

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: P838164

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1STD-27-120-EDD-90**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P838164
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2R-LD4-1STD-27-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

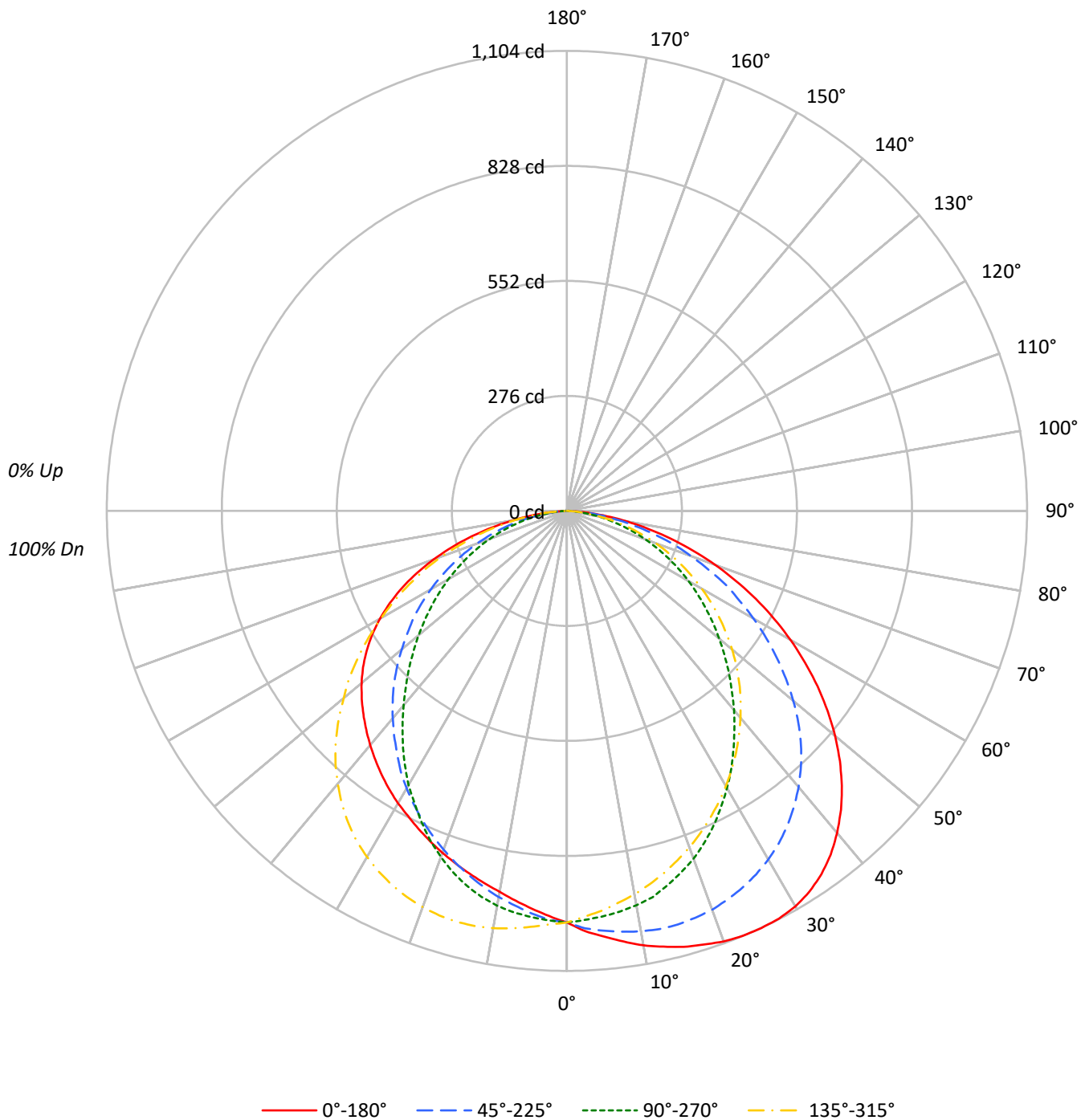
Lumens per Lamp: N/A
Luminaire Lumens: 2897.8 lumens
Efficiency: N/A
Efficacy: 87.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1329	1329	1329	1329
5°	1385	1319	1294	1322
10°	1447	1313	1268	1314
15°	1509	1296	1256	1296
20°	1575	1272	1250	1265
25°	1640	1237	1250	1224
30°	1703	1194	1259	1180
35°	1748	1145	1271	1127
40°	1772	1095	1289	1071
45°	1775	1046	1314	1019
50°	1758	998	1346	971
55°	1722	953	1376	927
60°	1668	907	1394	883
65°	1593	854	1387	834
70°	1488	791	1338	777
75°	1339	705	1228	702
80°	1135	591	1032	600
85°	789	391	655	401

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.8	3.2
10°-20°	271.6	9.4
20°-30°	416.2	14.4
30°-40°	506.0	17.5
40°-50°	526.1	18.2
50°-60°	475.2	16.4
60°-70°	361.3	12.5
70°-80°	201.4	7.0
80°-90°	46.4	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°	781.5	27.0
0°-40°	1287.5	44.4
0°-60°	2288.8	79.0
0°-90°	2897.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2897.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	988	988	988	988	988	
5°	1026	977	958	978	1026	99
15°	1083	930	902	931	1083	307
25°	1104	833	842	825	1104	510
35°	1064	697	774	686	1064	665
45°	933	550	690	536	933	718
55°	734	406	587	395	734	655
65°	500	268	436	262	500	494
75°	258	136	236	135	258	274
85°	51	25	42	26	51	64
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°	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7
2.5°	1009.6	994.9	995.1	1008.0	998.1	1002.9	989.1	994.4	992.8	993.9	982.6
5°	1025.5	1009.6	1009.4	1020.4	1009.4	1011.4	993.9	997.4	992.3	989.1	976.9
7.5°	1042.3	1026.4	1024.8	1034.5	1020.0	1018.4	999.0	999.0	989.8	981.7	970.2
10°	1058.9	1042.5	1040.5	1047.8	1029.9	1024.6	1001.1	997.4	985.2	973.2	960.8
12.5°	1071.3	1054.8	1053.1	1057.8	1037.5	1027.8	1001.1	993.9	976.0	959.1	949.5
15°	1083.1	1066.0	1061.7	1064.0	1040.7	1027.8	997.8	986.8	963.7	941.6	930.3
17.5°	1091.4	1075.0	1070.7	1070.4	1042.3	1023.9	990.9	975.7	948.1	921.4	910.1
20°	1099.7	1083.3	1077.8	1073.6	1041.9	1018.6	980.8	960.3	928.0	898.1	888.6
22.5°	1103.8	1087.0	1081.0	1074.8	1038.9	1008.9	968.4	942.3	905.5	869.7	861.9
25°	1104.5	1087.2	1080.8	1071.8	1032.9	997.4	952.2	920.7	879.4	839.8	833.1
27.5°	1102.7	1083.8	1077.3	1066.5	1023.9	983.3	933.1	896.0	851.8	808.0	800.9
30°	1096.2	1077.1	1070.9	1056.8	1011.2	966.1	912.1	868.6	821.1	774.6	768.4
32.5°	1083.3	1064.7	1059.6	1045.5	997.4	946.0	887.7	839.1	787.3	742.8	733.6
35°	1064.4	1045.8	1042.5	1027.8	978.0	922.0	861.0	806.8	751.3	705.9	696.9
37.5°	1039.8	1024.1	1019.3	1004.8	955.2	894.9	830.3	771.8	714.7	665.8	660.3
40°	1008.7	993.9	990.2	977.3	928.7	864.7	797.2	735.7	676.9	631.5	623.7
42.5°	973.2	959.4	957.3	943.9	896.0	831.3	761.2	698.1	637.5	593.7	585.9
45°	932.9	919.5	919.1	906.4	860.3	794.2	723.4	660.1	599.0	553.6	549.5
47.5°	888.4	876.4	876.4	864.7	820.4	753.4	684.5	620.5	560.3	520.2	512.9
50°	840.0	828.7	825.3	819.5	776.4	708.9	643.5	581.8	522.1	483.8	476.7
52.5°	788.4	778.7	781.0	770.4	728.7	662.6	602.0	538.2	483.6	448.8	441.7
55°	734.0	720.2	722.3	718.4	679.0	614.9	555.5	502.3	445.8	413.1	406.4
57.5°	677.6	659.6	667.0	664.7	626.0	566.1	512.9	461.5	408.3	378.1	371.6
60°	619.8	602.5	610.1	608.0	571.6	517.2	468.9	421.2	370.9	343.5	337.1
62.5°	560.3	544.4	551.3	549.7	516.3	467.2	425.1	381.3	333.4	308.7	302.7
65°	500.4	485.2	491.4	490.3	459.4	422.1	380.2	340.1	295.6	274.2	268.2
67.5°	439.1	425.1	430.8	430.8	402.5	366.8	335.0	298.4	258.5	240.1	234.5
70°	378.3	365.2	370.2	369.8	345.8	316.8	289.4	256.7	221.0	205.7	201.1
72.5°	317.0	305.5	310.1	309.7	289.6	270.9	243.8	215.4	184.3	172.1	168.0
75°	257.6	246.8	251.1	250.7	234.3	216.8	198.6	175.1	148.4	139.9	135.7
77.5°	200.9	189.8	193.5	193.5	181.6	168.9	154.4	136.2	117.3	108.1	105.1
80°	146.5	141.2	139.4	139.6	131.6	123.3	115.9	98.4	84.6	78.3	76.3
82.5°	96.3	91.9	90.1	90.5	85.9	80.9	76.3	64.1	54.8	51.1	50.0
85°	51.1	47.9	46.3	47.5	46.5	43.8	41.5	33.2	27.4	26.0	25.3
87.5°	16.1	14.1	12.9	17.0	14.5	12.9	12.4	9.9	7.6	7.6	7.4
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7
2.5°	986.3	986.3	977.3	975.3	974.3	975.5	966.5	964.9	977.8	973.4	963.5
5°	978.5	978.0	965.4	963.1	963.1	961.7	951.5	949.2	962.1	958.4	947.6
7.5°	968.8	967.4	952.5	950.8	948.5	947.6	936.3	934.7	945.8	943.5	933.3
10°	957.1	955.7	937.9	936.8	934.3	932.4	921.8	920.7	932.0	928.3	920.2
12.5°	941.6	939.1	920.9	919.7	917.7	917.0	906.6	906.1	918.6	914.9	906.4
15°	921.4	919.3	899.0	899.5	899.7	899.7	891.4	890.9	903.2	901.5	892.3
17.5°	899.0	896.2	876.9	878.3	879.9	881.7	875.3	876.4	889.3	887.3	879.0
20°	873.7	870.9	852.0	855.9	859.4	863.1	858.9	862.1	874.1	873.2	867.0
22.5°	845.3	842.6	825.0	831.0	836.8	843.7	841.9	845.6	858.2	858.0	852.5
25°	810.8	811.5	796.0	803.4	813.1	822.7	823.4	829.4	843.5	842.1	837.0
27.5°	778.5	779.4	763.1	775.5	788.4	800.9	803.9	812.1	826.4	825.3	820.9
30°	744.6	745.8	729.9	746.9	762.6	777.8	784.3	795.6	810.1	810.1	805.5
32.5°	709.4	711.5	694.9	717.7	735.9	753.6	764.9	776.7	793.3	792.8	788.9
35°	673.2	675.5	660.3	689.3	707.5	729.2	743.3	758.9	773.7	773.9	770.9
37.5°	636.4	639.1	625.3	657.1	677.8	703.4	721.4	737.0	753.4	754.3	751.6
40°	599.7	602.7	590.7	621.4	647.6	676.2	696.9	715.4	733.4	733.8	732.0
42.5°	563.1	566.3	557.3	587.3	617.0	647.6	672.1	693.0	711.5	712.6	710.5
45°	527.4	530.1	523.7	556.4	585.0	618.4	646.5	670.2	688.9	690.5	689.8
47.5°	491.9	494.4	488.7	518.6	551.6	587.1	619.5	645.8	665.6	667.5	667.0
50°	457.1	459.2	453.0	484.3	517.0	554.8	588.7	619.1	641.2	643.0	642.8
52.5°	422.5	424.6	419.3	452.3	482.0	521.8	558.7	591.7	613.5	616.3	616.8
55°	389.1	390.1	385.9	417.5	446.3	488.0	530.4	562.4	584.3	586.6	588.0
57.5°	355.7	356.0	352.5	382.7	410.3	453.0	497.4	531.1	551.8	554.1	556.2
60°	322.6	322.3	318.4	347.7	374.2	416.3	462.6	496.0	516.1	518.2	520.9
62.5°	289.6	288.9	285.5	312.4	337.3	379.0	425.5	457.8	476.9	478.3	482.0
65°	256.9	256.2	253.0	277.9	300.4	340.3	385.9	416.6	433.8	435.7	435.0
67.5°	224.6	223.3	220.7	243.1	263.6	300.4	344.2	373.5	387.8	389.4	393.7
70°	192.4	190.8	185.0	208.7	226.7	259.7	300.4	326.5	338.5	340.1	339.4
72.5°	160.6	159.0	152.8	174.6	189.8	218.6	255.0	276.7	287.1	288.5	288.5
75°	129.7	128.8	124.9	141.5	154.1	177.6	208.5	226.5	234.5	236.2	235.7
77.5°	100.0	99.3	95.4	109.7	119.6	137.1	162.0	176.0	182.0	183.9	187.8
80°	71.7	71.4	65.2	79.3	83.6	98.4	116.6	127.4	130.6	133.2	135.9
82.5°	45.8	46.1	39.9	51.8	53.7	63.1	74.4	81.1	83.4	85.5	87.6
85°	22.3	23.3	19.8	27.4	27.6	32.5	37.3	39.9	40.8	42.4	44.2
87.5°	5.8	6.7	3.7	7.8	6.9	9.0	10.4	11.1	10.8	12.0	12.7
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°	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7
2.5°	966.7	974.1	970.4	982.4	987.0	979.6	992.5	992.8	983.6	994.4	1000.4
5°	951.8	959.4	957.1	969.5	975.3	968.8	984.5	987.5	978.5	990.7	1000.4
7.5°	936.6	945.5	942.6	955.2	962.1	957.1	973.9	978.7	971.8	985.2	998.1
10°	923.4	931.0	927.8	941.2	947.2	943.0	959.6	968.6	962.1	978.5	993.9
12.5°	910.5	916.7	913.1	924.1	929.9	924.6	944.9	953.2	948.5	965.6	985.4
15°	893.9	900.9	895.8	905.7	910.1	905.5	922.0	936.3	930.6	949.2	971.1
17.5°	881.3	885.2	878.3	886.1	888.6	882.4	899.2	913.3	909.1	929.4	954.8
20°	867.2	870.4	860.8	865.1	864.9	857.1	872.5	886.3	883.6	905.9	934.7
22.5°	851.5	853.2	841.9	842.8	842.3	829.4	843.3	857.3	856.2	878.7	911.0
25°	835.0	835.2	820.7	820.2	815.1	799.9	812.1	828.0	824.6	849.0	882.9
27.5°	818.6	816.3	798.8	794.6	786.6	768.4	779.2	793.5	791.4	815.4	852.9
30°	801.1	798.1	776.7	769.1	757.3	736.3	745.3	758.7	759.8	780.8	820.2
32.5°	784.5	776.9	753.2	742.1	727.4	702.9	707.8	721.4	723.2	744.4	785.0
35°	763.1	758.0	728.7	709.9	695.3	668.6	673.7	683.1	685.9	706.6	747.9
37.5°	742.8	734.7	703.6	680.6	661.9	633.8	635.2	644.9	647.6	668.6	709.4
40°	721.8	710.3	676.9	649.9	628.5	599.0	597.4	607.6	609.6	630.1	667.0
42.5°	699.5	685.7	648.1	618.6	594.0	564.0	560.8	569.5	571.8	591.9	628.1
45°	676.9	660.3	618.6	586.4	559.4	528.8	525.5	532.2	535.7	554.6	589.4
47.5°	652.9	633.6	588.2	552.3	524.4	493.7	489.8	496.5	499.3	517.9	550.9
50°	627.8	604.3	556.9	517.2	489.6	459.4	453.7	461.5	464.0	481.5	513.8
52.5°	600.2	574.1	523.5	482.0	454.3	425.5	418.6	426.2	429.2	446.3	476.0
55°	570.9	542.8	489.8	449.5	419.6	391.4	385.7	388.7	395.1	411.3	438.9
57.5°	538.0	510.1	454.3	413.3	384.5	357.6	352.7	355.5	361.5	377.2	402.0
60°	503.0	473.5	418.2	377.2	349.3	323.7	319.3	321.9	328.3	342.6	365.6
62.5°	468.4	435.2	380.8	340.1	314.7	291.0	289.8	288.9	294.9	308.7	329.0
65°	426.5	394.7	341.9	303.2	280.2	258.7	254.1	256.2	262.0	274.6	295.8
67.5°	381.5	352.7	302.0	266.3	245.8	226.7	222.8	223.7	229.7	240.8	259.2
70°	333.8	308.5	261.3	229.2	212.0	194.0	191.5	191.7	197.4	207.1	223.3
72.5°	283.8	261.0	220.0	192.6	178.3	165.4	163.1	160.4	165.7	173.9	187.8
75°	232.9	212.9	179.0	156.7	145.4	134.6	132.5	129.7	135.0	142.2	153.0
77.5°	181.6	165.4	139.2	121.9	113.1	105.1	103.2	100.2	105.5	110.8	119.3
80°	131.3	119.6	103.9	85.7	82.7	77.4	75.6	72.3	77.4	80.9	87.3
82.5°	84.8	77.0	68.0	55.3	54.8	50.9	50.0	46.3	50.9	53.0	57.8
85°	42.9	39.2	36.9	28.1	29.0	26.5	26.3	22.3	26.0	27.0	29.7
87.5°	12.2	12.9	11.5	6.9	8.8	8.3	8.3	6.0	8.3	8.3	9.4
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: P838164

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1STD-27-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	987.7	987.7	987.7	987.7	987.7	987.7	987.7	987.7
2.5°	988.6	992.5	993.5	993.2	995.8	1009.6	1005.0	1009.6
5°	990.9	999.7	1002.0	1005.2	1009.4	1025.0	1020.0	1025.5
7.5°	992.3	1005.5	1010.5	1016.7	1023.4	1040.9	1036.8	1042.3
10°	992.3	1009.4	1016.7	1027.1	1036.1	1056.4	1052.5	1058.9
12.5°	988.2	1010.1	1020.4	1034.9	1046.5	1068.3	1066.7	1071.3
15°	979.6	1006.6	1020.9	1039.5	1053.8	1078.3	1077.6	1083.1
17.5°	968.1	1000.6	1017.9	1041.4	1059.4	1086.8	1088.4	1091.4
20°	953.6	989.3	1011.9	1040.7	1063.3	1093.5	1095.5	1099.7
22.5°	934.5	975.7	1002.9	1037.7	1063.7	1096.2	1099.9	1103.8
25°	911.9	959.4	991.2	1031.9	1061.4	1096.0	1101.1	1104.5
27.5°	886.1	938.2	976.2	1022.7	1055.0	1092.3	1098.5	1102.7
30°	856.2	915.6	959.1	1010.7	1046.2	1085.4	1092.1	1096.2
32.5°	825.3	890.7	938.9	995.3	1033.6	1074.3	1080.1	1083.3
35°	791.6	860.5	914.4	975.5	1017.2	1056.6	1061.0	1064.4
37.5°	755.0	827.8	886.6	953.2	994.2	1031.9	1035.9	1039.8
40°	717.2	793.5	855.2	925.7	966.7	1001.8	1005.9	1008.7
42.5°	679.2	755.5	821.8	893.5	934.3	967.9	970.4	973.2
45°	640.7	716.1	784.3	857.8	898.1	929.6	930.6	932.9
47.5°	601.6	675.3	743.0	817.0	856.8	885.6	886.6	888.4
50°	562.2	634.5	699.0	773.0	811.9	842.3	838.2	840.0
52.5°	523.5	591.7	657.6	725.5	764.0	791.0	792.1	788.4
55°	485.4	549.7	610.3	675.8	712.4	733.4	732.7	734.0
57.5°	447.0	507.3	562.9	622.8	658.5	678.3	682.4	677.6
60°	407.8	464.5	514.2	568.4	602.9	619.5	624.4	619.8
62.5°	368.9	420.9	466.1	513.3	545.3	565.9	565.4	560.3
65°	329.9	377.2	417.5	457.6	485.4	506.0	505.0	500.4
67.5°	294.0	332.9	369.1	401.6	425.8	439.8	444.7	439.1
70°	254.4	288.0	319.8	345.8	365.9	378.5	383.1	378.3
72.5°	214.7	243.3	265.6	290.8	306.2	316.8	321.6	317.0
75°	175.6	199.1	217.3	236.8	247.7	256.7	262.2	257.6
77.5°	137.5	155.7	170.3	184.5	197.0	199.1	203.9	200.9
80°	101.4	114.5	125.1	134.6	143.5	144.5	148.4	146.5
82.5°	67.5	76.3	79.0	88.9	94.7	93.8	97.7	96.3
85°	35.7	41.0	45.8	48.8	52.1	49.1	52.5	51.1
87.5°	12.0	12.7	11.1	15.7	17.3	14.7	16.8	16.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)