

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: P837953

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-3LO-27-120-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: P837953
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-27-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

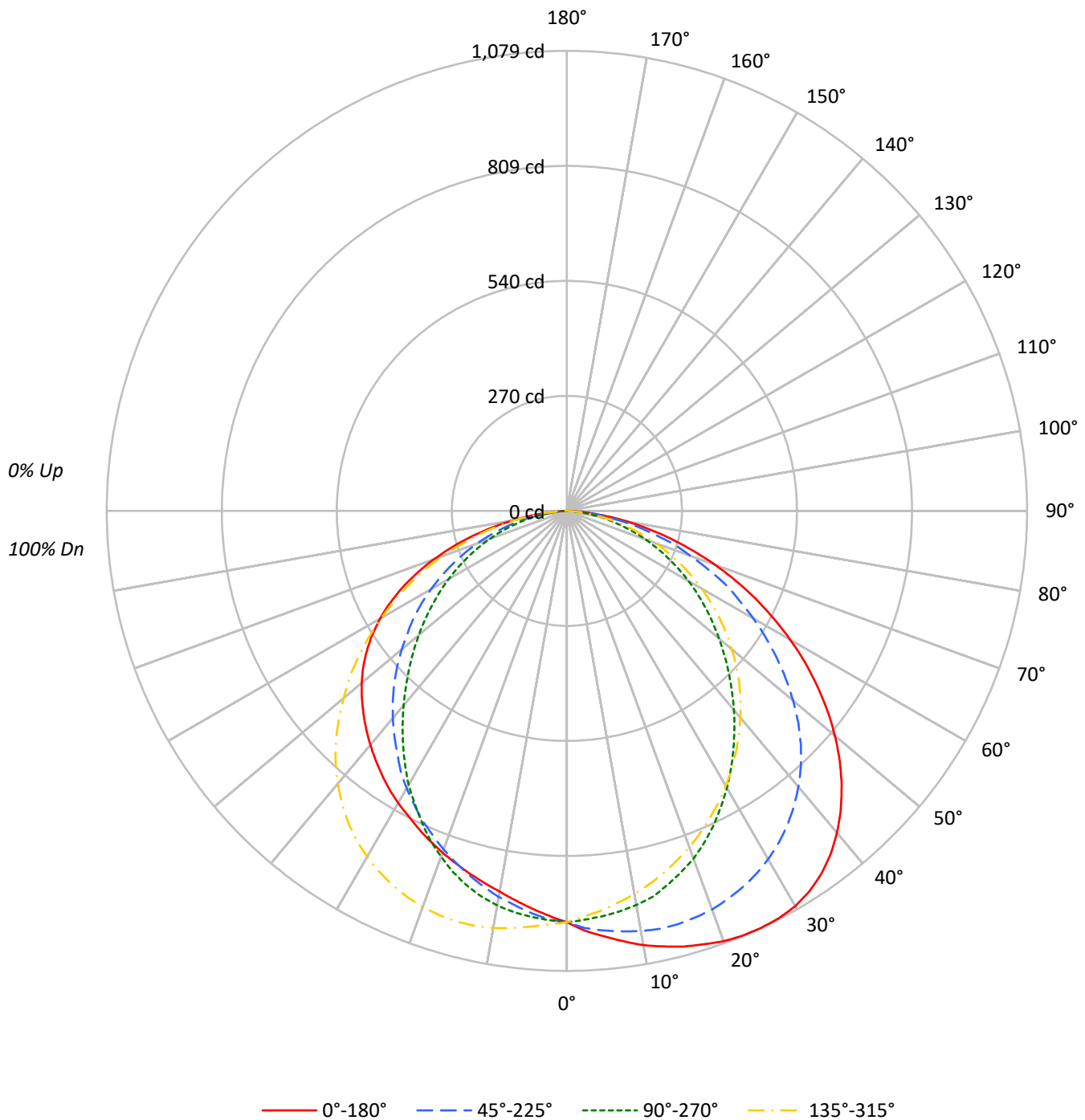
Lumens per Lamp: N/A
Luminaire Lumens: 2830.5 lumens
Efficiency: N/A
Efficacy: 80.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	2596	2596	2596	2596
5°	2706	2578	2529	2582
10°	2826	2564	2478	2568
15°	2947	2532	2453	2532
20°	3076	2486	2442	2471
25°	3203	2416	2442	2391
30°	3327	2332	2458	2306
35°	3415	2236	2483	2201
40°	3461	2140	2518	2092
45°	3468	2042	2567	1991
50°	3435	1949	2629	1897
55°	3364	1863	2688	1810
60°	3258	1772	2724	1726
65°	3112	1668	2710	1629
70°	2907	1546	2614	1518
75°	2616	1378	2399	1371
80°	2218	1155	2016	1172
85°	1544	766	1278	784

Classified

Scaled Data Report

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Peachtree City, GA 30269



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.6	3.2
10°-20°	265.2	9.4
20°-30°	406.5	14.4
30°-40°	494.3	17.5
40°-50°	513.8	18.2
50°-60°	464.1	16.4
60°-70°	352.9	12.5
70°-80°	196.7	7.0
80°-90°	45.3	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°	763.3	27.0
0°-40°	1257.6	44.4
0°-60°	2235.6	79.0
0°-90°	2830.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2830.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	965	965	965	965	965	
5°	1002	954	936	956	1002	97
15°	1058	909	881	909	1058	300
25°	1079	814	822	805	1079	498
35°	1040	681	756	670	1040	649
45°	911	537	674	523	911	702
55°	717	397	573	386	717	640
65°	489	262	426	256	489	483
75°	252	132	231	132	252	267
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°	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8
2.5°	986.1	971.7	972.0	984.6	974.9	979.6	966.1	971.3	969.7	970.8	959.8
5°	1001.7	986.1	985.9	996.7	985.9	987.9	970.8	974.2	969.3	966.1	954.2
7.5°	1018.1	1002.6	1001.0	1010.4	996.3	994.7	975.8	975.8	966.8	958.9	947.7
10°	1034.3	1018.3	1016.3	1023.5	1005.9	1000.8	977.8	974.2	962.3	950.6	938.4
12.5°	1046.4	1030.2	1028.7	1033.2	1013.4	1003.9	977.8	970.8	953.3	936.8	927.4
15°	1057.9	1041.3	1037.0	1039.2	1016.5	1003.9	974.7	963.9	941.3	919.7	908.7
17.5°	1066.0	1050.0	1045.8	1045.5	1018.1	1000.1	967.9	953.1	926.0	899.9	888.9
20°	1074.1	1058.1	1052.7	1048.7	1017.6	994.9	958.0	938.0	906.5	877.2	868.0
22.5°	1078.2	1061.7	1055.9	1049.8	1014.7	985.5	945.8	920.4	884.4	849.5	841.9
25°	1078.8	1062.0	1055.7	1046.9	1008.9	974.2	930.1	899.3	859.0	820.3	813.8
27.5°	1077.0	1058.6	1052.3	1041.7	1000.1	960.5	911.4	875.2	832.0	789.2	782.2
30°	1070.7	1052.1	1046.0	1032.3	987.7	943.6	890.9	848.4	802.0	756.6	750.5
32.5°	1058.1	1039.9	1035.0	1021.2	974.2	924.0	867.1	819.6	769.0	725.5	716.5
35°	1039.7	1021.5	1018.3	1003.9	955.3	900.6	841.0	788.1	733.9	689.5	680.8
37.5°	1015.6	1000.3	995.6	981.4	933.0	874.1	811.0	753.9	698.1	650.4	645.0
40°	985.2	970.8	967.2	954.6	907.1	844.6	778.6	718.6	661.2	616.8	609.2
42.5°	950.6	937.1	935.0	922.0	875.2	812.0	743.5	681.9	622.7	579.9	572.3
45°	911.2	898.1	897.7	885.3	840.3	775.7	706.6	644.7	585.1	540.8	536.7
47.5°	867.8	856.1	856.1	844.6	801.4	735.9	668.6	606.0	547.3	508.1	500.9
50°	820.5	809.5	806.1	800.5	758.4	692.5	628.5	568.2	509.9	472.6	465.6
52.5°	770.1	760.6	762.9	752.5	711.8	647.2	588.0	525.7	472.4	438.4	431.4
55°	717.0	703.5	705.5	701.7	663.2	600.6	542.6	490.6	435.5	403.5	397.0
57.5°	661.8	644.3	651.5	649.2	611.4	552.9	500.9	450.8	398.8	369.3	363.0
60°	605.4	588.5	595.9	593.9	558.3	505.2	458.0	411.4	362.3	335.5	329.2
62.5°	547.3	531.8	538.5	536.9	504.3	456.4	415.2	372.4	325.6	301.6	295.7
65°	488.8	473.9	480.0	478.9	448.7	412.3	371.3	332.2	288.7	267.8	261.9
67.5°	428.9	415.2	420.8	420.8	393.1	358.3	327.2	291.4	252.5	234.5	229.1
70°	369.5	356.7	361.6	361.2	337.8	309.4	282.7	250.7	215.8	201.0	196.5
72.5°	309.7	298.4	302.9	302.5	282.9	264.6	238.1	210.4	180.0	168.1	164.1
75°	251.6	241.0	245.3	244.8	228.9	211.8	194.0	171.0	144.9	136.6	132.5
77.5°	196.2	185.4	189.0	189.0	177.3	165.0	150.8	133.0	114.5	105.5	102.6
80°	143.1	138.0	136.2	136.4	128.5	120.4	113.2	96.1	82.6	76.5	74.5
82.5°	94.1	89.8	88.0	88.4	83.9	79.0	74.5	62.6	53.6	50.0	48.8
85°	50.0	46.8	45.2	46.4	45.5	42.8	40.5	32.4	26.8	25.4	24.8
87.5°	15.8	13.7	12.6	16.7	14.2	12.6	12.2	9.7	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°	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8
2.5°	963.4	963.4	954.6	952.6	951.7	952.8	944.0	942.5	955.1	950.8	941.1
5°	955.8	955.3	942.9	940.7	940.7	939.3	929.4	927.2	939.8	936.2	925.6
7.5°	946.3	944.9	930.3	928.7	926.5	925.6	914.6	913.0	923.8	921.5	911.6
10°	934.8	933.5	916.1	915.0	912.5	910.7	900.4	899.3	910.3	906.7	898.8
12.5°	919.7	917.3	899.5	898.4	896.3	895.7	885.5	885.1	897.2	893.6	885.3
15°	899.9	897.9	878.1	878.6	878.8	878.8	870.7	870.2	882.2	880.6	871.6
17.5°	878.1	875.4	856.5	857.9	859.4	861.2	854.9	856.1	868.7	866.6	858.5
20°	853.4	850.7	832.2	836.0	839.4	843.0	839.0	842.1	853.8	852.9	846.8
22.5°	825.7	823.0	805.9	811.7	817.4	824.1	822.3	825.9	838.3	838.1	832.7
25°	791.9	792.6	777.5	784.7	794.2	803.6	804.3	810.1	823.9	822.5	817.6
27.5°	760.4	761.3	745.3	757.5	770.1	782.2	785.2	793.3	807.2	806.1	801.8
30°	727.3	728.5	712.9	729.6	744.9	759.7	766.0	777.1	791.2	791.2	786.7
32.5°	692.9	694.9	678.7	701.0	718.8	736.1	747.1	758.6	774.8	774.4	770.5
35°	657.6	659.8	645.0	673.3	691.1	712.3	726.0	741.3	755.7	755.9	753.0
37.5°	621.6	624.3	610.8	641.8	662.1	687.1	704.6	719.9	735.9	736.8	734.1
40°	585.8	588.7	577.0	606.9	632.6	660.5	680.8	698.8	716.3	716.8	715.0
42.5°	550.0	553.2	544.4	573.6	602.7	632.6	656.4	676.9	694.9	696.1	694.0
45°	515.1	517.8	511.5	543.5	571.4	604.0	631.5	654.6	672.9	674.4	673.8
47.5°	480.5	482.9	477.3	506.6	538.7	573.4	605.1	630.8	650.1	651.9	651.5
50°	446.5	448.5	442.4	473.0	505.0	541.9	575.0	604.7	626.3	628.1	627.9
52.5°	412.7	414.8	409.6	441.8	470.8	509.7	545.7	577.9	599.3	602.0	602.4
55°	380.1	381.0	376.9	407.8	435.9	476.6	518.0	549.3	570.7	573.0	574.3
57.5°	347.5	347.7	344.3	373.8	400.8	442.4	485.9	518.7	539.0	541.2	543.3
60°	315.1	314.8	311.0	339.6	365.5	406.7	451.9	484.5	504.1	506.1	508.8
62.5°	282.9	282.2	278.8	305.2	329.5	370.2	415.7	447.2	465.8	467.2	470.8
65°	250.9	250.2	247.1	271.4	293.5	332.4	376.9	406.9	423.8	425.6	424.9
67.5°	219.4	218.1	215.6	237.4	257.4	293.5	336.2	364.8	378.7	380.3	384.6
70°	187.9	186.3	180.7	203.9	221.4	253.6	293.5	318.9	330.6	332.2	331.5
72.5°	156.9	155.3	149.2	170.6	185.4	213.6	249.1	270.3	280.4	281.8	281.8
75°	126.7	125.8	122.0	138.2	150.6	173.5	203.7	221.2	229.1	230.7	230.2
77.5°	97.7	97.0	93.2	107.1	116.8	133.9	158.2	171.9	177.8	179.6	183.4
80°	70.0	69.8	63.7	77.4	81.7	96.1	113.9	124.4	127.6	130.1	132.8
82.5°	44.8	45.0	38.9	50.6	52.4	61.7	72.7	79.2	81.5	83.5	85.5
85°	21.8	22.7	19.4	26.8	27.0	31.7	36.5	38.9	39.8	41.4	43.2
87.5°	5.6	6.5	3.6	7.7	6.8	8.8	10.1	10.8	10.6	11.7	12.4
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°	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8
2.5°	944.3	951.5	947.9	959.6	964.1	956.9	969.5	969.7	960.7	971.3	977.1
5°	929.6	937.1	934.8	947.0	952.6	946.3	961.6	964.5	955.8	967.7	977.1
7.5°	914.8	923.6	920.6	933.0	939.8	934.8	951.3	956.0	949.2	962.3	974.9
10°	902.0	909.4	906.2	919.3	925.1	921.1	937.3	946.1	939.8	955.8	970.8
12.5°	889.4	895.4	891.8	902.6	908.3	903.1	922.9	931.0	926.5	943.1	962.5
15°	873.2	879.9	875.0	884.6	888.9	884.4	900.6	914.6	908.9	927.2	948.6
17.5°	860.8	864.6	857.9	865.5	868.0	861.9	878.3	892.1	888.0	907.8	932.6
20°	847.1	850.2	840.8	845.0	844.8	837.2	852.2	865.7	863.0	884.9	913.0
22.5°	831.8	833.3	822.3	823.2	822.8	810.1	823.7	837.4	836.3	858.3	889.8
25°	815.6	815.8	801.6	801.1	796.2	781.3	793.3	808.8	805.4	829.3	862.4
27.5°	799.6	797.3	780.2	776.2	768.3	750.5	761.1	775.0	773.0	796.4	833.1
30°	782.5	779.5	758.6	751.2	739.7	719.2	728.0	741.1	742.2	762.7	801.1
32.5°	766.3	758.8	735.7	724.9	710.5	686.6	691.3	704.6	706.4	727.1	766.7
35°	745.3	740.4	711.8	693.4	679.2	653.1	658.0	667.2	669.9	690.2	730.5
37.5°	725.5	717.7	687.3	664.8	646.5	619.1	620.4	629.9	632.6	653.1	692.9
40°	705.1	693.8	661.2	634.8	613.9	585.1	583.5	593.4	595.5	615.5	651.5
42.5°	683.2	669.7	633.0	604.2	580.2	550.9	547.8	556.3	558.6	578.1	613.5
45°	661.2	645.0	604.2	572.7	546.4	516.5	513.3	519.8	523.2	541.7	575.7
47.5°	637.8	618.9	574.5	539.4	512.2	482.3	478.4	485.0	487.7	505.9	538.1
50°	613.2	590.3	543.9	505.2	478.2	448.7	443.1	450.8	453.2	470.3	501.8
52.5°	586.2	560.8	511.3	470.8	443.8	415.7	408.9	416.3	419.3	435.9	464.9
55°	557.7	530.2	478.4	439.1	409.8	382.3	376.7	379.6	385.9	401.7	428.7
57.5°	525.5	498.2	443.8	403.7	375.6	349.3	344.5	347.2	353.1	368.4	392.7
60°	491.3	462.5	408.5	368.4	341.2	316.2	311.9	314.4	320.7	334.6	357.1
62.5°	457.5	425.1	372.0	332.2	307.4	284.2	283.1	282.2	288.1	301.6	321.4
65°	416.6	385.5	334.0	296.2	273.7	252.7	248.2	250.2	255.9	268.2	289.0
67.5°	372.7	344.5	295.0	260.1	240.1	221.4	217.6	218.5	224.4	235.2	253.2
70°	326.1	301.3	255.2	223.9	207.0	189.5	187.0	187.2	192.9	202.3	218.1
72.5°	277.3	255.0	214.9	188.1	174.2	161.6	159.3	156.6	161.8	169.9	183.4
75°	227.5	207.9	174.9	153.0	142.0	131.4	129.4	126.7	131.9	138.9	149.4
77.5°	177.3	161.6	135.9	119.0	110.5	102.6	100.8	97.9	103.1	108.2	116.6
80°	128.3	116.8	101.5	83.7	80.8	75.6	73.8	70.7	75.6	79.0	85.3
82.5°	82.8	75.2	66.4	54.0	53.6	49.7	48.8	45.2	49.7	51.8	56.5
85°	41.9	38.3	36.0	27.5	28.4	25.9	25.7	21.8	25.4	26.3	29.0
87.5°	11.9	12.6	11.3	6.8	8.6	8.1	8.1	5.9	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: P837953

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-3LO-27-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8
2.5°	965.7	969.5	970.4	970.2	972.6	986.1	981.6	986.1
5°	967.9	976.5	978.7	981.9	985.9	1001.2	996.3	1001.7
7.5°	969.3	982.1	987.0	993.1	999.6	1016.7	1012.7	1018.1
10°	969.3	985.9	993.1	1003.2	1012.0	1031.8	1028.0	1034.3
12.5°	965.2	986.6	996.7	1010.9	1022.1	1043.5	1041.9	1046.4
15°	956.9	983.2	997.2	1015.4	1029.3	1053.2	1052.5	1057.9
17.5°	945.6	977.4	994.2	1017.2	1034.7	1061.5	1063.1	1066.0
20°	931.4	966.3	988.4	1016.5	1038.6	1068.0	1070.1	1074.1
22.5°	912.8	953.1	979.6	1013.6	1039.0	1070.7	1074.3	1078.2
25°	890.7	937.1	968.1	1008.0	1036.8	1070.5	1075.5	1078.8
27.5°	865.5	916.4	953.5	999.0	1030.5	1066.9	1073.0	1077.0
30°	836.3	894.3	936.8	987.3	1021.9	1060.2	1066.7	1070.7
32.5°	806.1	870.0	917.0	972.2	1009.5	1049.4	1055.0	1058.1
35°	773.2	840.5	893.2	952.8	993.6	1032.0	1036.3	1039.7
37.5°	737.5	808.6	866.0	931.0	971.1	1008.0	1011.8	1015.6
40°	700.6	775.0	835.4	904.2	944.3	978.5	982.5	985.2
42.5°	663.4	737.9	802.7	872.7	912.5	945.4	947.9	950.6
45°	625.8	699.4	766.0	837.8	877.2	908.0	908.9	911.2
47.5°	587.6	659.6	725.8	798.0	836.9	865.1	866.0	867.8
50°	549.1	619.8	682.8	755.0	793.0	822.8	818.7	820.5
52.5°	511.3	577.9	642.3	708.7	746.2	772.6	773.7	770.1
55°	474.2	536.9	596.1	660.0	695.8	716.3	715.6	717.0
57.5°	436.6	495.5	549.8	608.3	643.2	662.5	666.6	661.8
60°	398.3	453.7	502.3	555.2	588.9	605.1	609.9	605.4
62.5°	360.3	411.2	455.3	501.4	532.7	552.7	552.3	547.3
65°	322.3	368.4	407.8	446.9	474.2	494.2	493.3	488.8
67.5°	287.2	325.2	360.5	392.2	415.9	429.6	434.3	428.9
70°	248.4	281.3	312.4	337.8	357.4	369.7	374.2	369.5
72.5°	209.7	237.6	259.5	284.0	299.1	309.4	314.2	309.7
75°	171.5	194.4	212.2	231.3	241.9	250.7	256.1	251.6
77.5°	134.3	152.1	166.3	180.3	192.4	194.4	199.2	196.2
80°	99.0	111.8	122.2	131.4	140.2	141.1	144.9	143.1
82.5°	65.9	74.5	77.2	86.9	92.5	91.6	95.4	94.1
85°	34.9	40.1	44.8	47.7	50.9	47.9	51.3	50.0
87.5°	11.7	12.4	10.8	15.3	16.9	14.4	16.4	15.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)