

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: P837897

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2STD-40-120-EDD**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P837897
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-40-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

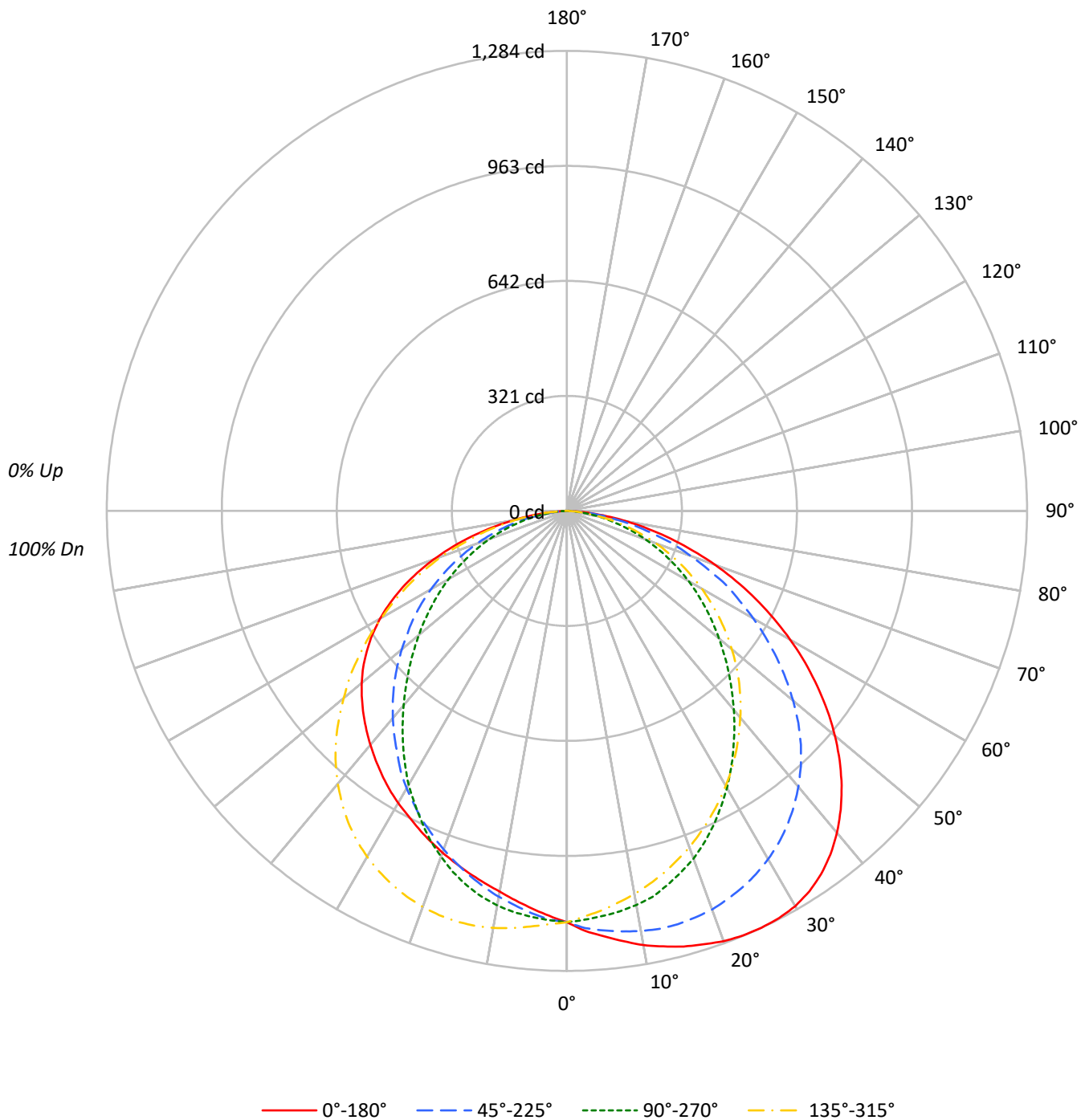
Lumens per Lamp: N/A
Luminaire Lumens: 3368.1 lumens
Efficiency: N/A
Efficacy: 101.1 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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



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	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°	3089	3089	3089	3089
5°	3220	3067	3009	3072
10°	3363	3051	2948	3056
15°	3507	3012	2919	3013
20°	3660	2958	2906	2941
25°	3812	2875	2906	2846
30°	3959	2775	2926	2744
35°	4064	2661	2955	2619
40°	4118	2546	2996	2489
45°	4126	2431	3054	2369
50°	4088	2320	3129	2258
55°	4003	2216	3199	2155
60°	3877	2109	3242	2054
65°	3703	1985	3224	1939
70°	3460	1840	3110	1806
75°	3113	1640	2854	1631
80°	2639	1373	2399	1395
85°	1834	911	1522	936

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.0	3.2
10°-20°	315.6	9.4
20°-30°	483.7	14.4
30°-40°	588.2	17.5
40°-50°	611.4	18.2
50°-60°	552.3	16.4
60°-70°	419.9	12.5
70°-80°	234.1	7.0
80°-90°	53.9	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°	908.3	27.0
0°-40°	1496.5	44.4
0°-60°	2660.3	79.0
0°-90°	3368.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3368.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1148	1148	1148	1148	1148	
5°	1192	1135	1114	1137	1192	115
15°	1259	1081	1048	1082	1259	357
25°	1284	968	979	958	1284	593
35°	1237	810	900	797	1237	773
45°	1084	639	803	623	1084	835
55°	853	472	682	459	853	762
65°	582	312	506	304	582	575
75°	299	158	274	157	299	318
85°	59	30	49	30	59	75
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°	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0
2.5°	1173.5	1156.3	1156.6	1171.6	1160.1	1165.7	1149.6	1155.8	1153.9	1155.2	1142.1
5°	1191.9	1173.5	1173.2	1186.0	1173.2	1175.6	1155.2	1159.3	1153.4	1149.6	1135.4
7.5°	1211.5	1193.0	1191.1	1202.4	1185.5	1183.6	1161.1	1161.1	1150.4	1141.1	1127.7
10°	1230.8	1211.8	1209.3	1217.9	1197.0	1190.9	1163.6	1159.3	1145.1	1131.1	1116.7
12.5°	1245.2	1225.9	1224.1	1229.4	1205.9	1194.6	1163.6	1155.2	1134.4	1114.8	1103.6
15°	1258.9	1239.1	1234.0	1236.7	1209.6	1194.6	1159.8	1146.9	1120.2	1094.5	1081.3
17.5°	1268.5	1249.5	1244.4	1244.2	1211.5	1190.1	1151.8	1134.1	1102.0	1070.9	1057.8
20°	1278.2	1259.2	1252.7	1247.9	1211.0	1183.9	1140.0	1116.2	1078.7	1043.8	1032.9
22.5°	1283.0	1263.4	1256.5	1249.2	1207.5	1172.7	1125.5	1095.3	1052.4	1010.9	1001.8
25°	1283.8	1263.7	1256.2	1245.8	1200.5	1159.3	1106.8	1070.1	1022.2	976.1	968.3
27.5°	1281.6	1259.7	1252.2	1239.6	1190.1	1142.9	1084.6	1041.4	990.0	939.1	930.8
30°	1274.1	1251.9	1244.7	1228.4	1175.3	1122.8	1060.2	1009.6	954.4	900.3	893.1
32.5°	1259.2	1237.5	1231.6	1215.2	1159.3	1099.5	1031.8	975.3	915.0	863.4	852.6
35°	1237.2	1215.5	1211.8	1194.6	1136.8	1071.7	1000.7	937.8	873.3	820.5	810.1
37.5°	1208.5	1190.3	1184.7	1167.8	1110.3	1040.1	965.1	897.1	830.7	773.9	767.5
40°	1172.4	1155.2	1151.0	1136.0	1079.5	1005.0	926.6	855.1	786.8	734.0	724.9
42.5°	1131.1	1115.1	1112.7	1097.1	1041.4	966.2	884.8	811.4	741.0	690.1	681.0
45°	1084.3	1068.8	1068.2	1053.5	999.9	923.1	840.9	767.2	696.3	643.5	638.7
47.5°	1032.6	1018.7	1018.7	1005.0	953.6	875.7	795.6	721.2	651.3	604.7	596.1
50°	976.4	963.2	959.2	952.5	902.5	824.0	747.9	676.2	606.8	562.4	554.1
52.5°	916.4	905.1	907.8	895.5	847.0	770.2	699.7	625.6	562.1	521.7	513.4
55°	853.2	837.1	839.5	835.0	789.2	714.7	645.6	583.8	518.2	480.1	472.4
57.5°	787.6	766.7	775.3	772.6	727.6	658.0	596.1	536.4	474.5	439.4	431.9
60°	720.4	700.3	709.1	706.7	664.4	601.2	545.0	489.5	431.1	399.3	391.8
62.5°	651.3	632.8	640.8	638.9	600.1	543.1	494.1	443.2	387.5	358.8	351.9
65°	581.6	564.0	571.2	569.9	534.0	490.6	441.9	395.3	343.6	318.7	311.7
67.5°	510.4	494.1	500.8	500.8	467.8	426.3	389.4	346.8	300.5	279.0	272.6
70°	439.7	424.4	430.3	429.8	402.0	368.2	336.3	298.3	256.8	239.1	233.8
72.5°	368.5	355.1	360.4	359.9	336.6	314.9	283.3	250.4	214.2	200.0	195.2
75°	299.4	286.8	291.9	291.4	272.3	252.0	230.8	203.5	172.5	162.5	157.7
77.5°	233.5	220.7	224.9	224.9	211.0	196.3	179.4	158.3	136.3	125.6	122.1
80°	170.3	164.2	162.0	162.3	152.9	143.3	134.7	114.3	98.3	91.0	88.6
82.5°	111.9	106.8	104.7	105.2	99.9	94.0	88.6	74.4	63.7	59.4	58.1
85°	59.4	55.7	53.8	55.2	54.1	50.9	48.2	38.6	31.9	30.3	29.5
87.5°	18.7	16.3	15.0	19.8	16.9	15.0	14.5	11.5	8.8	8.8	8.6
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°	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0
2.5°	1146.4	1146.4	1136.0	1133.6	1132.5	1133.8	1123.4	1121.5	1136.5	1131.4	1119.9
5°	1137.3	1136.8	1122.0	1119.4	1119.4	1117.8	1106.0	1103.3	1118.3	1114.0	1101.4
7.5°	1126.1	1124.5	1107.0	1105.2	1102.5	1101.4	1088.3	1086.4	1099.3	1096.6	1084.8
10°	1112.4	1110.8	1090.2	1088.8	1085.9	1083.7	1071.4	1070.1	1083.2	1078.9	1069.6
12.5°	1094.5	1091.5	1070.4	1069.0	1066.6	1065.8	1053.8	1053.2	1067.7	1063.4	1053.5
15°	1070.9	1068.5	1044.9	1045.5	1045.7	1045.7	1036.1	1035.5	1049.7	1047.9	1037.2
17.5°	1044.9	1041.7	1019.2	1020.8	1022.7	1024.8	1017.3	1018.7	1033.7	1031.3	1021.6
20°	1015.5	1012.2	990.3	994.8	998.9	1003.1	998.3	1002.1	1016.0	1014.9	1007.7
22.5°	982.5	979.3	959.0	965.9	972.6	980.6	978.5	982.8	997.5	997.3	990.8
25°	942.4	943.2	925.2	933.8	945.0	956.3	957.1	964.0	980.4	978.8	972.9
27.5°	904.9	905.9	886.9	901.4	916.4	930.8	934.3	944.0	960.6	959.2	954.1
30°	865.5	866.8	848.4	868.2	886.4	904.1	911.6	924.7	941.6	941.6	936.2
32.5°	824.5	826.9	807.7	834.2	855.3	875.9	889.1	902.7	922.0	921.5	916.9
35°	782.5	785.2	767.5	801.2	822.4	847.6	863.9	882.1	899.2	899.5	896.0
37.5°	739.6	742.9	726.8	763.7	787.8	817.6	838.5	856.7	875.7	876.7	873.5
40°	697.1	700.5	686.6	722.2	752.8	786.0	810.1	831.5	852.4	852.9	850.8
42.5°	654.5	658.2	647.8	682.6	717.1	752.8	781.1	805.5	826.9	828.3	825.9
45°	613.0	616.2	608.7	646.7	679.9	718.8	751.4	779.0	800.7	802.6	801.8
47.5°	571.7	574.7	568.0	602.8	641.1	682.3	720.1	750.6	773.6	775.8	775.3
50°	531.3	533.7	526.5	562.9	600.9	644.8	684.2	719.6	745.3	747.4	747.1
52.5°	491.1	493.5	487.4	525.7	560.2	606.5	649.4	687.7	713.1	716.3	716.9
55°	452.3	453.4	448.5	485.2	518.7	567.2	616.5	653.7	679.1	681.8	683.4
57.5°	413.5	413.7	409.7	444.8	476.9	526.5	578.2	617.3	641.4	644.0	646.4
60°	374.9	374.6	370.1	404.1	434.9	483.9	537.7	576.6	599.9	602.3	605.5
62.5°	336.6	335.8	331.8	363.1	392.0	440.5	494.6	532.1	554.3	555.9	560.2
65°	298.6	297.8	294.0	323.0	349.2	395.5	448.5	484.2	504.3	506.4	505.6
67.5°	261.1	259.5	256.5	282.5	306.4	349.2	400.1	434.1	450.7	452.6	457.7
70°	223.6	221.7	215.0	242.6	263.5	301.8	349.2	379.5	393.4	395.3	394.5
72.5°	186.7	184.8	177.5	203.0	220.7	254.1	296.4	321.6	333.7	335.3	335.3
75°	150.8	149.7	145.1	164.4	179.2	206.5	242.4	263.2	272.6	274.5	273.9
77.5°	116.2	115.4	110.9	127.5	139.0	159.3	188.3	204.6	211.6	213.7	218.2
80°	83.3	83.0	75.8	92.1	97.2	114.3	135.5	148.1	151.8	154.8	158.0
82.5°	53.3	53.6	46.3	60.3	62.4	73.4	86.5	94.3	96.9	99.4	101.8
85°	26.0	27.0	23.0	31.9	32.1	37.8	43.4	46.3	47.4	49.3	51.4
87.5°	6.7	7.8	4.3	9.1	8.0	10.4	12.1	12.9	12.6	13.9	14.7
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°	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0
2.5°	1123.7	1132.2	1127.9	1141.9	1147.2	1138.6	1153.6	1153.9	1143.2	1155.8	1162.7
5°	1106.2	1115.1	1112.4	1126.9	1133.6	1126.1	1144.3	1147.8	1137.3	1151.5	1162.7
7.5°	1088.6	1099.0	1095.5	1110.3	1118.3	1112.4	1132.0	1137.6	1129.5	1145.1	1160.1
10°	1073.3	1082.1	1078.4	1093.9	1100.9	1096.1	1115.3	1125.8	1118.3	1137.3	1155.2
12.5°	1058.3	1065.5	1061.3	1074.1	1080.8	1074.6	1098.2	1107.9	1102.5	1122.3	1145.3
15°	1039.0	1047.1	1041.2	1052.7	1057.8	1052.4	1071.7	1088.3	1081.6	1103.3	1128.7
17.5°	1024.3	1028.9	1020.8	1029.9	1032.9	1025.6	1045.2	1061.5	1056.7	1080.3	1109.7
20°	1008.0	1011.7	1000.5	1005.6	1005.3	996.2	1014.1	1030.2	1027.0	1053.0	1086.4
22.5°	989.8	991.6	978.5	979.6	979.0	964.0	980.1	996.4	995.1	1021.4	1058.8
25°	970.5	970.7	953.9	953.3	947.4	929.8	944.0	962.4	958.4	986.8	1026.2
27.5°	951.5	948.8	928.4	923.6	914.2	893.1	905.7	922.3	919.9	947.7	991.4
30°	931.1	927.6	902.7	893.9	880.2	855.9	866.3	881.8	883.2	907.5	953.3
32.5°	911.8	903.0	875.4	862.6	845.4	817.0	822.7	838.5	840.6	865.2	912.4
35°	886.9	881.0	847.0	825.1	808.2	777.1	783.0	794.0	797.2	821.3	869.2
37.5°	863.4	854.0	817.8	791.1	769.4	736.7	738.3	749.5	752.8	777.1	824.5
40°	839.0	825.6	786.8	755.4	730.5	696.3	694.4	706.2	708.6	732.4	775.3
42.5°	813.0	796.9	753.3	719.0	690.4	655.6	651.8	662.0	664.7	688.0	730.0
45°	786.8	767.5	719.0	681.5	650.2	614.6	610.8	618.6	622.6	644.6	685.0
47.5°	758.9	736.4	683.7	641.9	609.5	573.9	569.3	577.1	580.3	602.0	640.3
50°	729.7	702.4	647.3	601.2	569.1	534.0	527.3	536.4	539.3	559.7	597.2
52.5°	697.6	667.3	608.4	560.2	528.1	494.6	486.6	495.4	498.9	518.7	553.3
55°	663.6	630.9	569.3	522.5	487.6	455.0	448.3	451.8	459.3	478.0	510.1
57.5°	625.3	592.9	528.1	480.4	446.9	415.6	410.0	413.2	420.2	438.4	467.3
60°	584.6	550.3	486.0	438.4	406.0	376.2	371.2	374.1	381.6	398.2	425.0
62.5°	544.4	505.9	442.7	395.3	365.8	338.2	336.9	335.8	342.8	358.8	382.4
65°	495.7	458.7	397.4	352.4	325.6	300.7	295.4	297.8	304.5	319.2	343.8
67.5°	443.5	410.0	351.1	309.6	285.7	263.5	259.0	260.0	267.0	279.8	301.3
70°	388.0	358.6	303.7	266.5	246.4	225.5	222.5	222.8	229.5	240.7	259.5
72.5°	329.9	303.4	255.7	223.9	207.3	192.3	189.6	186.4	192.5	202.2	218.2
75°	270.7	247.4	208.1	182.1	169.0	156.4	154.0	150.8	156.9	165.2	177.8
77.5°	211.0	192.3	161.7	141.7	131.5	122.1	120.0	116.5	122.6	128.8	138.7
80°	152.6	139.0	120.8	99.6	96.1	90.0	87.8	84.1	90.0	94.0	101.5
82.5°	98.5	89.4	79.0	64.3	63.7	59.2	58.1	53.8	59.2	61.6	67.2
85°	49.8	45.5	42.8	32.7	33.7	30.8	30.5	26.0	30.3	31.3	34.5
87.5°	14.2	15.0	13.4	8.0	10.2	9.6	9.6	7.0	9.6	9.6	11.0
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: P837897

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2STD-40-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0	1148.0
2.5°	1149.1	1153.6	1154.7	1154.4	1157.4	1173.5	1168.1	1173.5
5°	1151.8	1161.9	1164.6	1168.4	1173.2	1191.4	1185.5	1191.9
7.5°	1153.4	1168.6	1174.5	1181.8	1189.5	1209.9	1205.1	1211.5
10°	1153.4	1173.2	1181.8	1193.8	1204.3	1227.8	1223.3	1230.8
12.5°	1148.6	1174.0	1186.0	1202.9	1216.3	1241.7	1239.9	1245.2
15°	1138.6	1170.0	1186.6	1208.3	1224.9	1253.3	1252.5	1258.9
17.5°	1125.3	1163.0	1183.1	1210.4	1231.3	1263.2	1265.0	1268.5
20°	1108.4	1149.9	1176.1	1209.6	1235.9	1270.9	1273.3	1278.2
22.5°	1086.2	1134.1	1165.7	1206.1	1236.4	1274.1	1278.4	1283.0
25°	1059.9	1115.1	1152.0	1199.4	1233.7	1273.9	1279.8	1283.8
27.5°	1029.9	1090.4	1134.6	1188.7	1226.2	1269.6	1276.8	1281.6
30°	995.1	1064.2	1114.8	1174.8	1216.0	1261.6	1269.3	1274.1
32.5°	959.2	1035.3	1091.2	1156.9	1201.3	1248.7	1255.4	1259.2
35°	920.1	1000.2	1062.9	1133.8	1182.3	1228.1	1233.2	1237.2
37.5°	877.6	962.2	1030.5	1107.9	1155.5	1199.4	1204.0	1208.5
40°	833.6	922.3	994.0	1076.0	1123.7	1164.4	1169.2	1172.4
42.5°	789.4	878.1	955.2	1038.5	1085.9	1125.0	1127.9	1131.1
45°	744.7	832.3	911.6	997.0	1043.8	1080.5	1081.6	1084.3
47.5°	699.2	784.9	863.6	949.6	995.9	1029.4	1030.5	1032.6
50°	653.4	737.5	812.5	898.4	943.7	979.0	974.2	976.4
52.5°	608.4	687.7	764.3	843.3	888.0	919.3	920.7	916.4
55°	564.2	638.9	709.4	785.4	828.0	852.4	851.6	853.2
57.5°	519.5	589.7	654.2	723.8	765.3	788.4	793.2	787.6
60°	474.0	539.9	597.7	660.6	700.8	720.1	725.7	720.4
62.5°	428.7	489.3	541.7	596.6	633.9	657.7	657.2	651.3
65°	383.5	438.4	485.2	531.8	564.2	588.1	587.0	581.6
67.5°	341.7	387.0	429.0	466.8	494.9	511.2	516.8	510.4
70°	295.6	334.7	371.7	402.0	425.3	440.0	445.3	439.7
72.5°	249.6	282.8	308.8	338.0	355.9	368.2	373.8	368.5
75°	204.1	231.4	252.5	275.3	287.9	298.3	304.7	299.4
77.5°	159.9	181.0	197.9	214.5	229.0	231.4	237.0	233.5
80°	117.8	133.1	145.4	156.4	166.8	167.9	172.5	170.3
82.5°	78.5	88.6	91.9	103.4	110.1	109.0	113.5	111.9
85°	41.5	47.7	53.3	56.8	60.5	57.0	61.1	59.4
87.5°	13.9	14.7	12.9	18.2	20.1	17.1	19.5	18.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)