

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: P837938

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-4LO-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: P837938
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-LD4-4LO-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

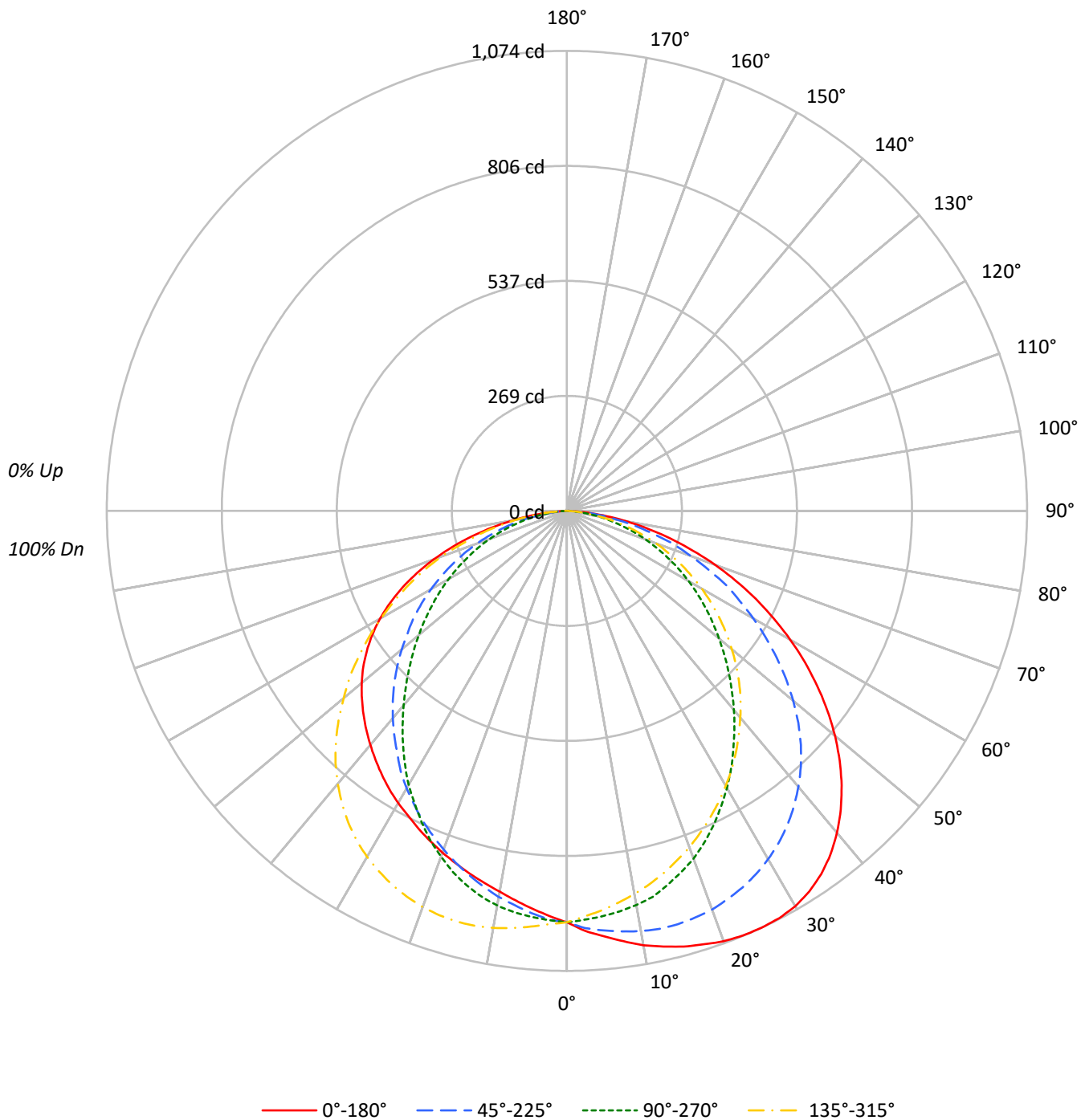
Lumens per Lamp: N/A
Luminaire Lumens: 2817.5 lumens
Efficiency: N/A
Efficacy: 60.2 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	2584	2584	2584	2584
5°	2693	2566	2517	2570
10°	2813	2552	2466	2556
15°	2934	2520	2442	2521
20°	3062	2474	2431	2460
25°	3189	2405	2431	2381
30°	3312	2321	2447	2296
35°	3400	2226	2472	2191
40°	3445	2130	2506	2082
45°	3452	2033	2555	1982
50°	3419	1940	2617	1889
55°	3348	1854	2676	1803
60°	3243	1764	2711	1718
65°	3098	1661	2697	1622
70°	2894	1539	2601	1511
75°	2603	1371	2387	1365
80°	2208	1148	2007	1167
85°	1535	760	1272	781

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.2	3.2
10°-20°	264.0	9.4
20°-30°	404.6	14.4
30°-40°	492.0	17.5
40°-50°	511.5	18.2
50°-60°	462.0	16.4
60°-70°	351.3	12.5
70°-80°	195.8	7.0
80°-90°	45.1	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°	759.9	27.0
0°-40°	1251.9	44.4
0°-60°	2225.4	79.0
0°-90°	2817.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2817.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	960	960	960	960	960	
5°	997	950	932	951	997	96
15°	1053	905	877	905	1053	299
25°	1074	810	819	802	1074	496
35°	1035	678	752	667	1035	646
45°	907	534	671	521	907	698
55°	714	395	570	384	714	637
65°	487	261	424	255	487	481
75°	250	132	230	131	250	266
85°	50	25	41	25	50	63
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°	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4
2.5°	981.6	967.3	967.5	980.1	970.4	975.1	961.7	966.9	965.3	966.4	955.4
5°	997.1	981.6	981.4	992.2	981.4	983.4	966.4	969.8	964.8	961.7	949.8
7.5°	1013.4	998.0	996.4	1005.8	991.7	990.1	971.3	971.3	962.4	954.5	943.3
10°	1029.6	1013.7	1011.7	1018.8	1001.3	996.2	973.3	969.8	957.9	946.2	934.1
12.5°	1041.7	1025.5	1024.0	1028.5	1008.7	999.3	973.3	966.4	948.9	932.6	923.2
15°	1053.1	1036.5	1032.3	1034.5	1011.9	999.3	970.2	959.5	937.1	915.6	904.6
17.5°	1061.2	1045.3	1041.0	1040.8	1013.4	995.5	963.5	948.7	921.8	895.8	884.9
20°	1069.2	1053.3	1047.9	1043.9	1013.0	990.4	953.6	933.7	902.3	873.2	864.0
22.5°	1073.3	1056.9	1051.1	1045.0	1010.1	981.0	941.5	916.2	880.4	845.7	838.0
25°	1073.9	1057.1	1050.9	1042.1	1004.3	969.8	925.9	895.2	855.1	816.5	810.0
27.5°	1072.1	1053.8	1047.5	1037.0	995.5	956.1	907.3	871.2	828.2	785.6	778.7
30°	1065.9	1047.3	1041.2	1027.6	983.2	939.3	886.9	844.5	798.4	753.1	747.1
32.5°	1053.3	1035.2	1030.2	1016.6	969.8	919.8	863.1	815.9	765.5	722.2	713.3
35°	1035.0	1016.8	1013.7	999.3	950.9	896.5	837.1	784.5	730.5	686.4	677.6
37.5°	1011.0	995.7	991.0	976.9	928.8	870.1	807.4	750.5	694.9	647.4	642.0
40°	980.7	966.4	962.8	950.3	903.0	840.7	775.1	715.3	658.2	614.0	606.4
42.5°	946.2	932.8	930.8	917.8	871.2	808.2	740.1	678.8	619.9	577.3	569.7
45°	907.0	894.0	893.6	881.3	836.5	772.2	703.4	641.8	582.4	538.3	534.3
47.5°	863.8	852.2	852.2	840.7	797.7	732.5	665.5	603.3	544.8	505.8	498.7
50°	816.8	805.8	802.4	796.8	754.9	689.3	625.7	565.6	507.6	470.4	463.5
52.5°	766.6	757.2	759.4	749.1	708.6	644.3	585.4	523.3	470.2	436.4	429.4
55°	713.7	700.3	702.3	698.5	660.2	597.9	540.1	488.4	433.5	401.7	395.2
57.5°	658.8	641.4	648.5	646.3	608.6	550.4	498.7	448.7	397.0	367.6	361.3
60°	602.6	585.8	593.2	591.2	555.8	502.9	455.9	409.5	360.7	334.0	327.7
62.5°	544.8	529.3	536.1	534.5	502.0	454.3	413.3	370.7	324.2	300.2	294.4
65°	486.6	471.8	477.8	476.7	446.7	410.4	369.6	330.6	287.4	266.6	260.8
67.5°	427.0	413.3	418.9	418.9	391.4	356.6	325.7	290.1	251.3	233.4	228.0
70°	367.8	355.1	360.0	359.5	336.2	308.0	281.4	249.6	214.8	200.0	195.6
72.5°	308.2	297.0	301.5	301.1	281.6	263.4	237.0	209.5	179.2	167.3	163.3
75°	250.4	239.9	244.2	243.7	227.8	210.8	193.1	170.3	144.3	136.0	131.9
77.5°	195.3	184.6	188.2	188.2	176.5	164.2	150.1	132.4	114.0	105.1	102.2
80°	142.5	137.3	135.5	135.8	127.9	119.8	112.7	95.7	82.2	76.2	74.1
82.5°	93.6	89.4	87.6	88.0	83.6	78.6	74.1	62.3	53.3	49.7	48.6
85°	49.7	46.6	45.0	46.1	45.3	42.6	40.3	32.3	26.7	25.3	24.6
87.5°	15.7	13.7	12.5	16.6	14.1	12.5	12.1	9.6	7.4	7.4	7.2
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4
2.5°	959.0	959.0	950.3	948.3	947.4	948.5	939.7	938.2	950.7	946.5	936.8
5°	951.4	950.9	938.6	936.4	936.4	935.0	925.2	922.9	935.5	931.9	921.4
7.5°	942.0	940.6	926.1	924.5	922.3	921.4	910.4	908.8	919.6	917.3	907.5
10°	930.6	929.2	912.0	910.8	908.4	906.6	896.3	895.2	906.1	902.6	894.7
12.5°	915.6	913.1	895.4	894.3	892.3	891.6	881.5	881.1	893.1	889.6	881.3
15°	895.8	893.8	874.1	874.6	874.8	874.8	866.7	866.3	878.1	876.6	867.6
17.5°	874.1	871.4	852.6	853.9	855.5	857.3	851.0	852.2	864.7	862.7	854.6
20°	849.5	846.8	828.4	832.2	835.6	839.2	835.1	838.3	849.9	849.0	843.0
22.5°	821.9	819.2	802.2	808.0	813.6	820.3	818.6	822.1	834.5	834.2	828.9
25°	788.3	789.0	774.0	781.1	790.6	800.0	800.6	806.5	820.1	818.8	813.8
27.5°	756.9	757.8	741.9	754.0	766.6	778.7	781.6	789.7	803.5	802.4	798.2
30°	724.0	725.1	709.7	726.3	741.5	756.3	762.5	773.5	787.6	787.6	783.2
32.5°	689.7	691.8	675.6	697.8	715.5	732.8	743.7	755.2	771.3	770.8	767.0
35°	654.6	656.8	642.0	670.3	688.0	709.0	722.7	737.9	752.2	752.5	749.6
37.5°	618.7	621.4	608.0	638.9	659.1	683.9	701.4	716.6	732.5	733.4	730.7
40°	583.1	586.0	574.4	604.2	629.7	657.5	677.6	695.6	713.0	713.5	711.7
42.5°	547.5	550.6	541.9	571.0	599.9	629.7	653.5	673.8	691.8	692.9	690.9
45°	512.8	515.5	509.2	541.0	568.8	601.3	628.6	651.7	669.8	671.4	670.7
47.5°	478.3	480.7	475.1	504.3	536.3	570.8	602.4	627.9	647.2	649.0	648.5
50°	444.4	446.5	440.4	470.9	502.7	539.4	572.4	601.9	623.4	625.2	625.0
52.5°	410.8	412.9	407.7	439.7	468.6	507.4	543.2	575.3	596.6	599.2	599.7
55°	378.4	379.3	375.2	405.9	433.9	474.5	515.7	546.8	568.1	570.3	571.7
57.5°	345.9	346.1	342.7	372.1	399.0	440.4	483.6	516.4	536.5	538.8	540.8
60°	313.6	313.4	309.6	338.0	363.8	404.8	449.8	482.3	501.8	503.8	506.5
62.5°	281.6	280.9	277.6	303.8	328.0	368.5	413.8	445.1	463.7	465.1	468.6
65°	249.8	249.1	246.0	270.2	292.1	330.9	375.2	405.0	421.8	423.6	422.9
67.5°	218.4	217.1	214.6	236.3	256.3	292.1	334.7	363.1	377.0	378.6	382.8
70°	187.1	185.5	179.9	203.0	220.4	252.5	292.1	317.4	329.1	330.6	330.0
72.5°	156.1	154.6	148.5	169.8	184.6	212.6	248.0	269.0	279.1	280.5	280.5
75°	126.1	125.2	121.4	137.5	149.9	172.7	202.7	220.2	228.0	229.6	229.2
77.5°	97.2	96.6	92.7	106.6	116.3	133.3	157.5	171.1	177.0	178.8	182.6
80°	69.7	69.4	63.4	77.1	81.3	95.7	113.4	123.9	127.0	129.5	132.2
82.5°	44.6	44.8	38.8	50.4	52.2	61.4	72.4	78.9	81.1	83.1	85.1
85°	21.7	22.6	19.3	26.7	26.9	31.6	36.3	38.8	39.7	41.2	43.0
87.5°	5.6	6.5	3.6	7.6	6.7	8.7	10.1	10.8	10.5	11.6	12.3
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°	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4
2.5°	940.0	947.1	943.6	955.2	959.7	952.5	965.1	965.3	956.3	966.9	972.7
5°	925.4	932.8	930.6	942.7	948.3	942.0	957.2	960.1	951.4	963.3	972.7
7.5°	910.6	919.4	916.4	928.8	935.5	930.6	946.9	951.6	944.9	957.9	970.4
10°	897.9	905.2	902.1	915.1	920.9	916.9	933.0	941.8	935.5	951.4	966.4
12.5°	885.3	891.4	887.8	898.5	904.1	899.0	918.7	926.8	922.3	938.8	958.1
15°	869.2	875.9	871.0	880.6	884.9	880.4	896.5	910.4	904.8	922.9	944.2
17.5°	856.9	860.7	853.9	861.6	864.0	858.0	874.3	888.0	884.0	903.7	928.3
20°	843.2	846.3	836.9	841.2	841.0	833.3	848.3	861.8	859.1	880.8	908.8
22.5°	828.0	829.5	818.6	819.4	819.0	806.5	819.9	833.6	832.4	854.4	885.8
25°	811.8	812.1	797.9	797.5	792.6	777.8	789.7	805.1	801.8	825.5	858.4
27.5°	795.9	793.7	776.7	772.6	764.8	747.1	757.6	771.5	769.5	792.8	829.3
30°	778.9	776.0	755.2	747.8	736.3	716.0	724.7	737.7	738.8	759.2	797.5
32.5°	762.8	755.4	732.3	721.6	707.2	683.5	688.2	701.4	703.2	723.8	763.2
35°	741.9	737.0	708.6	690.2	676.1	650.1	655.0	664.2	666.9	687.1	727.2
37.5°	722.2	714.4	684.1	661.7	643.6	616.3	617.6	627.0	629.7	650.1	689.7
40°	701.8	690.6	658.2	631.9	611.1	582.4	580.9	590.7	592.7	612.7	648.5
42.5°	680.1	666.7	630.2	601.5	577.5	548.4	545.3	553.8	556.0	575.5	610.7
45°	658.2	642.0	601.5	570.1	543.9	514.1	511.0	517.5	520.8	539.2	573.0
47.5°	634.9	616.0	571.9	537.0	509.9	480.1	476.3	482.8	485.4	503.6	535.6
50°	610.4	587.6	541.4	502.9	476.0	446.7	441.1	448.7	451.2	468.2	499.6
52.5°	583.6	558.2	509.0	468.6	441.8	413.8	407.0	414.4	417.3	433.9	462.8
55°	555.1	527.8	476.3	437.1	407.9	380.6	375.0	377.9	384.2	399.9	426.7
57.5°	523.1	496.0	441.8	401.9	373.9	347.7	343.0	345.7	351.5	366.7	390.9
60°	489.0	460.4	406.6	366.7	339.6	314.7	310.5	312.9	319.2	333.1	355.5
62.5°	455.4	423.2	370.3	330.6	306.0	282.9	281.8	280.9	286.7	300.2	319.9
65°	414.7	383.7	332.4	294.8	272.4	251.6	247.1	249.1	254.7	267.0	287.6
67.5°	371.0	343.0	293.7	259.0	239.0	220.4	216.6	217.5	223.3	234.1	252.0
70°	324.6	300.0	254.0	222.9	206.1	188.6	186.2	186.4	192.0	201.4	217.1
72.5°	276.0	253.8	213.9	187.3	173.4	160.8	158.6	155.9	161.1	169.1	182.6
75°	226.5	207.0	174.1	152.3	141.4	130.8	128.8	126.1	131.3	138.2	148.7
77.5°	176.5	160.8	135.3	118.5	110.0	102.2	100.4	97.4	102.6	107.8	116.0
80°	127.7	116.3	101.0	83.3	80.4	75.3	73.5	70.3	75.3	78.6	84.9
82.5°	82.4	74.8	66.1	53.8	53.3	49.5	48.6	45.0	49.5	51.5	56.2
85°	41.7	38.1	35.8	27.3	28.2	25.8	25.5	21.7	25.3	26.2	28.9
87.5°	11.9	12.5	11.2	6.7	8.5	8.1	8.1	5.8	8.1	8.1	9.2
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: P837938

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-4LO-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	960.4	960.4	960.4	960.4	960.4	960.4	960.4	960.4
2.5°	961.3	965.1	966.0	965.7	968.2	981.6	977.2	981.6
5°	963.5	972.0	974.2	977.4	981.4	996.6	991.7	997.1
7.5°	964.8	977.6	982.5	988.6	995.1	1012.1	1008.1	1013.4
10°	964.8	981.4	988.6	998.7	1007.4	1027.1	1023.3	1029.6
12.5°	960.8	982.1	992.2	1006.3	1017.5	1038.8	1037.2	1041.7
15°	952.5	978.7	992.6	1010.8	1024.6	1048.4	1047.7	1053.1
17.5°	941.3	972.9	989.7	1012.5	1030.0	1056.7	1058.2	1061.2
20°	927.2	961.9	983.9	1011.9	1033.8	1063.2	1065.2	1069.2
22.5°	908.6	948.7	975.1	1009.0	1034.3	1065.9	1069.4	1073.3
25°	886.7	932.8	963.7	1003.4	1032.0	1065.6	1070.6	1073.9
27.5°	861.6	912.2	949.2	994.4	1025.8	1062.1	1068.1	1072.1
30°	832.4	890.2	932.6	982.8	1017.3	1055.3	1061.8	1065.9
32.5°	802.4	866.0	912.9	967.7	1004.9	1044.6	1050.2	1053.3
35°	769.7	836.7	889.1	948.5	989.0	1027.3	1031.6	1035.0
37.5°	734.1	804.9	862.0	926.8	966.6	1003.4	1007.2	1011.0
40°	697.4	771.5	831.5	900.1	940.0	974.0	978.1	980.7
42.5°	660.4	734.5	799.1	868.7	908.4	941.1	943.6	946.2
45°	623.0	696.2	762.5	834.0	873.2	903.9	904.8	907.0
47.5°	584.9	656.6	722.4	794.4	833.1	861.1	862.0	863.8
50°	546.6	616.9	679.7	751.6	789.4	819.0	815.0	816.8
52.5°	509.0	575.3	639.3	705.4	742.8	769.0	770.2	766.6
55°	472.0	534.5	593.4	657.0	692.7	713.0	712.4	713.7
57.5°	434.6	493.3	547.3	605.5	640.2	659.5	663.5	658.8
60°	396.5	451.6	500.0	552.6	586.2	602.4	607.1	602.6
62.5°	358.6	409.3	453.2	499.1	530.2	550.2	549.7	544.8
65°	320.8	366.7	405.9	444.9	472.0	491.9	491.0	486.6
67.5°	285.8	323.7	358.9	390.5	414.0	427.6	432.3	427.0
70°	247.3	280.0	310.9	336.2	355.7	368.1	372.5	367.8
72.5°	208.8	236.6	258.3	282.7	297.7	308.0	312.7	308.2
75°	170.7	193.5	211.2	230.3	240.8	249.6	254.9	250.4
77.5°	133.7	151.4	165.5	179.4	191.5	193.5	198.3	195.3
80°	98.6	111.3	121.6	130.8	139.6	140.5	144.3	142.5
82.5°	65.6	74.1	76.8	86.5	92.1	91.2	95.0	93.6
85°	34.7	39.9	44.6	47.5	50.6	47.7	51.1	49.7
87.5°	11.6	12.3	10.8	15.2	16.8	14.3	16.4	15.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)