

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: P838007

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-3LO-40-120-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: P838007
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-LD4-3LO-40-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

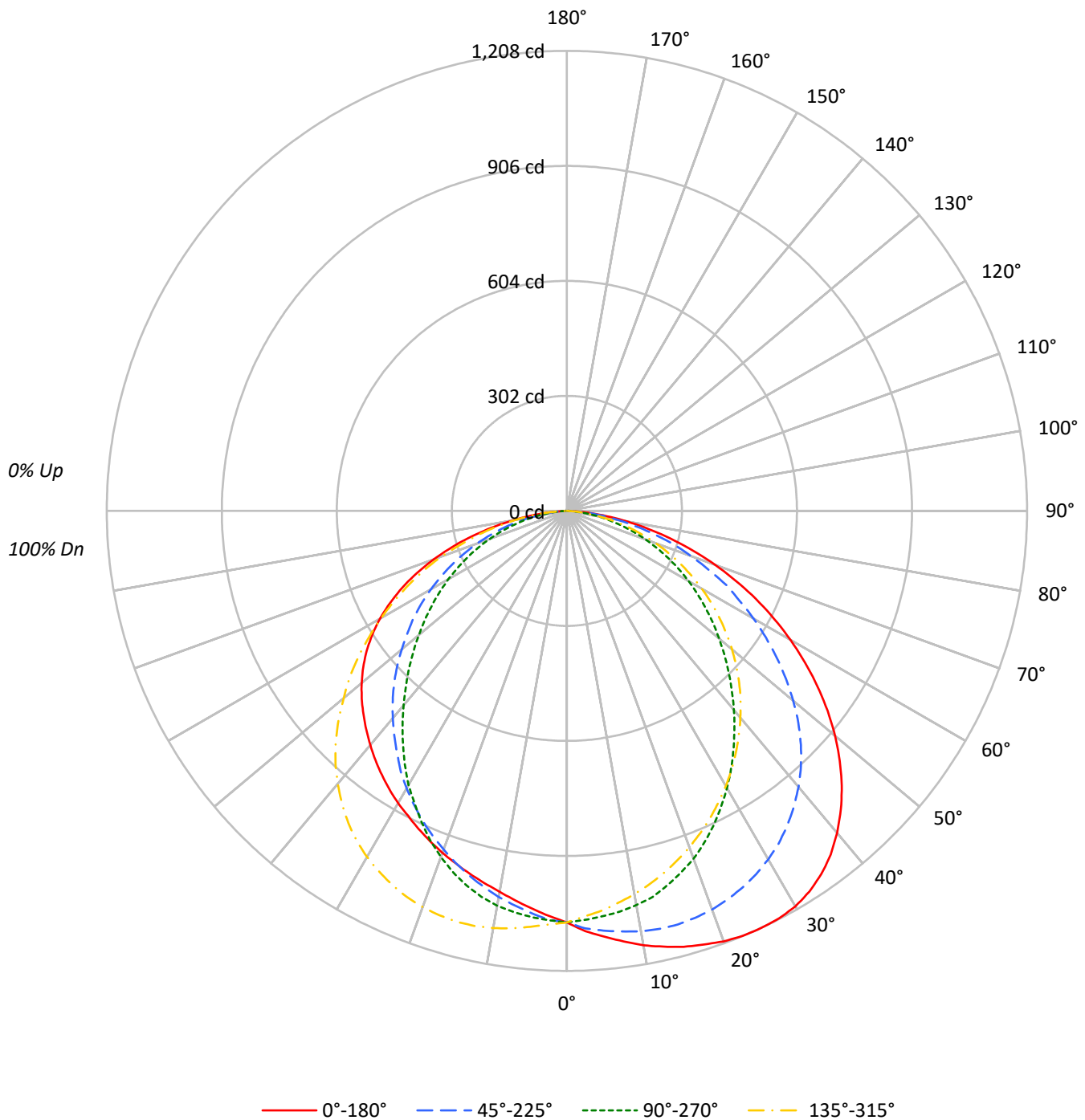
Lumens per Lamp: N/A
Luminaire Lumens: 3170.1 lumens
Efficiency: N/A
Efficacy: 90.3 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 35.1
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	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	86	86	84
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	70
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	61	61	59
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	52	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	45	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	40	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	35	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	31	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	28	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	26	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	2908	2908	2908	2908
5°	3031	2887	2832	2891
10°	3165	2872	2775	2876
15°	3301	2835	2748	2836
20°	3445	2784	2736	2768
25°	3588	2706	2735	2678
30°	3726	2612	2754	2583
35°	3825	2505	2781	2465
40°	3876	2397	2820	2343
45°	3884	2288	2875	2230
50°	3847	2183	2945	2125
55°	3767	2086	3011	2028
60°	3649	1984	3051	1933
65°	3486	1868	3035	1825
70°	3257	1731	2927	1699
75°	2930	1544	2686	1536
80°	2484	1292	2258	1313
85°	1729	855	1433	880

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.6	3.2
10°-20°	297.1	9.4
20°-30°	455.3	14.4
30°-40°	553.6	17.5
40°-50°	575.5	18.2
50°-60°	519.8	16.4
60°-70°	395.2	12.5
70°-80°	220.3	7.0
80°-90°	50.7	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°	854.9	27.0
0°-40°	1408.5	44.4
0°-60°	2503.8	79.0
0°-90°	3170.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3170.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1080	1080	1080	1080	1080	
5°	1122	1069	1048	1070	1122	108
15°	1185	1018	986	1018	1185	336
25°	1208	911	921	902	1208	558
35°	1164	762	847	750	1164	727
45°	1020	601	755	586	1020	786
55°	803	445	642	432	803	717
65°	547	293	477	287	547	541
75°	282	148	258	148	282	299
85°	56	28	46	28	56	70
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°	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5
2.5°	1104.5	1088.3	1088.6	1102.7	1091.9	1097.2	1082.0	1087.8	1086.1	1087.3	1075.0
5°	1121.9	1104.5	1104.2	1116.3	1104.2	1106.5	1087.3	1091.1	1085.6	1082.0	1068.7
7.5°	1140.3	1122.9	1121.1	1131.7	1115.8	1114.0	1092.9	1092.9	1082.8	1074.0	1061.4
10°	1158.4	1140.5	1138.2	1146.3	1126.6	1120.9	1095.1	1091.1	1077.8	1064.6	1051.0
12.5°	1172.0	1153.9	1152.1	1157.1	1135.0	1124.4	1095.1	1087.3	1067.7	1049.3	1038.7
15°	1184.9	1166.2	1161.4	1164.0	1138.5	1124.4	1091.6	1079.5	1054.3	1030.1	1017.8
17.5°	1193.9	1176.0	1171.3	1171.0	1140.3	1120.1	1084.1	1067.4	1037.2	1007.9	995.6
20°	1203.0	1185.1	1179.1	1174.5	1139.8	1114.3	1073.0	1050.5	1015.2	982.5	972.1
22.5°	1207.6	1189.2	1182.6	1175.8	1136.5	1103.7	1059.4	1030.9	990.5	951.5	942.9
25°	1208.3	1189.4	1182.4	1172.5	1129.9	1091.1	1041.7	1007.2	962.1	918.7	911.4
27.5°	1206.3	1185.6	1178.6	1166.7	1120.1	1075.7	1020.8	980.2	931.8	883.9	876.1
30°	1199.2	1178.3	1171.5	1156.1	1106.2	1056.8	997.9	950.2	898.3	847.4	840.6
32.5°	1185.1	1164.7	1159.2	1143.8	1091.1	1034.9	971.1	918.0	861.2	812.6	802.5
35°	1164.5	1144.0	1140.5	1124.4	1069.9	1008.7	941.9	882.7	821.9	772.3	762.4
37.5°	1137.5	1120.3	1115.1	1099.2	1045.0	978.9	908.4	844.4	781.8	728.4	722.4
40°	1103.5	1087.3	1083.3	1069.2	1016.0	945.9	872.1	804.8	740.5	690.9	682.3
42.5°	1064.6	1049.5	1047.3	1032.6	980.2	909.4	832.8	763.7	697.4	649.5	641.0
45°	1020.5	1005.9	1005.4	991.6	941.1	868.8	791.4	722.1	655.3	605.7	601.1
47.5°	971.9	958.8	958.8	945.9	897.5	824.2	748.8	678.8	613.0	569.1	561.1
50°	919.0	906.6	902.8	896.5	849.4	775.5	704.0	636.4	571.1	529.3	521.5
52.5°	862.5	851.9	854.4	842.8	797.2	724.9	658.6	588.8	529.0	491.0	483.2
55°	803.0	787.9	790.2	785.9	742.8	672.7	607.7	549.5	487.7	451.9	444.6
57.5°	741.3	721.6	729.7	727.2	684.8	619.3	561.1	504.8	446.6	413.6	406.6
60°	678.0	659.1	667.4	665.2	625.3	565.8	512.9	460.7	405.8	375.8	368.7
62.5°	613.0	595.6	603.1	601.4	564.8	511.2	465.0	417.1	364.7	337.7	331.2
65°	547.4	530.8	537.6	536.4	502.6	461.7	415.9	372.0	323.4	299.9	293.4
67.5°	480.4	465.0	471.3	471.3	440.3	401.3	366.5	326.4	282.8	262.6	256.6
70°	413.9	399.5	405.0	404.5	378.3	346.6	316.6	280.8	241.7	225.1	220.0
72.5°	346.8	334.2	339.3	338.8	316.8	296.4	266.7	235.7	201.6	188.3	183.7
75°	281.8	269.9	274.7	274.2	256.3	237.2	217.3	191.6	162.3	153.0	148.5
77.5°	219.8	207.7	211.7	211.7	198.6	184.8	168.9	149.0	128.3	118.2	114.9
80°	160.3	154.5	152.5	152.7	143.9	134.8	126.8	107.6	92.5	85.7	83.4
82.5°	105.4	100.6	98.6	99.1	94.0	88.5	83.4	70.1	60.0	56.0	54.7
85°	56.0	52.4	50.7	51.9	50.9	47.9	45.4	36.3	30.0	28.5	27.7
87.5°	17.6	15.4	14.1	18.7	15.9	14.1	13.6	10.8	8.3	8.3	8.1
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°	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5
2.5°	1079.0	1079.0	1069.2	1066.9	1065.9	1067.2	1057.3	1055.6	1069.7	1064.9	1054.1
5°	1070.4	1069.9	1056.1	1053.6	1053.6	1052.0	1041.0	1038.4	1052.5	1048.5	1036.7
7.5°	1059.9	1058.3	1042.0	1040.2	1037.7	1036.7	1024.3	1022.6	1034.7	1032.1	1021.0
10°	1047.0	1045.5	1026.1	1024.8	1022.0	1020.0	1008.4	1007.2	1019.5	1015.5	1006.7
12.5°	1030.1	1027.3	1007.4	1006.2	1003.9	1003.1	991.8	991.3	1004.9	1000.9	991.6
15°	1007.9	1005.7	983.5	984.0	984.2	984.2	975.2	974.7	988.0	986.3	976.2
17.5°	983.5	980.5	959.3	960.8	962.6	964.6	957.5	958.8	972.9	970.6	961.6
20°	955.8	952.7	932.1	936.4	940.1	944.2	939.6	943.2	956.3	955.3	948.5
22.5°	924.8	921.7	902.6	909.1	915.4	923.0	921.0	925.0	938.9	938.6	932.6
25°	887.0	887.7	870.8	878.9	889.5	900.1	900.8	907.4	922.7	921.2	915.7
27.5°	851.7	852.7	834.8	848.4	862.5	876.1	879.4	888.5	904.1	902.8	898.0
30°	814.6	815.9	798.5	817.1	834.3	850.9	858.0	870.3	886.2	886.2	881.2
32.5°	776.1	778.3	760.2	785.1	805.0	824.4	836.8	849.6	867.8	867.3	863.0
35°	736.5	739.0	722.4	754.1	774.0	797.7	813.1	830.2	846.4	846.6	843.3
37.5°	696.2	699.2	684.1	718.8	741.5	769.5	789.2	806.3	824.2	825.2	822.2
40°	656.1	659.4	646.2	679.8	708.5	739.8	762.4	782.6	802.3	802.8	800.8
42.5°	616.0	619.5	609.7	642.5	675.0	708.5	735.2	758.2	778.3	779.6	777.3
45°	576.9	580.0	572.9	608.7	639.9	676.5	707.2	733.2	753.6	755.4	754.6
47.5°	538.1	540.9	534.6	567.4	603.4	642.2	677.8	706.5	728.2	730.2	729.7
50°	500.1	502.3	495.5	529.8	565.6	606.9	644.0	677.2	701.4	703.5	703.2
52.5°	462.3	464.5	458.7	494.8	527.3	570.9	611.2	647.3	671.2	674.2	674.7
55°	425.7	426.7	422.2	456.7	488.2	533.8	580.2	615.2	639.2	641.7	643.2
57.5°	389.2	389.4	385.6	418.6	448.9	495.5	544.2	581.0	603.7	606.2	608.4
60°	352.9	352.6	348.3	380.3	409.3	455.4	506.1	542.7	564.6	566.9	569.9
62.5°	316.8	316.1	312.3	341.8	369.0	414.6	465.5	500.8	521.7	523.2	527.3
65°	281.0	280.3	276.7	304.0	328.7	372.3	422.2	455.7	474.6	476.6	475.9
67.5°	245.7	244.2	241.5	265.9	288.3	328.7	376.6	408.6	424.2	426.0	430.7
70°	210.5	208.7	202.4	228.4	248.0	284.1	328.7	357.2	370.3	372.0	371.3
72.5°	175.7	173.9	167.1	191.1	207.7	239.2	279.0	302.7	314.1	315.6	315.6
75°	141.9	140.9	136.6	154.8	168.6	194.3	228.1	247.8	256.6	258.3	257.8
77.5°	109.4	108.6	104.3	120.0	130.8	150.0	177.2	192.6	199.1	201.1	205.4
80°	78.4	78.1	71.3	86.7	91.5	107.6	127.5	139.4	142.9	145.7	148.7
82.5°	50.2	50.4	43.6	56.7	58.7	69.1	81.4	88.7	91.2	93.5	95.8
85°	24.4	25.5	21.7	30.0	30.2	35.5	40.8	43.6	44.6	46.4	48.4
87.5°	6.3	7.3	4.0	8.6	7.6	9.8	11.3	12.1	11.8	13.1	13.9
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°	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5
2.5°	1057.6	1065.7	1061.6	1074.7	1079.8	1071.7	1085.8	1086.1	1076.0	1087.8	1094.4
5°	1041.2	1049.5	1047.0	1060.6	1066.9	1059.9	1077.0	1080.3	1070.4	1083.8	1094.4
7.5°	1024.6	1034.4	1031.1	1045.0	1052.5	1047.0	1065.4	1070.7	1063.1	1077.8	1091.9
10°	1010.2	1018.5	1015.0	1029.6	1036.2	1031.6	1049.8	1059.6	1052.5	1070.4	1087.3
12.5°	996.1	1002.9	998.9	1011.0	1017.3	1011.5	1033.6	1042.7	1037.7	1056.3	1078.0
15°	977.9	985.5	980.0	990.8	995.6	990.5	1008.7	1024.3	1018.0	1038.4	1062.4
17.5°	964.1	968.4	960.8	969.4	972.1	965.3	983.7	999.1	994.6	1016.8	1044.5
20°	948.7	952.2	941.6	946.4	946.2	937.6	954.5	969.6	966.6	991.0	1022.6
22.5°	931.6	933.3	921.0	922.0	921.5	907.4	922.5	937.9	936.6	961.3	996.6
25°	913.4	913.7	897.8	897.3	891.7	875.1	888.5	905.9	902.1	928.8	965.8
27.5°	895.5	893.0	873.8	869.3	860.5	840.6	852.4	868.0	865.8	892.0	933.1
30°	876.4	873.1	849.6	841.3	828.5	805.5	815.4	830.0	831.2	854.2	897.3
32.5°	858.2	849.9	823.9	811.8	795.7	769.0	774.3	789.2	791.2	814.4	858.7
35°	834.8	829.2	797.2	776.6	760.7	731.4	737.0	747.3	750.3	773.0	818.1
37.5°	812.6	803.8	769.8	744.5	724.1	693.4	694.9	705.5	708.5	731.4	776.1
40°	789.7	777.1	740.5	711.0	687.6	655.3	653.6	664.6	666.9	689.3	729.7
42.5°	765.2	750.1	709.0	676.7	649.8	617.0	613.5	623.1	625.6	647.5	687.1
45°	740.5	722.4	676.7	641.5	612.0	578.4	574.9	582.2	586.0	606.7	644.7
47.5°	714.3	693.1	643.5	604.2	573.7	540.1	535.9	543.2	546.2	566.6	602.6
50°	686.8	661.1	609.2	565.8	535.6	502.6	496.3	504.8	507.6	526.8	562.1
52.5°	656.6	628.1	572.6	527.3	497.0	465.5	458.0	466.3	469.6	488.2	520.7
55°	624.6	593.8	535.9	491.7	459.0	428.2	421.9	425.2	432.3	449.9	480.1
57.5°	588.5	558.0	497.0	452.2	420.7	391.2	385.9	388.9	395.5	412.6	439.8
60°	550.2	518.0	457.5	412.6	382.1	354.1	349.3	352.1	359.2	374.8	400.0
62.5°	512.4	476.1	416.6	372.0	344.3	318.3	317.1	316.1	322.6	337.7	359.9
65°	466.5	431.8	374.0	331.7	306.5	283.0	278.0	280.3	286.6	300.4	323.6
67.5°	417.4	385.9	330.4	291.4	268.9	248.0	243.7	244.7	251.3	263.4	283.6
70°	365.2	337.5	285.8	250.8	231.9	212.2	209.5	209.7	216.0	226.6	244.2
72.5°	310.5	285.6	240.7	210.7	195.1	181.0	178.4	175.4	181.2	190.3	205.4
75°	254.8	232.9	195.8	171.4	159.0	147.2	144.9	141.9	147.7	155.5	167.4
77.5°	198.6	181.0	152.2	133.3	123.8	114.9	112.9	109.6	115.4	121.2	130.6
80°	143.7	130.8	113.7	93.8	90.5	84.7	82.7	79.1	84.7	88.5	95.5
82.5°	92.8	84.2	74.4	60.5	60.0	55.7	54.7	50.7	55.7	58.0	63.3
85°	46.9	42.8	40.3	30.7	31.8	29.0	28.7	24.4	28.5	29.5	32.5
87.5°	13.4	14.1	12.6	7.6	9.6	9.1	9.1	6.6	9.1	9.1	10.3
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: P838007

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-3LO-40-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5	1080.5
2.5°	1081.5	1085.8	1086.8	1086.6	1089.3	1104.5	1099.4	1104.5
5°	1084.1	1093.6	1096.2	1099.7	1104.2	1121.4	1115.8	1121.9
7.5°	1085.6	1099.9	1105.5	1112.3	1119.6	1138.7	1134.2	1140.3
10°	1085.6	1104.2	1112.3	1123.6	1133.5	1155.6	1151.3	1158.4
12.5°	1081.0	1105.0	1116.3	1132.2	1144.8	1168.7	1167.0	1172.0
15°	1071.7	1101.2	1116.8	1137.2	1152.9	1179.6	1178.8	1184.9
17.5°	1059.1	1094.6	1113.5	1139.3	1158.9	1188.9	1190.7	1193.9
20°	1043.2	1082.3	1107.0	1138.5	1163.2	1196.2	1198.5	1203.0
22.5°	1022.3	1067.4	1097.2	1135.2	1163.7	1199.2	1203.3	1207.6
25°	997.6	1049.5	1084.3	1128.9	1161.2	1199.0	1204.5	1208.3
27.5°	969.4	1026.3	1067.9	1118.8	1154.1	1195.0	1201.8	1206.3
30°	936.6	1001.6	1049.3	1105.7	1144.5	1187.4	1194.7	1199.2
32.5°	902.8	974.4	1027.1	1088.8	1130.7	1175.3	1181.6	1185.1
35°	866.0	941.4	1000.4	1067.2	1112.8	1155.9	1160.7	1164.5
37.5°	826.0	905.6	969.9	1042.7	1087.6	1128.9	1133.2	1137.5
40°	784.6	868.0	935.6	1012.7	1057.6	1095.9	1100.4	1103.5
42.5°	743.0	826.5	899.1	977.4	1022.0	1058.8	1061.6	1064.6
45°	700.9	783.4	858.0	938.4	982.5	1017.0	1018.0	1020.5
47.5°	658.1	738.7	812.9	893.8	937.4	968.9	969.9	971.9
50°	615.0	694.1	764.7	845.6	888.2	921.5	916.9	919.0
52.5°	572.6	647.3	719.3	793.7	835.8	865.3	866.5	862.5
55°	531.1	601.4	667.7	739.3	779.3	802.3	801.5	803.0
57.5°	489.0	555.0	615.7	681.3	720.3	742.0	746.6	741.3
60°	446.1	508.1	562.6	621.8	659.6	677.8	683.0	678.0
62.5°	403.5	460.5	509.9	561.6	596.6	619.0	618.5	613.0
65°	360.9	412.6	456.7	500.6	531.1	553.5	552.5	547.4
67.5°	321.6	364.2	403.8	439.3	465.8	481.2	486.4	480.4
70°	278.3	315.1	349.8	378.3	400.2	414.1	419.2	413.9
72.5°	234.9	266.2	290.6	318.1	335.0	346.6	351.9	346.8
75°	192.1	217.8	237.7	259.1	271.0	280.8	286.8	281.8
77.5°	150.5	170.4	186.3	201.9	215.5	217.8	223.1	219.8
80°	110.9	125.3	136.9	147.2	157.0	158.0	162.3	160.3
82.5°	73.8	83.4	86.5	97.3	103.6	102.6	106.9	105.4
85°	39.1	44.9	50.2	53.4	57.0	53.7	57.5	56.0
87.5°	13.1	13.9	12.1	17.1	18.9	16.1	18.4	17.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)