

Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P838091

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1LO-35-120-EDD**

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-08
Report Number: P838091
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-LD4-1LO-35-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

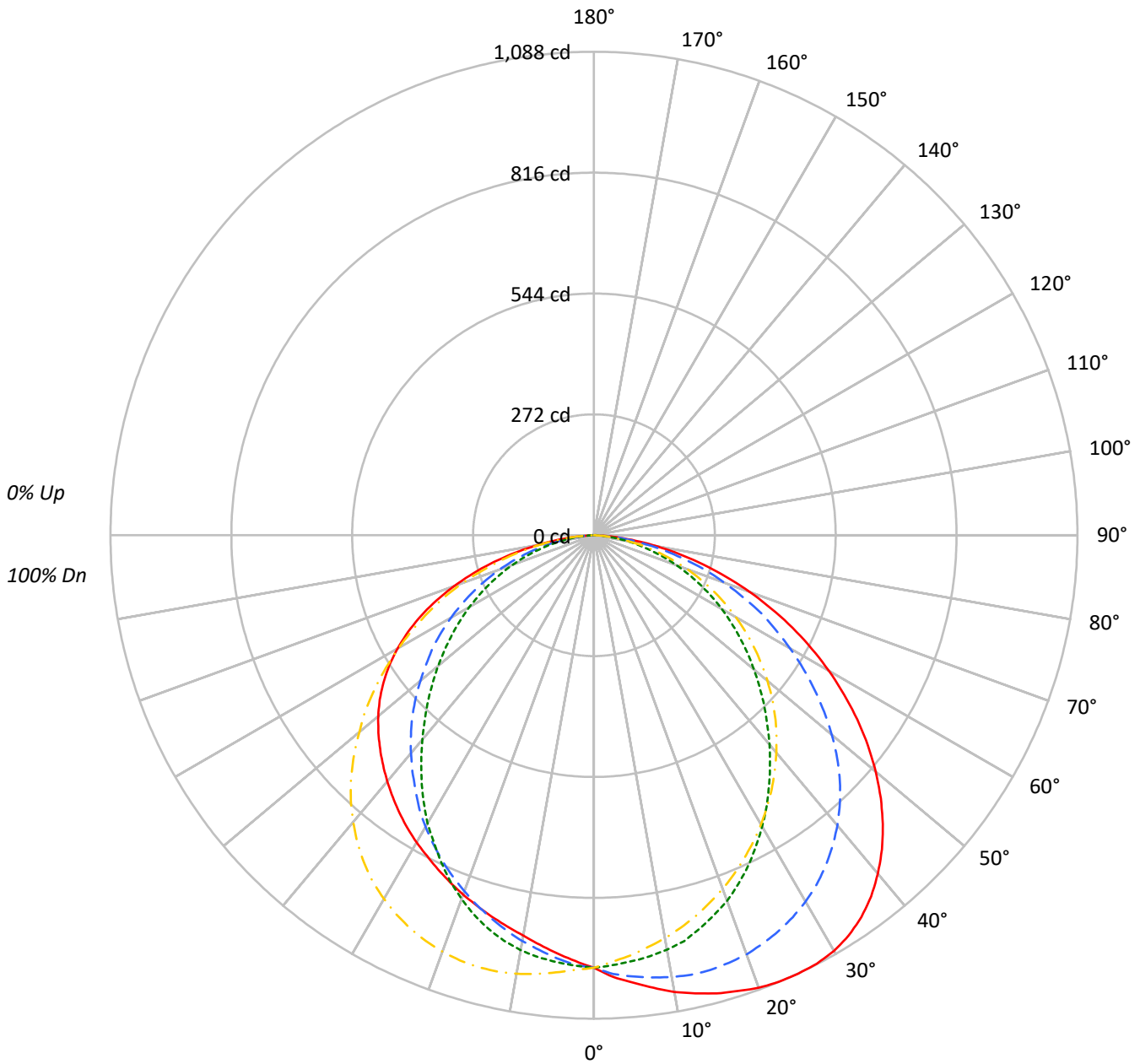
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2855.8 lumens
Efficiency: N/A
Efficacy: 122.0 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): 23.4
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

TEST NUMBER: P838091
CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1LO-35-120-EDD

Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - · - 90°-270° - · · - 135°-315°



TEST NUMBER: P838091

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1LO-35-120-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20			20			20
RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
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°	1310	1310	1310	1310
5°	1365	1300	1276	1302
10°	1426	1294	1250	1295
15°	1487	1277	1238	1277
20°	1552	1254	1232	1247
25°	1616	1219	1232	1206
30°	1678	1176	1240	1163
35°	1723	1128	1253	1110
40°	1746	1079	1270	1055
45°	1749	1030	1295	1004
50°	1733	983	1326	957
55°	1697	939	1356	913
60°	1644	894	1374	871
65°	1570	841	1367	822
70°	1467	780	1318	766
75°	1320	695	1210	692
80°	1119	583	1017	591
85°	778	386	645	397



TEST NUMBER: P838091
 CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1LO-35-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.4	3.2
10°-20°	267.6	9.4
20°-30°	410.1	14.4
30°-40°	498.7	17.5
40°-50°	518.4	18.2
50°-60°	468.3	16.4
60°-70°	356.0	12.5
70°-80°	198.5	7.0
80°-90°	45.7	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°	770.2	27.0
0°-40°	1268.9	44.4
0°-60°	2255.6	79.0
0°-90°	2855.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2855.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	973	973	973	973	973	
5°	1011	963	945	964	1011	97
15°	1067	917	888	917	1067	303
25°	1088	821	830	813	1088	503
35°	1049	687	763	676	1049	655
45°	919	542	680	528	919	708
55°	723	400	578	389	723	646
65°	493	264	429	258	493	487
75°	254	134	233	133	254	270
85°	50	25	42	26	50	63
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab
 1121 Highway 74 South
 Peachtree City, GA 30269



TEST NUMBER: P838091

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1LO-35-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4
2.5°	995.0	980.4	980.7	993.4	983.6	988.4	974.8	980.0	978.4	979.5	968.4
5°	1010.6	995.0	994.7	1005.6	994.7	996.8	979.5	982.9	977.9	974.8	962.7
7.5°	1027.2	1011.5	1010.0	1019.5	1005.2	1003.6	984.5	984.5	975.4	967.5	956.1
10°	1043.6	1027.4	1025.4	1032.7	1015.0	1009.7	986.6	982.9	970.9	959.1	946.8
12.5°	1055.8	1039.5	1037.9	1042.4	1022.4	1012.9	986.6	979.5	961.8	945.2	935.7
15°	1067.4	1050.6	1046.3	1048.6	1025.6	1012.9	983.4	972.5	949.8	928.0	916.9
17.5°	1075.6	1059.5	1055.1	1054.9	1027.2	1009.1	976.6	961.6	934.3	908.0	896.9
20°	1083.8	1067.6	1062.2	1058.1	1026.8	1003.8	966.6	946.4	914.6	885.1	875.8
22.5°	1087.8	1071.3	1065.4	1059.2	1023.8	994.3	954.3	928.7	892.3	857.1	849.4
25°	1088.5	1071.5	1065.1	1056.3	1017.9	982.9	938.4	907.3	866.7	827.6	821.0
27.5°	1086.7	1068.1	1061.7	1051.1	1009.1	969.1	919.6	883.0	839.4	796.3	789.3
30°	1080.3	1061.5	1055.4	1041.5	996.6	952.1	898.9	856.0	809.2	763.4	757.2
32.5°	1067.6	1049.2	1044.2	1030.4	982.9	932.3	874.9	827.0	775.9	732.0	723.0
35°	1049.0	1030.6	1027.4	1012.9	963.9	908.7	848.5	795.2	740.4	695.7	686.9
37.5°	1024.7	1009.3	1004.5	990.2	941.4	881.9	818.3	760.6	704.3	656.2	650.8
40°	994.1	979.5	975.9	963.2	915.3	852.2	785.6	725.0	667.1	622.4	614.6
42.5°	959.1	945.5	943.4	930.3	883.0	819.2	750.2	688.0	628.3	585.1	577.4
45°	919.4	906.2	905.7	893.3	847.8	782.7	713.0	650.5	590.4	545.6	541.5
47.5°	875.5	863.7	863.7	852.2	808.6	742.5	674.6	611.5	552.2	512.7	505.4
50°	827.9	816.7	813.3	807.7	765.2	698.7	634.2	573.3	514.5	476.8	469.8
52.5°	777.0	767.5	769.7	759.3	718.2	653.0	593.3	530.4	476.6	442.3	435.3
55°	723.4	709.8	711.8	708.0	669.1	606.0	547.4	495.0	439.4	407.1	400.5
57.5°	667.8	650.1	657.3	655.1	616.9	557.9	505.4	454.8	402.3	372.6	366.2
60°	610.8	593.8	601.3	599.2	563.3	509.7	462.1	415.1	365.6	338.5	332.2
62.5°	552.2	536.5	543.4	541.8	508.8	460.5	418.9	375.8	328.6	304.3	298.4
65°	493.2	478.2	484.3	483.2	452.8	416.0	374.6	335.1	291.3	270.2	264.3
67.5°	432.8	418.9	424.6	424.6	396.7	361.5	330.1	294.0	254.8	236.6	231.1
70°	372.8	359.9	364.9	364.4	340.8	312.2	285.2	252.9	217.7	202.8	198.2
72.5°	312.4	301.1	305.6	305.2	285.4	267.0	240.2	212.3	181.6	169.6	165.5
75°	253.9	243.2	247.5	247.0	230.9	213.7	195.7	172.6	146.2	137.8	133.7
77.5°	198.0	187.1	190.7	190.7	178.9	166.4	152.1	134.2	115.6	106.5	103.5
80°	144.4	139.2	137.4	137.6	129.7	121.5	114.2	97.0	83.3	77.2	75.2
82.5°	94.9	90.6	88.8	89.2	84.7	79.7	75.2	63.1	54.0	50.4	49.3
85°	50.4	47.2	45.6	46.8	45.9	43.1	40.9	32.7	27.0	25.7	25.0
87.5°	15.9	13.9	12.7	16.8	14.3	12.7	12.3	9.8	7.5	7.5	7.3
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: P838091

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1LO-35-120-EDD

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4
2.5°	972.0	972.0	963.2	961.1	960.2	961.4	952.5	950.9	963.6	959.3	949.6
5°	964.3	963.9	951.4	949.1	949.1	947.7	937.8	935.5	948.2	944.6	933.9
7.5°	954.8	953.4	938.7	937.1	934.8	933.9	922.8	921.2	932.1	929.8	919.8
10°	943.2	941.8	924.4	923.2	920.7	918.9	908.5	907.3	918.5	914.8	906.9
12.5°	928.0	925.5	907.6	906.4	904.4	903.7	893.5	893.0	905.3	901.7	893.3
15°	908.0	906.0	886.0	886.4	886.7	886.7	878.5	878.0	890.1	888.5	879.4
17.5°	886.0	883.3	864.2	865.6	867.1	869.0	862.6	863.7	876.4	874.4	866.2
20°	861.0	858.3	839.7	843.5	846.9	850.6	846.5	849.7	861.5	860.6	854.4
22.5°	833.1	830.4	813.1	819.0	824.7	831.5	829.7	833.3	845.8	845.6	840.1
25°	799.0	799.7	784.5	791.8	801.3	810.8	811.5	817.4	831.3	829.9	824.9
27.5°	767.2	768.1	752.0	764.3	777.0	789.3	792.2	800.4	814.5	813.3	809.0
30°	733.9	735.0	719.3	736.1	751.6	766.6	772.9	784.0	798.3	798.3	793.8
32.5°	699.1	701.2	684.8	707.3	725.2	742.7	753.8	765.4	781.8	781.3	777.5
35°	663.5	665.7	650.8	679.4	697.3	718.6	732.5	747.9	762.5	762.7	759.7
37.5°	627.1	629.9	616.2	647.6	668.0	693.2	710.9	726.4	742.5	743.4	740.7
40°	591.0	594.0	582.2	612.4	638.3	666.4	686.9	705.0	722.7	723.2	721.4
42.5°	554.9	558.1	549.3	578.8	608.1	638.3	662.3	683.0	701.2	702.3	700.3
45°	519.7	522.5	516.1	548.3	576.5	609.4	637.1	660.5	678.9	680.5	679.8
47.5°	484.8	487.3	481.6	511.1	543.6	578.5	610.6	636.4	656.0	657.8	657.3
50°	450.5	452.5	446.4	477.3	509.5	546.8	580.1	610.1	631.9	633.7	633.5
52.5°	416.4	418.5	413.2	445.7	475.0	514.3	550.6	583.1	604.7	607.4	607.8
55°	383.5	384.4	380.3	411.4	439.8	480.9	522.7	554.3	575.8	578.1	579.5
57.5°	350.6	350.8	347.4	377.1	404.4	446.4	490.2	523.4	543.8	546.1	548.1
60°	317.9	317.7	313.8	342.6	368.7	410.3	455.9	488.9	508.6	510.7	513.4
62.5°	285.4	284.7	281.3	307.9	332.4	373.5	419.4	451.2	470.0	471.4	475.0
65°	253.2	252.5	249.3	273.8	296.1	335.4	380.3	410.5	427.6	429.4	428.7
67.5°	221.4	220.0	217.5	239.5	259.8	296.1	339.2	368.1	382.1	383.7	388.0
70°	189.6	188.0	182.3	205.7	223.4	255.9	296.1	321.7	333.6	335.1	334.5
72.5°	158.3	156.7	150.5	172.1	187.1	215.5	251.4	272.7	282.9	284.3	284.3
75°	127.8	126.9	123.1	139.4	151.9	175.1	205.5	223.2	231.1	232.7	232.3
77.5°	98.5	97.9	94.0	108.1	117.8	135.1	159.6	173.5	179.4	181.2	185.1
80°	70.6	70.4	64.3	78.1	82.4	97.0	114.9	125.6	128.7	131.2	134.0
82.5°	45.2	45.4	39.3	51.1	52.9	62.2	73.3	79.9	82.2	84.2	86.3
85°	22.0	22.9	19.5	27.0	27.2	32.0	36.8	39.3	40.2	41.8	43.6
87.5°	5.7	6.6	3.6	7.7	6.8	8.9	10.2	10.9	10.7	11.8	12.5
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: P838091

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1LO-35-120-EDD

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4
2.5°	952.7	960.0	956.4	968.2	972.7	965.5	978.2	978.4	969.3	980.0	985.9
5°	938.0	945.5	943.2	955.5	961.1	954.8	970.2	973.2	964.3	976.4	985.9
7.5°	923.0	931.9	928.9	941.4	948.2	943.2	959.8	964.5	957.7	970.9	983.6
10°	910.1	917.5	914.4	927.5	933.4	929.4	945.7	954.6	948.2	964.3	979.5
12.5°	897.3	903.5	899.8	910.7	916.4	911.2	931.2	939.3	934.8	951.6	971.1
15°	881.0	887.8	882.8	892.6	896.9	892.3	908.7	922.8	917.1	935.5	957.1
17.5°	868.5	872.4	865.6	873.3	875.8	869.6	886.2	900.1	896.0	916.0	940.9
20°	854.7	857.8	848.3	852.6	852.4	844.7	859.9	873.5	870.8	892.8	921.2
22.5°	839.2	840.8	829.7	830.6	830.1	817.4	831.0	844.9	843.8	866.0	897.8
25°	822.9	823.1	808.8	808.3	803.3	788.4	800.4	816.1	812.6	836.7	870.1
27.5°	806.7	804.5	787.2	783.1	775.2	757.2	767.9	782.0	779.9	803.6	840.6
30°	789.5	786.5	765.4	757.9	746.3	725.7	734.5	747.7	748.8	769.5	808.3
32.5°	773.1	765.6	742.3	731.4	716.8	692.8	697.5	710.9	712.7	733.6	773.6
35°	752.0	747.0	718.2	699.6	685.3	658.9	663.9	673.2	676.0	696.4	737.0
37.5°	732.0	724.1	693.4	670.7	652.3	624.6	626.0	635.5	638.3	658.9	699.1
40°	711.4	700.0	667.1	640.5	619.4	590.4	588.8	598.8	600.8	621.0	657.3
42.5°	689.4	675.7	638.7	609.7	585.4	555.8	552.7	561.3	563.6	583.3	619.0
45°	667.1	650.8	609.7	577.9	551.3	521.1	517.9	524.5	527.9	546.5	580.8
47.5°	643.5	624.4	579.7	544.3	516.8	486.6	482.7	489.3	492.0	510.4	542.9
50°	618.7	595.6	548.8	509.7	482.5	452.8	447.1	454.8	457.3	474.6	506.3
52.5°	591.5	565.8	515.9	475.0	447.8	419.4	412.6	420.1	423.0	439.8	469.1
55°	562.7	535.0	482.7	443.0	413.5	385.8	380.1	383.0	389.4	405.3	432.5
57.5°	530.2	502.7	447.8	407.3	379.0	352.4	347.6	350.4	356.3	371.7	396.2
60°	495.7	466.6	412.1	371.7	344.2	319.0	314.7	317.2	323.6	337.6	360.3
62.5°	461.6	428.9	375.3	335.1	310.2	286.8	285.6	284.7	290.6	304.3	324.2
65°	420.3	389.0	337.0	298.8	276.1	255.0	250.4	252.5	258.2	270.7	291.5
67.5°	376.0	347.6	297.7	262.5	242.3	223.4	219.6	220.5	226.4	237.3	255.4
70°	329.0	304.0	257.5	225.9	208.9	191.2	188.7	188.9	194.6	204.1	220.0
72.5°	279.7	257.3	216.8	189.8	175.7	163.0	160.8	158.0	163.3	171.4	185.1
75°	229.6	209.8	176.4	154.4	143.3	132.6	130.6	127.8	133.1	140.1	150.8
77.5°	178.9	163.0	137.1	120.1	111.5	103.5	101.7	98.8	104.0	109.2	117.6
80°	129.4	117.8	102.4	84.5	81.5	76.3	74.5	71.3	76.3	79.7	86.1
82.5°	83.6	75.8	67.0	54.5	54.0	50.2	49.3	45.6	50.2	52.2	57.0
85°	42.2	38.6	36.3	27.7	28.6	26.1	25.9	22.0	25.7	26.6	29.3
87.5°	12.0	12.7	11.4	6.8	8.6	8.2	8.2	5.9	8.2	8.2	9.3
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: P838091

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1LO-35-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4
2.5°	974.3	978.2	979.1	978.9	981.4	995.0	990.4	995.0
5°	976.6	985.2	987.5	990.7	994.7	1010.2	1005.2	1010.6
7.5°	977.9	990.9	995.9	1002.0	1008.6	1025.9	1021.8	1027.2
10°	977.9	994.7	1002.0	1012.2	1021.1	1041.1	1037.2	1043.6
12.5°	973.9	995.4	1005.6	1020.0	1031.3	1052.9	1051.3	1055.8
15°	965.5	992.0	1006.1	1024.5	1038.6	1062.6	1062.0	1067.4
17.5°	954.1	986.1	1003.1	1026.3	1044.0	1071.0	1072.6	1075.6
20°	939.8	975.0	997.2	1025.6	1047.9	1077.6	1079.7	1083.8
22.5°	921.0	961.6	988.4	1022.7	1048.3	1080.3	1084.0	1087.8
25°	898.7	945.5	976.8	1017.0	1046.1	1080.1	1085.1	1088.5
27.5°	873.3	924.6	962.1	1007.9	1039.7	1076.5	1082.6	1086.7
30°	843.8	902.3	945.2	996.1	1031.1	1069.7	1076.3	1080.3
32.5°	813.3	877.8	925.3	980.9	1018.6	1058.8	1064.5	1067.6
35°	780.2	848.1	901.2	961.4	1002.5	1041.3	1045.6	1049.0
37.5°	744.1	815.8	873.7	939.3	979.8	1017.0	1020.9	1024.7
40°	706.8	782.0	842.8	912.3	952.7	987.3	991.3	994.1
42.5°	669.4	744.5	809.9	880.5	920.7	953.9	956.4	959.1
45°	631.5	705.7	772.9	845.3	885.1	916.2	917.1	919.4
47.5°	592.9	665.5	732.3	805.2	844.4	872.8	873.7	875.5
50°	554.0	625.3	688.9	761.8	800.2	830.1	826.0	827.9
52.5°	515.9	583.1	648.0	715.0	752.9	779.5	780.6	777.0
55°	478.4	541.8	601.5	666.0	702.1	722.7	722.0	723.4
57.5°	440.5	500.0	554.7	613.7	648.9	668.5	672.5	667.8
60°	401.9	457.8	506.8	560.2	594.2	610.6	615.3	610.8
62.5°	363.5	414.8	459.3	505.9	537.4	557.7	557.2	552.2
65°	325.1	371.7	411.4	450.9	478.4	498.6	497.7	493.2
67.5°	289.7	328.1	363.7	395.8	419.6	433.5	438.2	432.8
70°	250.7	283.8	315.2	340.8	360.6	373.1	377.6	372.8
72.5°	211.6	239.8	261.8	286.5	301.8	312.2	317.0	312.4
75°	173.0	196.2	214.1	233.4	244.1	252.9	258.4	253.9
77.5°	135.6	153.5	167.8	181.9	194.1	196.2	200.9	198.0
80°	99.9	112.8	123.3	132.6	141.5	142.4	146.2	144.4
82.5°	66.5	75.2	77.9	87.6	93.3	92.4	96.3	94.9
85°	35.2	40.4	45.2	48.1	51.3	48.4	51.8	50.4
87.5°	11.8	12.5	10.9	15.4	17.0	14.5	16.6	15.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)