

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: P837987

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2STD-35-120-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: P837987
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-LD4-2STD-35-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

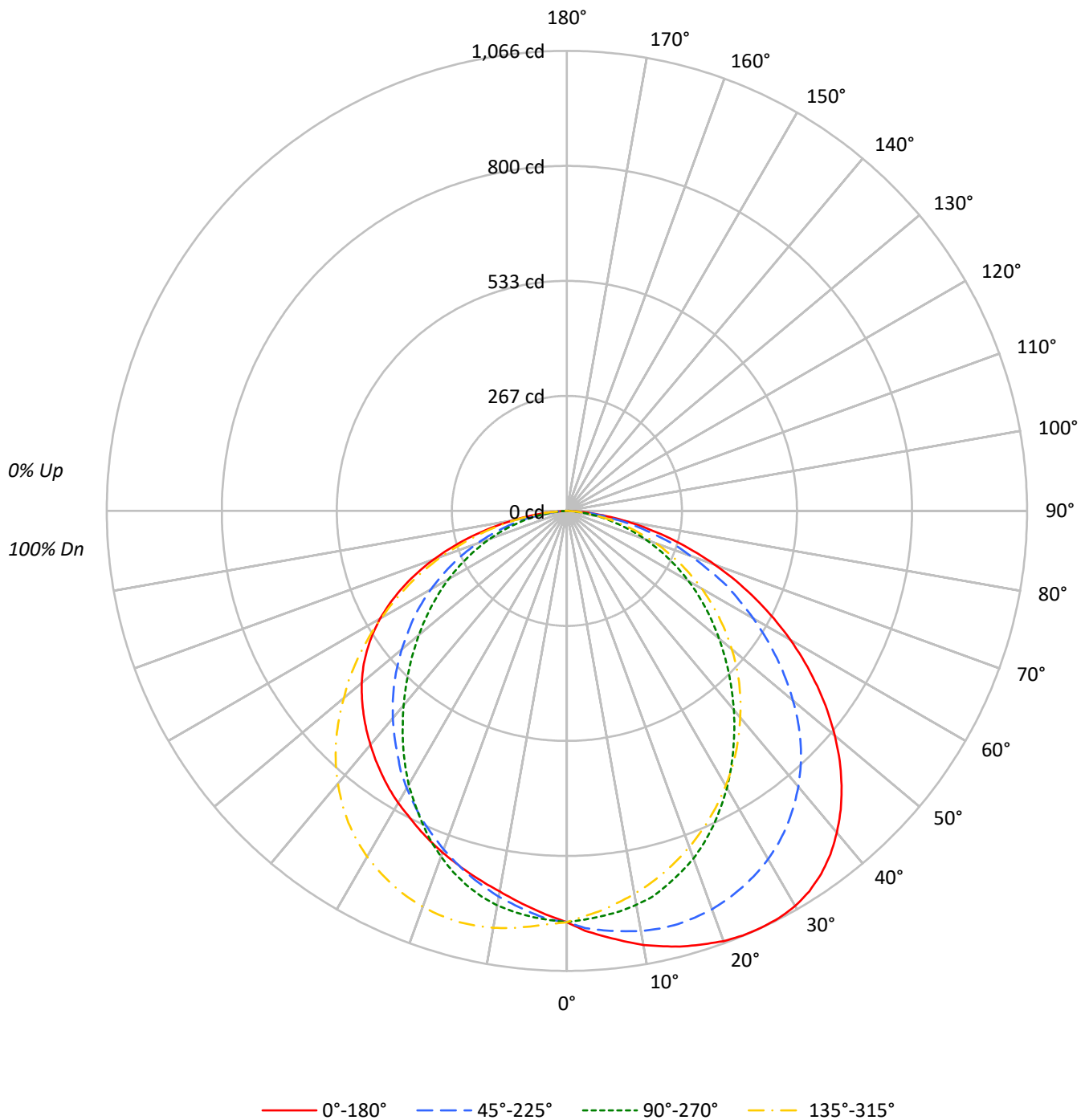
Lumens per Lamp: N/A
Luminaire Lumens: 2795.6 lumens
Efficiency: N/A
Efficacy: 84.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	2564	2564	2564	2564
5°	2672	2546	2498	2550
10°	2791	2533	2447	2536
15°	2911	2500	2423	2501
20°	3038	2455	2412	2441
25°	3164	2386	2412	2362
30°	3286	2303	2428	2278
35°	3373	2209	2453	2174
40°	3418	2114	2487	2066
45°	3425	2017	2535	1967
50°	3393	1925	2597	1874
55°	3322	1840	2655	1788
60°	3218	1750	2690	1704
65°	3074	1647	2676	1609
70°	2872	1526	2581	1499
75°	2584	1361	2368	1354
80°	2191	1141	1991	1158
85°	1522	753	1263	775



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.5	3.2
10°-20°	262.0	9.4
20°-30°	401.5	14.4
30°-40°	488.2	17.5
40°-50°	507.5	18.2
50°-60°	458.4	16.4
60°-70°	348.5	12.5
70°-80°	194.3	7.0
80°-90°	44.7	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°	753.9	27.0
0°-40°	1242.1	44.4
0°-60°	2208.0	79.0
0°-90°	2795.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2795.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	953	953	953	953	953	
5°	989	942	925	944	989	95
15°	1045	898	870	898	1045	296
25°	1066	804	812	796	1066	492
35°	1027	672	747	662	1027	641
45°	900	530	666	517	900	693
55°	708	392	566	381	708	632
65°	483	259	420	253	483	477
75°	248	131	228	130	248	264
85°	49	24	41	25	49	62
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°	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9
2.5°	974.0	959.7	960.0	972.4	962.9	967.5	954.2	959.3	957.7	958.9	948.0
5°	989.3	974.0	973.7	984.4	973.7	975.7	958.9	962.2	957.3	954.2	942.4
7.5°	1005.5	990.2	988.6	998.0	984.0	982.4	963.7	963.7	954.9	947.1	936.0
10°	1021.5	1005.8	1003.8	1010.9	993.5	988.4	965.7	962.2	950.4	938.9	926.9
12.5°	1033.5	1017.5	1016.0	1020.4	1000.9	991.5	965.7	958.9	941.5	925.3	916.0
15°	1044.9	1028.4	1024.2	1026.4	1004.0	991.5	962.6	952.0	929.7	908.4	897.5
17.5°	1052.9	1037.1	1032.9	1032.6	1005.5	987.8	956.0	941.3	914.6	888.8	878.0
20°	1060.9	1045.1	1039.8	1035.8	1005.1	982.6	946.2	926.4	895.3	866.4	857.3
22.5°	1064.9	1048.7	1042.9	1036.9	1002.2	973.3	934.2	909.1	873.5	839.1	831.5
25°	1065.5	1048.9	1042.7	1034.0	996.4	962.2	918.6	888.2	848.4	810.2	803.7
27.5°	1063.8	1045.5	1039.3	1028.9	987.8	948.6	900.2	864.4	821.7	779.5	772.6
30°	1057.5	1039.1	1033.1	1019.5	975.5	932.0	880.0	837.9	792.2	747.3	741.3
32.5°	1045.1	1027.1	1022.2	1008.6	962.2	912.6	856.4	809.5	759.5	716.6	707.7
35°	1026.9	1008.9	1005.8	991.5	943.5	889.5	830.6	778.4	724.8	681.0	672.4
37.5°	1003.1	988.0	983.3	969.3	921.5	863.3	801.0	744.6	689.5	642.3	637.0
40°	973.1	958.9	955.3	942.9	896.0	834.2	769.0	709.7	653.0	609.2	601.7
42.5°	938.9	925.5	923.5	910.6	864.4	801.9	734.4	673.5	615.0	572.8	565.2
45°	900.0	887.1	886.6	874.4	829.9	766.2	697.9	636.8	577.9	534.1	530.1
47.5°	857.1	845.5	845.5	834.2	791.5	726.8	660.4	598.6	540.6	501.9	494.8
50°	810.4	799.5	796.2	790.6	749.0	683.9	620.8	561.2	503.7	466.8	459.9
52.5°	760.6	751.3	753.5	743.3	703.0	639.2	580.8	519.2	466.5	433.0	426.1
55°	708.1	694.8	696.8	693.0	655.0	593.2	535.9	484.5	430.1	398.5	392.1
57.5°	653.7	636.3	643.5	641.2	603.9	546.1	494.8	445.2	393.9	364.7	358.5
60°	597.9	581.2	588.6	586.6	551.4	499.0	452.3	406.3	357.8	331.4	325.2
62.5°	540.6	525.2	531.9	530.3	498.1	450.8	410.1	367.9	321.6	297.8	292.1
65°	482.8	468.1	474.1	473.0	443.2	407.2	366.7	328.1	285.2	264.5	258.7
67.5°	423.6	410.1	415.6	415.6	388.3	353.8	323.2	287.8	249.4	231.6	226.3
70°	365.0	352.3	357.2	356.7	333.6	305.6	279.2	247.6	213.2	198.5	194.0
72.5°	305.8	294.7	299.2	298.7	279.4	261.4	235.2	207.8	177.8	166.0	162.0
75°	248.5	238.0	242.3	241.8	226.0	209.2	191.6	168.9	143.1	134.9	130.9
77.5°	193.8	183.1	186.7	186.7	175.1	162.9	148.9	131.4	113.1	104.2	101.4
80°	141.4	136.2	134.5	134.7	126.9	118.9	111.8	94.9	81.6	75.6	73.6
82.5°	92.9	88.7	86.9	87.4	82.9	78.0	73.6	61.8	52.9	49.3	48.2
85°	49.3	46.2	44.7	45.8	44.9	42.2	40.0	32.0	26.4	25.1	24.4
87.5°	15.6	13.6	12.4	16.4	14.0	12.4	12.0	9.6	7.3	7.3	7.1
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°	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9
2.5°	951.5	951.5	942.9	940.9	940.0	941.1	932.4	930.9	943.3	939.1	929.5
5°	944.0	943.5	931.3	929.1	929.1	927.7	918.0	915.7	928.2	924.6	914.2
7.5°	934.6	933.3	918.8	917.3	915.1	914.2	903.3	901.7	912.4	910.2	900.4
10°	923.3	922.0	904.8	903.7	901.3	899.5	889.3	888.2	899.1	895.5	887.7
12.5°	908.4	906.0	888.4	887.3	885.3	884.6	874.6	874.2	886.2	882.6	874.4
15°	888.8	886.8	867.3	867.7	868.0	868.0	859.9	859.5	871.3	869.7	860.8
17.5°	867.3	864.6	845.9	847.3	848.8	850.6	844.4	845.5	857.9	855.9	847.9
20°	842.8	840.2	821.9	825.7	829.1	832.6	828.6	831.7	843.3	842.4	836.4
22.5°	815.5	812.8	795.9	801.7	807.3	813.9	812.2	815.7	827.9	827.7	822.4
25°	782.2	782.8	767.9	775.0	784.4	793.7	794.4	800.2	813.7	812.4	807.5
27.5°	751.0	751.9	736.1	748.1	760.6	772.6	775.5	783.5	797.3	796.2	791.9
30°	718.4	719.5	704.1	720.6	735.7	750.4	756.6	767.5	781.5	781.5	777.0
32.5°	684.4	686.4	670.4	692.4	709.9	727.0	737.9	749.3	765.3	764.8	761.0
35°	649.5	651.7	637.0	665.0	682.6	703.5	717.0	732.1	746.4	746.6	743.7
37.5°	613.9	616.6	603.2	633.9	653.9	678.6	695.9	711.0	726.8	727.7	725.0
40°	578.6	581.4	569.9	599.5	624.8	652.4	672.4	690.1	707.5	707.9	706.1
42.5°	543.2	546.3	537.7	566.6	595.2	624.8	648.4	668.6	686.4	687.5	685.5
45°	508.8	511.4	505.2	536.8	564.3	596.6	623.7	646.6	664.6	666.1	665.5
47.5°	474.5	477.0	471.4	500.3	532.1	566.3	597.7	623.0	642.1	643.9	643.5
50°	441.0	443.0	437.0	467.2	498.8	535.2	567.9	597.2	618.6	620.3	620.1
52.5°	407.6	409.6	404.5	436.3	465.0	503.4	539.0	570.8	591.9	594.6	595.0
55°	375.4	376.3	372.3	402.7	430.5	470.8	511.7	542.6	563.7	565.9	567.2
57.5°	343.2	343.4	340.1	369.2	395.9	437.0	479.9	512.3	532.3	534.6	536.6
60°	311.2	311.0	307.2	335.4	361.0	401.6	446.3	478.5	497.9	499.9	502.5
62.5°	279.4	278.7	275.4	301.4	325.4	365.6	410.5	441.6	460.1	461.4	465.0
65°	247.8	247.2	244.0	268.1	289.8	328.3	372.3	401.9	418.5	420.3	419.6
67.5°	216.7	215.4	212.9	234.5	254.3	289.8	332.1	360.3	374.1	375.6	379.9
70°	185.6	184.0	178.5	201.4	218.7	250.5	289.8	315.0	326.5	328.1	327.4
72.5°	154.9	153.4	147.4	168.5	183.1	210.9	246.0	266.9	276.9	278.3	278.3
75°	125.1	124.2	120.5	136.5	148.7	171.4	201.2	218.5	226.3	227.8	227.4
77.5°	96.5	95.8	92.0	105.8	115.4	132.2	156.3	169.8	175.6	177.4	181.1
80°	69.1	68.9	62.9	76.5	80.7	94.9	112.5	122.9	126.0	128.5	131.1
82.5°	44.2	44.5	38.5	50.0	51.8	60.9	71.8	78.2	80.5	82.5	84.5
85°	21.6	22.4	19.1	26.4	26.7	31.3	36.0	38.5	39.3	40.9	42.7
87.5°	5.6	6.4	3.6	7.6	6.7	8.7	10.0	10.7	10.4	11.6	12.2
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°	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9
2.5°	932.6	939.7	936.2	947.7	952.2	945.1	957.5	957.7	948.9	959.3	965.1
5°	918.2	925.5	923.3	935.3	940.9	934.6	949.7	952.6	944.0	955.7	965.1
7.5°	903.5	912.2	909.3	921.5	928.2	923.3	939.5	944.2	937.5	950.4	962.9
10°	890.8	898.2	895.1	908.0	913.7	909.7	925.7	934.4	928.2	944.0	958.9
12.5°	878.4	884.4	880.8	891.5	897.1	892.0	911.5	919.5	915.1	931.5	950.6
15°	862.4	869.1	864.2	873.7	878.0	873.5	889.5	903.3	897.7	915.7	936.9
17.5°	850.2	853.9	847.3	854.8	857.3	851.3	867.5	881.1	877.1	896.6	921.1
20°	836.6	839.7	830.4	834.6	834.4	826.8	841.7	855.1	852.4	874.0	901.7
22.5°	821.5	823.1	812.2	813.1	812.6	800.2	813.5	827.1	825.9	847.7	878.8
25°	805.5	805.7	791.7	791.3	786.4	771.7	783.5	798.8	795.5	819.1	851.7
27.5°	789.7	787.5	770.6	766.6	758.8	741.3	751.7	765.5	763.5	786.6	822.8
30°	772.8	769.9	749.3	741.9	730.6	710.4	719.0	731.9	733.0	753.3	791.3
32.5°	756.8	749.5	726.6	715.9	701.7	678.1	682.8	695.9	697.7	718.1	757.3
35°	736.1	731.3	703.0	684.8	670.8	645.0	649.9	659.0	661.7	681.7	721.5
37.5°	716.6	708.8	678.8	656.6	638.6	611.5	612.8	622.1	624.8	645.0	684.4
40°	696.4	685.2	653.0	627.0	606.3	577.9	576.3	586.1	588.1	607.9	643.5
42.5°	674.8	661.5	625.2	596.8	573.0	544.1	541.0	549.4	551.7	571.0	605.9
45°	653.0	637.0	596.8	565.7	539.7	510.1	507.0	513.4	516.8	535.0	568.6
47.5°	629.9	611.2	567.4	532.8	505.9	476.3	472.5	479.0	481.7	499.7	531.4
50°	605.7	583.0	537.2	499.0	472.3	443.2	437.6	445.2	447.6	464.5	495.7
52.5°	579.0	553.9	505.0	465.0	438.3	410.5	403.9	411.2	414.1	430.5	459.2
55°	550.8	523.7	472.5	433.6	404.7	377.6	372.1	375.0	381.2	396.7	423.4
57.5°	519.0	492.1	438.3	398.7	371.0	345.0	340.3	343.0	348.7	363.9	387.9
60°	485.2	456.8	403.4	363.9	337.0	312.3	308.1	310.5	316.7	330.5	352.7
62.5°	451.9	419.9	367.4	328.1	303.6	280.7	279.6	278.7	284.5	297.8	317.4
65°	411.4	380.7	329.8	292.5	270.3	249.6	245.2	247.2	252.7	264.9	285.4
67.5°	368.1	340.3	291.4	256.9	237.2	218.7	214.9	215.8	221.6	232.3	250.0
70°	322.1	297.6	252.1	221.2	204.5	187.1	184.7	184.9	190.5	199.8	215.4
72.5°	273.8	251.8	212.3	185.8	172.0	159.6	157.4	154.7	159.8	167.8	181.1
75°	224.7	205.4	172.7	151.1	140.3	129.8	127.8	125.1	130.2	137.1	147.6
77.5°	175.1	159.6	134.2	117.6	109.1	101.4	99.6	96.7	101.8	106.9	115.1
80°	126.7	115.4	100.2	82.7	79.8	74.7	72.9	69.8	74.7	78.0	84.2
82.5°	81.8	74.2	65.6	53.3	52.9	49.1	48.2	44.7	49.1	51.1	55.8
85°	41.3	37.8	35.6	27.1	28.0	25.6	25.3	21.6	25.1	26.0	28.7
87.5°	11.8	12.4	11.1	6.7	8.4	8.0	8.0	5.8	8.0	8.0	9.1
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: P837987

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2STD-35-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	952.9	952.9	952.9	952.9	952.9	952.9	952.9	952.9
2.5°	953.7	957.5	958.4	958.2	960.6	974.0	969.5	974.0
5°	956.0	964.4	966.6	969.7	973.7	988.9	984.0	989.3
7.5°	957.3	970.0	974.9	980.9	987.3	1004.2	1000.2	1005.5
10°	957.3	973.7	980.9	990.9	999.5	1019.1	1015.3	1021.5
12.5°	953.3	974.4	984.4	998.4	1009.5	1030.6	1029.1	1033.5
15°	945.1	971.1	984.9	1002.9	1016.6	1040.2	1039.5	1044.9
17.5°	934.0	965.3	982.0	1004.6	1022.0	1048.4	1050.0	1052.9
20°	920.0	954.4	976.2	1004.0	1025.8	1054.9	1056.9	1060.9
22.5°	901.5	941.3	967.5	1001.1	1026.2	1057.5	1061.1	1064.9
25°	879.7	925.5	956.2	995.5	1024.0	1057.3	1062.2	1065.5
27.5°	854.8	905.1	941.7	986.6	1017.8	1053.8	1059.8	1063.8
30°	825.9	883.3	925.3	975.1	1009.3	1047.1	1053.5	1057.5
32.5°	796.2	859.3	905.7	960.2	997.1	1036.4	1042.0	1045.1
35°	763.7	830.2	882.2	941.1	981.3	1019.3	1023.5	1026.9
37.5°	728.4	798.6	855.3	919.5	959.1	995.5	999.3	1003.1
40°	691.9	765.5	825.1	893.1	932.6	966.4	970.4	973.1
42.5°	655.2	728.8	792.8	861.9	901.3	933.7	936.2	938.9
45°	618.1	690.8	756.6	827.5	866.4	896.8	897.7	900.0
47.5°	580.3	651.5	716.8	788.2	826.6	854.4	855.3	857.1
50°	542.3	612.1	674.4	745.7	783.3	812.6	808.6	810.4
52.5°	505.0	570.8	634.3	699.9	737.0	763.0	764.2	760.6
55°	468.3	530.3	588.8	651.9	687.2	707.5	706.8	708.1
57.5°	431.2	489.4	543.0	600.8	635.2	654.4	658.4	653.7
60°	393.4	448.1	496.1	548.3	581.7	597.7	602.3	597.9
62.5°	355.8	406.1	449.6	495.2	526.1	545.9	545.4	540.6
65°	318.3	363.9	402.7	441.4	468.3	488.1	487.2	482.8
67.5°	283.6	321.2	356.1	387.4	410.7	424.3	429.0	423.6
70°	245.4	277.8	308.5	333.6	353.0	365.2	369.6	365.0
72.5°	207.2	234.7	256.3	280.5	295.4	305.6	310.3	305.8
75°	169.4	192.0	209.6	228.5	238.9	247.6	252.9	248.5
77.5°	132.7	150.3	164.3	178.0	190.0	192.0	196.7	193.8
80°	97.8	110.5	120.7	129.8	138.5	139.4	143.1	141.4
82.5°	65.1	73.6	76.2	85.8	91.4	90.5	94.2	92.9
85°	34.5	39.6	44.2	47.1	50.2	47.3	50.7	49.3
87.5°	11.6	12.2	10.7	15.1	16.7	14.2	16.2	15.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)