

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: P837937

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-3HI-20-120-EDD-90**

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: P837937
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2R-LD4-3HI-20-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

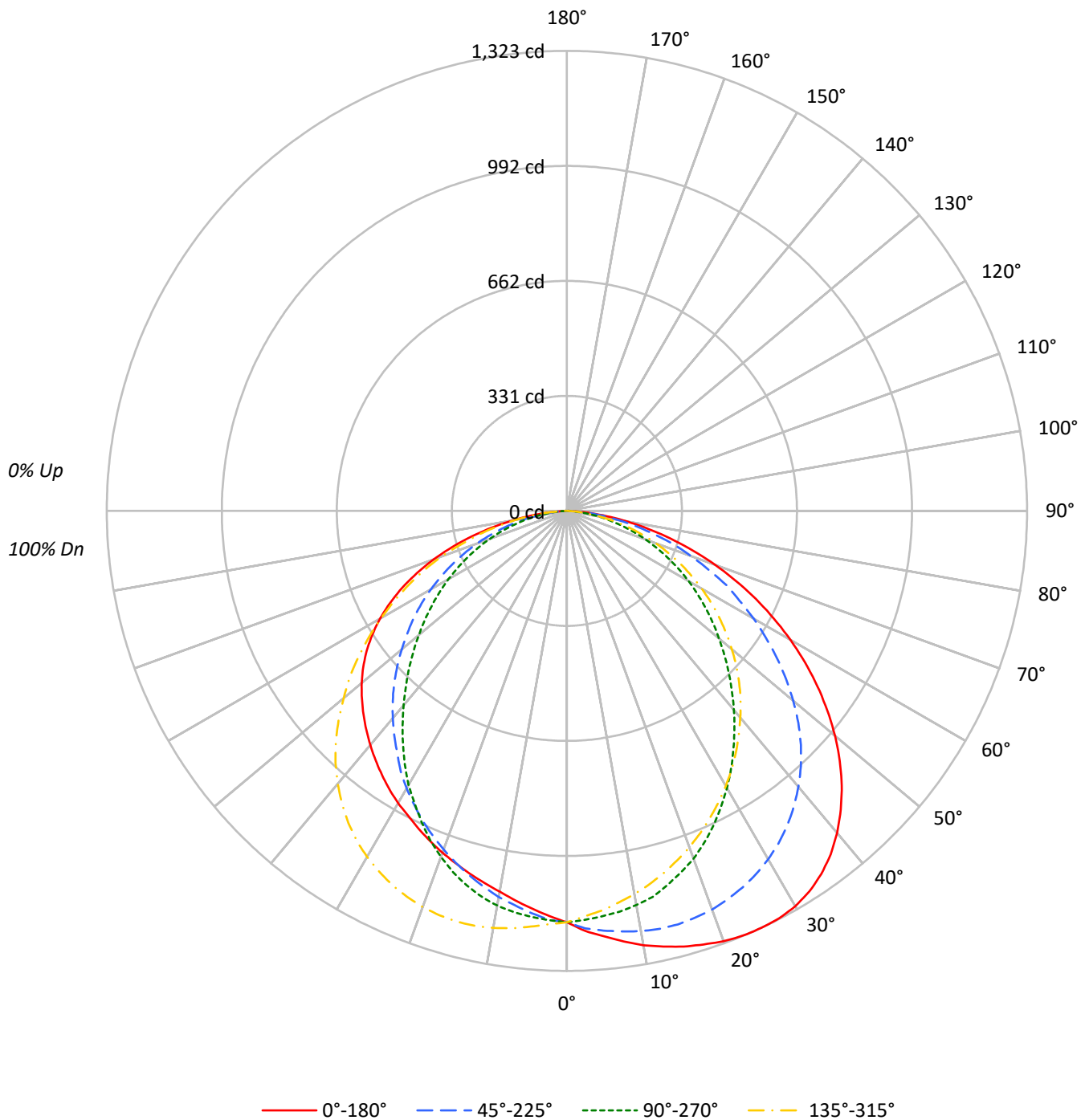
Lumens per Lamp: N/A
Luminaire Lumens: 3471.2 lumens
Efficiency: N/A
Efficacy: 52.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 66
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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84		
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	59		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	3184	3184	3184	3184
5°	3318	3161	3101	3166
10°	3466	3145	3038	3149
15°	3614	3105	3009	3105
20°	3772	3048	2995	3031
25°	3929	2963	2995	2933
30°	4080	2860	3015	2828
35°	4189	2743	3045	2699
40°	4245	2624	3088	2565
45°	4253	2505	3148	2442
50°	4212	2390	3225	2327
55°	4125	2284	3297	2221
60°	3996	2173	3341	2117
65°	3817	2045	3323	1998
70°	3566	1895	3205	1861
75°	3209	1691	2941	1681
80°	2720	1416	2472	1437
85°	1893	939	1568	963



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.3	3.2
10°-20°	325.3	9.4
20°-30°	498.5	14.4
30°-40°	606.2	17.5
40°-50°	630.1	18.2
50°-60°	569.2	16.4
60°-70°	432.8	12.5
70°-80°	241.3	7.0
80°-90°	55.5	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°	936.1	27.0
0°-40°	1542.3	44.4
0°-60°	2741.6	79.0
0°-90°	3471.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3471.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1183	1183	1183	1183	1183	
5°	1228	1170	1148	1172	1228	118
15°	1297	1114	1080	1115	1297	368
25°	1323	998	1009	988	1323	611
35°	1275	835	927	822	1275	796
45°	1118	658	827	642	1118	860
55°	879	487	703	473	879	785
65°	599	321	522	314	599	592
75°	309	163	283	162	309	328
85°	61	30	51	31	61	77
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°	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1
2.5°	1209.4	1191.7	1192.0	1207.4	1195.6	1201.4	1184.8	1191.2	1189.2	1190.6	1177.1
5°	1228.4	1209.4	1209.1	1222.3	1209.1	1211.6	1190.6	1194.7	1188.7	1184.8	1170.2
7.5°	1248.6	1229.5	1227.6	1239.2	1221.8	1219.9	1196.7	1196.7	1185.6	1176.0	1162.2
10°	1268.4	1248.8	1246.3	1255.2	1233.7	1227.3	1199.2	1194.7	1180.1	1165.8	1150.9
12.5°	1283.3	1263.5	1261.5	1267.0	1242.8	1231.2	1199.2	1190.6	1169.1	1148.9	1137.3
15°	1297.4	1277.0	1271.7	1274.5	1246.6	1231.2	1195.3	1182.0	1154.4	1128.0	1114.4
17.5°	1307.3	1287.7	1282.5	1282.2	1248.6	1226.5	1187.0	1168.8	1135.7	1103.7	1090.1
20°	1317.3	1297.7	1291.1	1286.1	1248.0	1220.1	1174.9	1150.3	1111.7	1075.8	1064.5
22.5°	1322.2	1302.1	1294.9	1287.5	1244.4	1208.5	1160.0	1128.8	1084.6	1041.8	1032.5
25°	1323.1	1302.4	1294.6	1283.9	1237.2	1194.7	1140.6	1102.8	1053.4	1006.0	998.0
27.5°	1320.9	1298.2	1290.5	1277.5	1226.5	1177.9	1117.7	1073.3	1020.3	967.9	959.3
30°	1313.1	1290.2	1282.8	1265.9	1211.3	1157.2	1092.6	1040.5	983.6	927.9	920.4
32.5°	1297.7	1275.3	1269.3	1252.4	1194.7	1133.2	1063.4	1005.1	943.0	889.8	878.7
35°	1275.1	1252.7	1248.8	1231.2	1171.6	1104.5	1031.4	966.5	900.0	845.6	834.9
37.5°	1245.5	1226.8	1221.0	1203.6	1144.2	1071.9	994.7	924.6	856.1	797.6	791.0
40°	1208.3	1190.6	1186.2	1170.7	1112.5	1035.8	954.9	881.2	810.8	756.5	747.1
42.5°	1165.8	1149.2	1146.7	1130.7	1073.3	995.8	911.9	836.2	763.7	711.2	701.8
45°	1117.5	1101.5	1100.9	1085.7	1030.5	951.3	866.6	790.7	717.6	663.2	658.2
47.5°	1064.2	1049.8	1049.8	1035.8	982.8	902.5	820.0	743.2	671.2	623.2	614.3
50°	1006.2	992.7	988.6	981.7	930.1	849.2	770.8	696.9	625.4	579.6	571.0
52.5°	944.4	932.8	935.6	922.9	872.9	793.7	721.1	644.7	579.3	537.6	529.1
55°	879.3	862.7	865.2	860.5	813.3	736.6	665.4	601.6	534.0	494.8	486.8
57.5°	811.7	790.1	799.0	796.2	749.9	678.1	614.3	552.8	489.0	452.9	445.2
60°	742.4	721.7	730.8	728.3	684.7	619.6	561.6	504.5	444.3	411.5	403.8
62.5°	671.2	652.2	660.4	658.5	618.5	559.7	509.2	456.8	399.4	369.8	362.6
65°	599.4	581.2	588.7	587.3	550.3	505.6	455.4	407.4	354.1	328.4	321.2
67.5°	526.0	509.2	516.1	516.1	482.1	439.4	401.3	357.4	309.7	287.6	281.0
70°	453.2	437.4	443.5	443.0	414.3	379.5	346.6	307.4	264.7	246.5	240.9
72.5°	379.8	366.0	371.5	370.9	346.9	324.6	292.0	258.0	220.8	206.2	201.2
75°	308.6	295.6	300.8	300.3	280.7	259.7	237.9	209.7	177.7	167.5	162.6
77.5°	240.7	227.4	231.8	231.8	217.5	202.3	184.9	163.1	140.5	129.4	125.8
80°	175.5	169.2	167.0	167.2	157.6	147.7	138.8	117.8	101.3	93.8	91.4
82.5°	115.4	110.1	107.9	108.5	102.9	96.9	91.4	76.7	65.7	61.3	59.9
85°	61.3	57.4	55.5	56.9	55.7	52.4	49.7	39.7	32.8	31.2	30.4
87.5°	19.3	16.8	15.5	20.4	17.4	15.5	14.9	11.9	9.1	9.1	8.8
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1
2.5°	1181.5	1181.5	1170.7	1168.2	1167.1	1168.5	1157.8	1155.8	1171.3	1166.0	1154.2
5°	1172.1	1171.6	1156.4	1153.6	1153.6	1152.0	1139.8	1137.1	1152.5	1148.1	1135.1
7.5°	1160.5	1158.9	1140.9	1139.0	1136.2	1135.1	1121.6	1119.7	1132.9	1130.2	1118.0
10°	1146.4	1144.8	1123.5	1122.2	1119.1	1116.9	1104.2	1102.8	1116.4	1111.9	1102.3
12.5°	1128.0	1124.9	1103.1	1101.7	1099.2	1098.4	1086.0	1085.4	1100.4	1095.9	1085.7
15°	1103.7	1101.2	1076.9	1077.4	1077.7	1077.7	1067.8	1067.2	1081.9	1079.9	1068.9
17.5°	1076.9	1073.6	1050.4	1052.1	1054.0	1056.2	1048.5	1049.8	1065.3	1062.8	1052.9
20°	1046.5	1043.2	1020.6	1025.3	1029.4	1033.8	1028.9	1032.7	1047.1	1046.0	1038.5
22.5°	1012.6	1009.3	988.3	995.5	1002.4	1010.7	1008.4	1012.9	1028.0	1027.8	1021.1
25°	971.2	972.0	953.5	962.4	974.0	985.5	986.4	993.5	1010.4	1008.7	1002.7
27.5°	932.6	933.7	914.1	929.0	944.4	959.3	962.9	972.8	990.0	988.6	983.3
30°	892.0	893.4	874.3	894.7	913.5	931.7	939.5	953.0	970.4	970.4	964.8
32.5°	849.8	852.2	832.4	859.7	881.5	902.7	916.3	930.3	950.2	949.7	945.0
35°	806.4	809.2	791.0	825.7	847.6	873.5	890.3	909.1	926.8	927.0	923.4
37.5°	762.3	765.6	749.0	787.1	811.9	842.6	864.1	882.9	902.5	903.6	900.3
40°	718.4	722.0	707.6	744.3	775.8	810.0	834.9	856.9	878.5	879.0	876.8
42.5°	674.5	678.4	667.6	703.5	739.1	775.8	805.0	830.2	852.2	853.6	851.1
45°	631.7	635.0	627.3	666.5	700.7	740.7	774.4	802.8	825.2	827.1	826.3
47.5°	589.2	592.3	585.4	621.2	660.7	703.2	742.1	773.6	797.3	799.5	799.0
50°	547.6	550.0	542.6	580.1	619.3	664.6	705.1	741.6	768.1	770.3	770.0
52.5°	506.2	508.6	502.3	541.8	577.4	625.1	669.3	708.7	734.9	738.3	738.8
55°	466.1	467.2	462.3	500.1	534.6	584.5	635.3	673.7	699.9	702.7	704.3
57.5°	426.1	426.4	422.3	458.4	491.5	542.6	595.9	636.1	661.0	663.7	666.2
60°	386.4	386.1	381.4	416.5	448.2	498.7	554.2	594.2	618.2	620.7	624.0
62.5°	346.9	346.1	341.9	374.2	404.0	454.0	509.7	548.4	571.3	572.9	577.4
65°	307.7	306.9	303.0	332.8	359.9	407.6	462.3	499.0	519.7	521.9	521.1
67.5°	269.1	267.4	264.4	291.2	315.7	359.9	412.3	447.4	464.5	466.4	471.7
70°	230.4	228.5	221.6	250.0	271.6	311.0	359.9	391.1	405.4	407.4	406.5
72.5°	192.4	190.4	183.0	209.2	227.4	261.9	305.5	331.5	343.9	345.5	345.5
75°	155.4	154.3	149.6	169.5	184.6	212.8	249.8	271.3	281.0	282.9	282.3
77.5°	119.8	118.9	114.3	131.4	143.2	164.2	194.0	210.9	218.0	220.2	224.9
80°	85.8	85.6	78.1	94.9	100.2	117.8	139.6	152.6	156.5	159.5	162.8
82.5°	54.9	55.2	47.7	62.1	64.3	75.6	89.1	97.1	99.9	102.4	104.9
85°	26.8	27.9	23.7	32.8	33.1	38.9	44.7	47.7	48.8	50.8	53.0
87.5°	6.9	8.0	4.4	9.4	8.3	10.8	12.4	13.2	13.0	14.4	15.2
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°	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1
2.5°	1158.0	1166.9	1162.4	1176.8	1182.3	1173.5	1188.9	1189.2	1178.2	1191.2	1198.3
5°	1140.1	1149.2	1146.4	1161.3	1168.2	1160.5	1179.3	1182.9	1172.1	1186.7	1198.3
7.5°	1121.9	1132.6	1129.1	1144.2	1152.5	1146.4	1166.6	1172.4	1164.1	1180.1	1195.6
10°	1106.1	1115.3	1111.4	1127.4	1134.6	1129.6	1149.5	1160.2	1152.5	1172.1	1190.6
12.5°	1090.7	1098.1	1093.7	1107.0	1113.9	1107.5	1131.8	1141.8	1136.2	1156.7	1180.4
15°	1070.8	1079.1	1073.0	1084.9	1090.1	1084.6	1104.5	1121.6	1114.7	1137.1	1163.3
17.5°	1055.6	1060.3	1052.1	1061.4	1064.5	1057.0	1077.2	1094.0	1089.0	1113.3	1143.7
20°	1038.8	1042.7	1031.1	1036.3	1036.0	1026.7	1045.2	1061.7	1058.4	1085.2	1119.7
22.5°	1020.0	1022.0	1008.4	1009.6	1009.0	993.5	1010.1	1026.9	1025.6	1052.6	1091.2
25°	1000.2	1000.4	983.1	982.5	976.4	958.2	972.8	991.9	987.8	1017.0	1057.6
27.5°	980.6	977.8	956.8	951.9	942.2	920.4	933.4	950.5	948.0	976.7	1021.7
30°	959.6	956.0	930.3	921.2	907.2	882.0	892.8	908.8	910.2	935.3	982.5
32.5°	939.7	930.6	902.2	888.9	871.3	842.0	847.8	864.1	866.3	891.7	940.3
35°	914.1	908.0	872.9	850.3	832.9	800.9	807.0	818.3	821.6	846.4	895.8
37.5°	889.8	880.1	842.9	815.3	792.9	759.2	760.9	772.5	775.8	800.9	849.8
40°	864.7	850.9	810.8	778.6	752.9	717.6	715.6	727.8	730.3	754.8	799.0
42.5°	837.9	821.3	776.3	741.0	711.5	675.6	671.7	682.2	685.0	709.0	752.3
45°	810.8	791.0	741.0	702.4	670.1	633.4	629.5	637.5	641.7	664.3	706.0
47.5°	782.1	759.0	704.6	661.5	628.1	591.4	586.7	594.7	598.1	620.4	659.9
50°	752.1	723.9	667.1	619.6	586.5	550.3	543.4	552.8	555.8	576.8	615.4
52.5°	718.9	687.8	627.0	577.4	544.2	509.7	501.5	510.6	514.2	534.6	570.2
55°	683.9	650.2	586.7	538.4	502.6	468.9	462.0	465.6	473.3	492.6	525.8
57.5°	644.4	611.0	544.2	495.1	460.6	428.3	422.5	425.8	433.0	451.8	481.6
60°	602.5	567.1	500.9	451.8	418.4	387.8	382.5	385.6	393.3	410.4	438.0
62.5°	561.1	521.3	456.2	407.4	377.0	348.6	347.2	346.1	353.3	369.8	394.1
65°	510.8	472.8	409.6	363.2	335.6	309.9	304.4	306.9	313.8	329.0	354.4
67.5°	457.0	422.5	361.8	319.0	294.5	271.6	266.9	268.0	275.2	288.4	310.5
70°	399.9	369.5	313.0	274.6	253.9	232.4	229.3	229.6	236.5	248.1	267.4
72.5°	340.0	312.7	263.6	230.7	213.6	198.2	195.4	192.1	198.4	208.4	224.9
75°	279.0	255.0	214.4	187.7	174.1	161.2	158.7	155.4	161.7	170.3	183.3
77.5°	217.5	198.2	166.7	146.0	135.5	125.8	123.6	120.1	126.4	132.7	143.0
80°	157.3	143.2	124.5	102.7	99.1	92.7	90.5	86.7	92.7	96.9	104.6
82.5°	101.6	92.2	81.4	66.2	65.7	61.0	59.9	55.5	61.0	63.5	69.3
85°	51.3	46.9	44.2	33.7	34.8	31.7	31.5	26.8	31.2	32.3	35.6
87.5°	14.6	15.5	13.8	8.3	10.5	9.9	9.9	7.2	9.9	9.9	11.3
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: P837937

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-3HI-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1	1183.1
2.5°	1184.3	1188.9	1190.0	1189.8	1192.8	1209.4	1203.8	1209.4
5°	1187.0	1197.5	1200.3	1204.1	1209.1	1227.9	1221.8	1228.4
7.5°	1188.7	1204.4	1210.5	1217.9	1225.9	1246.9	1241.9	1248.6
10°	1188.7	1209.1	1217.9	1230.3	1241.1	1265.4	1260.7	1268.4
12.5°	1183.7	1209.9	1222.3	1239.7	1253.5	1279.7	1277.8	1283.3
15°	1173.5	1205.8	1222.9	1245.2	1262.4	1291.6	1290.8	1297.4
17.5°	1159.7	1198.6	1219.3	1247.5	1269.0	1301.8	1303.8	1307.3
20°	1142.3	1185.1	1212.1	1246.6	1273.7	1309.8	1312.3	1317.3
22.5°	1119.4	1168.8	1201.4	1243.0	1274.2	1313.1	1317.6	1322.2
25°	1092.3	1149.2	1187.3	1236.1	1271.5	1312.9	1318.9	1323.1
27.5°	1061.4	1123.8	1169.3	1225.1	1263.7	1308.4	1315.9	1320.9
30°	1025.6	1096.8	1148.9	1210.7	1253.2	1300.2	1308.2	1313.1
32.5°	988.6	1067.0	1124.6	1192.3	1238.1	1286.9	1293.8	1297.7
35°	948.3	1030.8	1095.4	1168.5	1218.5	1265.7	1270.9	1275.1
37.5°	904.4	991.6	1062.0	1141.8	1190.9	1236.1	1240.8	1245.5
40°	859.1	950.5	1024.5	1108.9	1158.0	1200.0	1205.0	1208.3
42.5°	813.6	905.0	984.4	1070.3	1119.1	1159.4	1162.4	1165.8
45°	767.5	857.8	939.5	1027.5	1075.8	1113.6	1114.7	1117.5
47.5°	720.6	808.9	890.1	978.6	1026.4	1060.9	1062.0	1064.2
50°	673.4	760.1	837.3	925.9	972.6	1009.0	1004.0	1006.2
52.5°	627.0	708.7	787.7	869.1	915.2	947.5	948.8	944.4
55°	581.5	658.5	731.1	809.5	853.3	878.5	877.6	879.3
57.5°	535.4	607.7	674.2	746.0	788.8	812.5	817.5	811.7
60°	488.5	556.4	616.0	680.9	722.3	742.1	747.9	742.4
62.5°	441.9	504.2	558.3	614.9	653.3	677.8	677.3	671.2
65°	395.2	451.8	500.1	548.1	581.5	606.1	605.0	599.4
67.5°	352.2	398.8	442.1	481.0	510.0	526.9	532.7	526.0
70°	304.7	345.0	383.1	414.3	438.3	453.4	459.0	453.2
72.5°	257.2	291.4	318.2	348.3	366.8	379.5	385.3	379.8
75°	210.3	238.5	260.3	283.7	296.7	307.4	314.1	308.6
77.5°	164.8	186.6	204.0	221.1	236.0	238.5	244.2	240.7
80°	121.4	137.2	149.9	161.2	171.9	173.0	177.7	175.5
82.5°	80.9	91.4	94.7	106.5	113.4	112.3	117.0	115.4
85°	42.8	49.1	54.9	58.5	62.4	58.8	62.9	61.3
87.5°	14.4	15.2	13.2	18.8	20.7	17.7	20.1	19.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)