	234.5	221.6	225.9	225.9	211.9	197.1	180.2	159.0	136.9	126.1	122.6
80°	171.1	164.9	162.7	163.0	153.6	143.9	135.3	114.8	98.7	91.4	89.0
82.5°	112.4	107.3	105.2	105.7	100.3	94.4	89.0	74.8	64.0	59.7	58.4
85°	59.7	55.9	54.1	55.4	54.3	51.1	48.4	38.7	32.0	30.4	29.6
87.5°	18.8	16.4	15.1	19.9	16.9	15.1	14.5	11.6	8.9	8.9	8.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0
2.5°	1151.4	1151.4	1140.9	1138.5	1137.4	1138.7	1128.3	1126.4	1141.4	1136.3	1124.8
5°	1142.2	1141.7	1126.9	1124.2	1124.2	1122.6	1110.8	1108.1	1123.1	1118.8	1106.2
7.5°	1130.9	1129.3	1111.8	1110.0	1107.3	1106.2	1093.0	1091.1	1104.0	1101.4	1089.5
10°	1117.2	1115.6	1094.9	1093.6	1090.6	1088.5	1076.1	1074.7	1087.9	1083.6	1074.2
12.5°	1099.2	1096.3	1075.0	1073.7	1071.2	1070.4	1058.3	1057.8	1072.3	1068.0	1058.1
15°	1075.5	1073.1	1049.5	1050.0	1050.3	1050.3	1040.6	1040.0	1054.3	1052.4	1041.7
17.5°	1049.5	1046.2	1023.6	1025.2	1027.1	1029.3	1021.8	1023.1	1038.2	1035.7	1026.1
20°	1019.9	1016.6	994.6	999.2	1003.2	1007.5	1002.7	1006.4	1020.4	1019.3	1012.1
22.5°	986.8	983.6	963.1	970.1	976.8	984.9	982.8	987.1	1001.8	1001.6	995.1
25°	946.4	947.3	929.2	937.8	949.1	960.4	961.2	968.2	984.6	983.0	977.1
27.5°	908.8	909.9	890.8	905.3	920.4	934.9	938.4	948.1	964.7	963.4	958.3
30°	869.3	870.6	852.0	871.9	890.2	908.0	915.5	928.7	945.6	945.6	940.3
32.5°	828.1	830.5	811.2	837.8	859.0	879.7	892.9	906.6	926.0	925.5	920.9
35°	785.9	788.6	770.8	804.7	826.0	851.2	867.6	885.9	903.1	903.4	899.9
37.5°	742.8	746.1	729.9	767.1	791.3	821.1	842.1	860.4	879.5	880.6	877.3
40°	700.1	703.6	689.6	725.4	756.0	789.4	813.6	835.1	856.1	856.6	854.5
42.5°	657.3	661.1	650.6	685.6	720.3	756.0	784.5	809.0	830.5	831.9	829.4
45°	615.6	618.9	611.3	649.5	682.9	721.9	754.7	782.4	804.2	806.1	805.2
47.5°	574.2	577.2	570.4	605.4	643.9	685.3	723.2	753.9	777.0	779.2	778.6
50°	533.6	536.0	528.8	565.3	603.5	647.6	687.2	722.7	748.5	750.6	750.4
52.5°	493.3	495.7	489.5	528.0	562.6	609.2	652.2	690.7	716.2	719.4	720.0
55°	454.3	455.3	450.5	487.3	521.0	569.6	619.1	656.5	682.1	684.8	686.4
57.5°	415.3	415.5	411.5	446.7	479.0	528.8	580.7	619.9	644.1	646.8	649.3
60°	376.5	376.3	371.7	405.8	436.8	486.0	540.1	579.1	602.5	604.9	608.1
62.5°	338.1	337.3	333.2	364.7	393.7	442.4	496.8	534.4	556.7	558.3	562.6
65°	299.9	299.1	295.3	324.4	350.7	397.2	450.5	486.3	506.4	508.6	507.8
67.5°	262.2	260.6	257.7	283.7	307.7	350.7	401.8	436.0	452.6	454.5	459.6
70°	224.6	222.7	216.0	243.7	264.6	303.1	350.7	381.1	395.1	397.0	396.2
72.5°	187.5	185.6	178.3	203.9	221.6	255.2	297.7	323.0	335.1	336.7	336.7
75°	151.4	150.3	145.8	165.1	179.9	207.4	243.4	264.4	273.8	275.7	275.1
77.5°	116.7	115.9	111.3	128.0	139.6	160.0	189.1	205.5	212.5	214.6	219.2
80°	83.6	83.4	76.1	92.5	97.6	114.8	136.1	148.7	152.5	155.5	158.7
82.5°	53.5	53.8	46.5	60.5	62.7	73.7	86.9	94.7	97.4	99.8	102.2
85°	26.1	27.2	23.1	32.0	32.3	37.9	43.6	46.5	47.6	49.5	51.6
87.5°	6.7	7.8	4.3	9.1	8.1	10.5	12.1	12.9	12.6	14.0	14.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0
2.5°	1128.5	1137.1	1132.8	1146.8	1152.2	1143.6	1158.6	1158.9	1148.2	1160.8	1167.8
5°	1111.0	1119.9	1117.2	1131.8	1138.5	1130.9	1149.2	1152.7	1142.2	1156.5	1167.8
7.5°	1093.3	1103.8	1100.3	1115.1	1123.1	1117.2	1136.9	1142.5	1134.4	1150.0	1165.1
10°	1078.0	1086.8	1083.1	1098.7	1105.7	1100.8	1120.2	1130.7	1123.1	1142.2	1160.3
12.5°	1062.9	1070.2	1065.9	1078.8	1085.5	1079.3	1103.0	1112.7	1107.3	1127.2	1150.3
15°	1043.5	1051.6	1045.7	1057.3	1062.4	1057.0	1076.3	1093.0	1086.3	1108.1	1133.6
17.5°	1028.7	1033.3	1025.2	1034.4	1037.3	1030.1	1049.7	1066.1	1061.3	1085.0	1114.5
20°	1012.3	1016.1	1004.8	1009.9	1009.6	1000.5	1018.5	1034.7	1031.4	1057.5	1091.1
22.5°	994.0	995.9	982.8	983.8	983.3	968.2	984.4	1000.8	999.4	1025.8	1063.4
25°	974.7	975.0	958.0	957.5	951.6	933.8	948.1	966.6	962.6	991.1	1030.6
27.5°	955.6	952.9	932.5	927.6	918.2	897.0	909.6	926.3	923.9	951.8	995.7
30°	935.1	931.7	906.6	897.8	884.0	859.6	870.1	885.7	887.0	911.5	957.5
32.5°	915.8	906.9	879.2	866.3	849.1	820.6	826.2	842.1	844.2	869.0	916.3
35°	890.8	884.9	850.7	828.6	811.7	780.5	786.4	797.4	800.7	824.9	873.0
37.5°	867.1	857.7	821.4	794.5	772.7	739.9	741.5	752.8	756.0	780.5	828.1
40°	842.6	829.2	790.2	758.7	733.7	699.3	697.4	709.2	711.6	735.6	778.6
42.5°	816.5	800.4	756.6	722.1	693.4	658.4	654.6	664.9	667.5	690.9	733.2
45°	790.2	770.8	722.1	684.5	653.0	617.2	613.5	621.3	625.3	647.4	688.0
47.5°	762.2	739.6	686.6	644.7	612.1	576.4	571.8	579.6	582.8	604.6	643.1
50°	732.9	705.5	650.1	603.8	571.5	536.3	529.6	538.7	541.7	562.1	599.8
52.5°	700.6	670.2	611.1	562.6	530.4	496.8	488.7	497.6	501.1	521.0	555.7
55°	666.5	633.7	571.8	524.7	489.8	457.0	450.2	453.7	461.3	480.1	512.4
57.5°	628.0	595.5	530.4	482.5	448.9	417.4	411.8	415.0	422.0	440.3	469.3
60°	587.1	552.7	488.1	440.3	407.7	377.9	372.8	375.7	383.3	399.9	426.8
62.5°	546.8	508.1	444.6	397.0	367.4	339.7	338.3	337.3	344.3	360.4	384.1
65°	497.8	460.7	399.1	353.9	327.0	302.0	296.7	299.1	305.8	320.6	345.3
67.5°	445.4	411.8	352.6	310.9	287.0	264.6	260.1	261.2	268.1	281.1	302.6
70°	389.7	360.1	305.0	267.6	247.4	226.5	223.5	223.8	230.5	241.8	260.6
72.5°	331.3	304.7	256.8	224.8	208.2	193.1	190.4	187.2	193.4	203.1	219.2
75°	271.9	248.5	209.0	182.9	169.7	157.1	154.6	151.4	157.6	165.9	178.6
77.5°	211.9	193.1	162.4	142.3	132.1	122.6	120.5	117.0	123.2	129.4	139.3
80°	153.3	139.6	121.3	100.1	96.6	90.4	88.2	84.5	90.4	94.4	101.9
82.5°	99.0	89.8	79.3	64.5	64.0	59.4	58.4	54.1	59.4	61.9	67.5
85°	50.0	45.7	43.0	32.8	33.9	30.9	30.7	26.1	30.4	31.5	34.7
87.5°	14.3	15.1	13.4	8.1	10.2	9.7	9.7	7.0	9.7	9.7	11.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837723

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1STD-27-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0	1153.0
2.5°	1154.1	1158.6	1159.7	1159.5	1162.4	1178.5	1173.2	1178.5
5°	1156.8	1167.0	1169.7	1173.4	1178.3	1196.6	1190.7	1197.1
7.5°	1158.4	1173.7	1179.6	1186.9	1194.7	1215.1	1210.3	1216.7
10°	1158.4	1178.3	1186.9	1199.0	1209.5	1233.1	1228.6	1236.1
12.5°	1153.5	1179.1	1191.2	1208.1	1221.6	1247.1	1245.2	1250.6
15°	1143.6	1175.1	1191.7	1213.5	1230.2	1258.7	1257.9	1264.3
17.5°	1130.1	1168.1	1188.2	1215.7	1236.6	1268.6	1270.5	1274.0
20°	1113.2	1154.9	1181.2	1214.9	1241.2	1276.4	1278.9	1283.7
22.5°	1090.9	1139.0	1170.7	1211.4	1241.8	1279.7	1284.0	1288.6
25°	1064.5	1119.9	1157.0	1204.6	1239.1	1279.4	1285.3	1289.4
27.5°	1034.4	1095.2	1139.6	1193.9	1231.5	1275.1	1282.4	1287.2
30°	999.4	1068.8	1119.6	1179.9	1221.3	1267.0	1274.8	1279.7
32.5°	963.4	1039.8	1096.0	1161.9	1206.5	1254.1	1260.8	1264.6
35°	924.1	1004.5	1067.5	1138.7	1187.4	1233.4	1238.5	1242.6
37.5°	881.4	966.3	1034.9	1112.7	1160.5	1204.6	1209.2	1213.8
40°	837.2	926.3	998.4	1080.7	1128.5	1169.4	1174.2	1177.5
42.5°	792.9	881.9	959.4	1043.0	1090.6	1129.9	1132.8	1136.1
45°	748.0	835.9	915.5	1001.3	1048.4	1085.2	1086.3	1089.0
47.5°	702.2	788.3	867.4	953.7	1000.2	1033.9	1034.9	1037.1
50°	656.2	740.7	816.0	902.3	947.8	983.3	978.4	980.6
52.5°	611.1	690.7	767.6	846.9	891.8	923.3	924.7	920.4
55°	566.7	641.7	712.5	788.8	831.6	856.1	855.3	856.9
57.5°	521.8	592.2	657.1	727.0	768.7	791.8	796.6	791.0
60°	476.0	542.2	600.3	663.5	703.8	723.2	728.9	723.5
62.5°	430.6	491.4	544.1	599.2	636.6	660.5	660.0	654.1
65°	385.1	440.3	487.3	534.1	566.7	590.6	589.5	584.2
67.5°	343.2	388.6	430.9	468.8	497.0	513.4	519.1	512.6
70°	296.9	336.2	373.3	403.7	427.1	441.9	447.3	441.6
72.5°	250.7	284.0	310.1	339.4	357.4	369.8	375.5	370.1
75°	204.9	232.4	253.6	276.5	289.1	299.6	306.1	300.7
77.5°	160.6	181.8	198.8	215.4	230.0	232.4	238.0	234.5
80°	118.3	133.7	146.0	157.1	167.6	168.6	173.2	171.1
82.5°	78.8	89.0	92.3	103.8	110.5	109.5	114.0	112.4
85°	41.7	47.9	53.5	57.0	60.8	57.3	61.3	59.7
87.5°	14.0	14.8	12.9	18.3	20.2	17.2	19.6	18.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)