

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: P837878

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2LO-35-120-EDD**

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: P837878
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-LD4-2LO-35-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

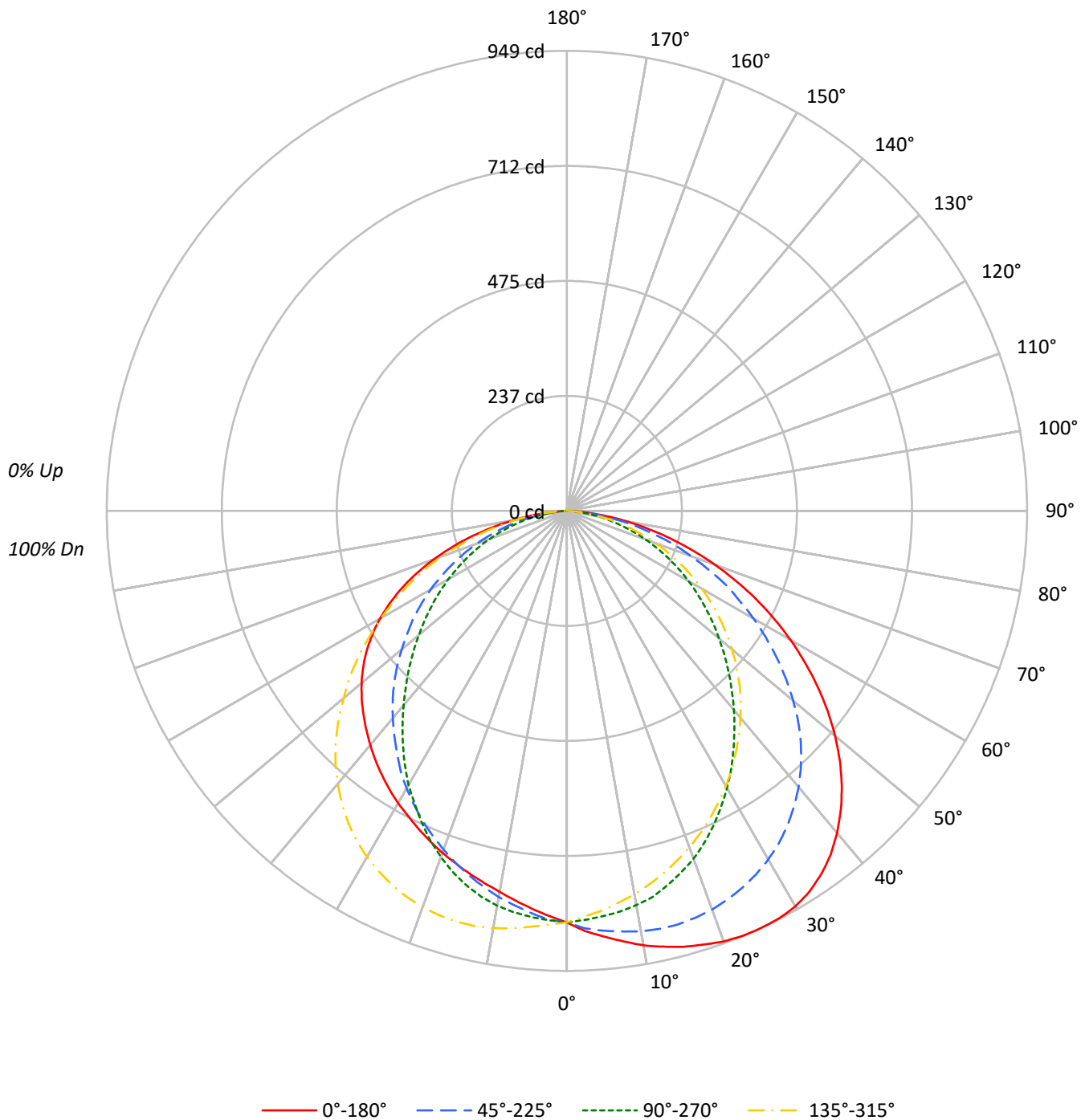
Lumens per Lamp: N/A
Luminaire Lumens: 2490.6 lumens
Efficiency: N/A
Efficacy: 106.4 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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°	2284	2284	2284	2284
5°	2381	2268	2225	2272
10°	2487	2256	2180	2259
15°	2593	2228	2159	2228
20°	2706	2187	2149	2175
25°	2819	2126	2149	2104
30°	2928	2052	2163	2029
35°	3005	1968	2185	1937
40°	3045	1883	2216	1841
45°	3051	1797	2259	1752
50°	3023	1715	2314	1670
55°	2960	1639	2365	1593
60°	2867	1559	2397	1519
65°	2739	1468	2385	1433
70°	2558	1360	2300	1335
75°	2302	1212	2111	1206
80°	1951	1015	1774	1031
85°	1359	673	1124	692



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.6	3.2
10°-20°	233.4	9.4
20°-30°	357.7	14.4
30°-40°	434.9	17.5
40°-50°	452.1	18.2
50°-60°	408.4	16.4
60°-70°	310.5	12.5
70°-80°	173.1	7.0
80°-90°	39.9	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°	671.7	27.0
0°-40°	1106.6	44.4
0°-60°	1967.1	79.0
0°-90°	2490.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2490.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	849	849	849	849	849	
5°	881	840	824	841	881	85
15°	931	800	775	800	931	264
25°	949	716	724	709	949	438
35°	915	599	665	590	915	571
45°	802	472	594	460	802	617
55°	631	349	504	340	631	563
65°	430	230	374	225	430	425
75°	221	117	203	116	221	235
85°	44	22	36	22	44	55
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°	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9
2.5°	867.7	855.0	855.2	866.3	857.8	862.0	850.1	854.6	853.3	854.2	844.5
5°	881.4	867.7	867.5	877.0	867.5	869.3	854.2	857.2	852.9	850.1	839.6
7.5°	895.8	882.2	880.8	889.1	876.6	875.2	858.6	858.6	850.7	843.8	833.9
10°	910.1	896.0	894.2	900.6	885.1	880.6	860.4	857.2	846.7	836.4	825.7
12.5°	920.8	906.5	905.1	909.1	891.7	883.4	860.4	854.2	838.8	824.3	816.0
15°	930.9	916.2	912.5	914.4	894.4	883.4	857.6	848.1	828.3	809.3	799.6
17.5°	938.0	923.9	920.2	920.0	895.8	880.0	851.7	838.6	814.8	791.9	782.2
20°	945.1	931.1	926.3	922.8	895.4	875.4	843.0	825.3	797.6	771.9	763.8
22.5°	948.7	934.2	929.1	923.8	892.9	867.1	832.3	809.9	778.2	747.5	740.8
25°	949.3	934.4	928.9	921.2	887.7	857.2	818.4	791.3	755.8	721.8	716.0
27.5°	947.7	931.5	925.9	916.6	880.0	845.1	802.0	770.1	732.1	694.4	688.3
30°	942.2	925.7	920.4	908.3	869.1	830.3	784.0	746.5	705.7	665.7	660.4
32.5°	931.1	915.0	910.7	898.6	857.2	813.1	763.0	721.2	676.6	638.4	630.5
35°	914.8	898.8	896.0	883.4	840.6	792.5	740.0	693.5	645.7	606.7	599.0
37.5°	893.7	880.2	876.0	863.6	821.0	769.1	713.7	663.4	614.2	572.3	567.5
40°	866.9	854.2	851.1	840.0	798.2	743.2	685.1	632.3	581.8	542.8	536.0
42.5°	836.4	824.5	822.8	811.3	770.1	714.4	654.2	600.0	547.9	510.3	503.6
45°	801.8	790.3	789.9	779.0	739.4	682.6	621.8	567.3	514.8	475.8	472.3
47.5°	763.6	753.3	753.3	743.2	705.1	647.5	588.3	533.3	481.6	447.1	440.8
50°	722.0	712.3	709.3	704.3	667.3	609.3	553.1	500.0	448.7	415.8	409.7
52.5°	677.6	669.3	671.3	662.2	626.3	569.5	517.4	462.6	415.6	385.7	379.6
55°	630.9	619.0	620.8	617.4	583.6	528.5	477.4	431.7	383.2	355.0	349.3
57.5°	582.4	566.9	573.3	571.3	538.0	486.5	440.8	396.6	350.9	324.9	319.4
60°	532.7	517.8	524.3	522.6	491.3	444.5	403.0	362.0	318.8	295.2	289.7
62.5°	481.6	467.9	473.9	472.5	443.8	401.6	365.3	327.7	286.5	265.3	260.2
65°	430.1	417.0	422.4	421.4	394.8	362.8	326.7	292.3	254.1	235.6	230.5
67.5°	377.4	365.3	370.3	370.3	345.9	315.2	287.9	256.4	222.2	206.3	201.6
70°	325.1	313.9	318.2	317.8	297.2	272.3	248.7	220.6	189.9	176.8	172.9
72.5°	272.5	262.6	266.5	266.1	248.9	232.9	209.5	185.1	158.4	147.9	144.4
75°	221.4	212.1	215.8	215.4	201.4	186.3	170.7	150.5	127.5	120.2	116.6
77.5°	172.7	163.2	166.3	166.3	156.0	145.1	132.7	117.0	100.8	92.9	90.3
80°	125.9	121.4	119.8	120.0	113.1	105.9	99.6	84.6	72.7	67.3	65.5
82.5°	82.8	79.0	77.4	77.8	73.9	69.5	65.5	55.0	47.1	44.0	43.0
85°	44.0	41.2	39.8	40.8	40.0	37.6	35.6	28.5	23.6	22.4	21.8
87.5°	13.9	12.1	11.1	14.7	12.5	11.1	10.7	8.5	6.5	6.5	6.3
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°	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9
2.5°	847.7	847.7	840.0	838.2	837.4	838.4	830.7	829.3	840.4	836.6	828.1
5°	841.0	840.6	829.7	827.7	827.7	826.5	817.8	815.8	826.9	823.8	814.4
7.5°	832.7	831.5	818.6	817.2	815.2	814.4	804.7	803.4	812.9	810.9	802.2
10°	822.6	821.4	806.1	805.1	803.0	801.4	792.3	791.3	801.0	797.8	790.9
12.5°	809.3	807.1	791.5	790.5	788.7	788.1	779.2	778.8	789.5	786.3	779.0
15°	791.9	790.1	772.7	773.1	773.3	773.3	766.1	765.7	776.2	774.8	766.9
17.5°	772.7	770.3	753.7	754.8	756.2	757.8	752.3	753.3	764.3	762.6	755.4
20°	750.9	748.5	732.3	735.6	738.6	741.8	738.2	741.0	751.3	750.5	745.1
22.5°	726.5	724.1	709.1	714.2	719.2	725.1	723.6	726.7	737.6	737.4	732.7
25°	696.8	697.4	684.1	690.5	698.8	707.1	707.7	712.9	724.9	723.8	719.4
27.5°	669.1	669.9	655.8	666.5	677.6	688.3	690.9	698.0	710.3	709.3	705.5
30°	640.0	641.0	627.3	642.0	655.4	668.5	674.1	683.8	696.2	696.2	692.3
32.5°	609.7	611.5	597.2	616.8	632.5	647.7	657.4	667.5	681.8	681.4	678.0
35°	578.6	580.6	567.5	592.5	608.1	626.7	638.8	652.3	664.9	665.1	662.6
37.5°	546.9	549.3	537.4	564.7	582.6	604.5	620.0	633.5	647.5	648.3	645.9
40°	515.4	518.0	507.7	534.1	556.6	581.2	599.0	614.8	630.3	630.7	629.1
42.5°	484.0	486.7	479.0	504.7	530.3	556.6	577.6	595.6	611.5	612.5	610.7
45°	453.3	455.6	450.1	478.2	502.8	531.5	555.6	576.0	592.1	593.5	592.9
47.5°	422.8	424.9	420.0	445.7	474.1	504.5	532.5	555.0	572.1	573.7	573.3
50°	392.9	394.6	389.3	416.2	444.4	476.8	505.9	532.1	551.1	552.7	552.5
52.5°	363.2	364.9	360.4	388.7	414.3	448.5	480.2	508.5	527.3	529.7	530.1
55°	334.5	335.2	331.7	358.8	383.6	419.4	455.8	483.4	502.2	504.2	505.3
57.5°	305.7	305.9	303.0	328.9	352.7	389.3	427.5	456.4	474.3	476.2	478.0
60°	277.2	277.0	273.7	298.8	321.6	357.8	397.6	426.3	443.6	445.3	447.7
62.5°	248.9	248.3	245.3	268.5	289.9	325.7	365.7	393.5	409.9	411.1	414.3
65°	220.8	220.2	217.4	238.8	258.2	292.5	331.7	358.0	372.9	374.5	373.9
67.5°	193.1	191.9	189.7	208.9	226.5	258.2	295.8	321.0	333.3	334.6	338.4
70°	165.3	164.0	159.0	179.4	194.8	223.2	258.2	280.6	290.9	292.3	291.7
72.5°	138.0	136.6	131.3	150.1	163.2	187.9	219.2	237.8	246.7	247.9	247.9
75°	111.5	110.7	107.3	121.6	132.5	152.7	179.2	194.7	201.6	203.0	202.6
77.5°	85.9	85.3	82.0	94.3	102.8	117.8	139.2	151.3	156.4	158.0	161.4
80°	61.6	61.4	56.0	68.1	71.9	84.6	100.2	109.5	112.3	114.5	116.8
82.5°	39.4	39.6	34.3	44.6	46.1	54.3	64.0	69.7	71.7	73.5	75.2
85°	19.2	20.0	17.0	23.6	23.8	27.9	32.1	34.3	35.0	36.4	38.0
87.5°	5.0	5.7	3.2	6.7	5.9	7.7	8.9	9.5	9.3	10.3	10.9
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°	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9
2.5°	830.9	837.2	834.0	844.3	848.3	842.0	853.1	853.3	845.3	854.6	859.8
5°	818.0	824.5	822.6	833.3	838.2	832.7	846.1	848.7	841.0	851.5	859.8
7.5°	804.9	812.7	810.1	821.0	826.9	822.6	837.0	841.2	835.2	846.7	857.8
10°	793.7	800.2	797.4	808.9	814.0	810.5	824.7	832.5	826.9	841.0	854.2
12.5°	782.6	787.9	784.7	794.2	799.2	794.6	812.1	819.2	815.2	829.9	846.9
15°	768.3	774.2	769.9	778.4	782.2	778.2	792.5	804.7	799.8	815.8	834.6
17.5°	757.4	760.8	754.8	761.6	763.8	758.4	772.9	784.9	781.4	798.8	820.6
20°	745.3	748.1	739.8	743.6	743.4	736.6	749.9	761.8	759.4	778.6	803.4
22.5°	731.9	733.3	723.6	724.3	724.0	712.9	724.7	736.8	735.8	755.2	783.0
25°	717.6	717.8	705.3	704.9	700.6	687.5	698.0	711.7	708.7	729.7	758.8
27.5°	703.6	701.6	686.5	683.0	676.0	660.4	669.7	682.0	680.2	700.8	733.1
30°	688.5	685.9	667.5	661.0	650.9	632.9	640.6	652.1	653.1	671.1	704.9
32.5°	674.2	667.7	647.3	637.8	625.1	604.2	608.3	620.0	621.6	639.8	674.6
35°	655.8	651.5	626.3	610.1	597.6	574.6	579.0	587.1	589.5	607.3	642.8
37.5°	638.4	631.5	604.7	584.9	568.9	544.7	545.9	554.3	556.6	574.6	609.7
40°	620.4	610.5	581.8	558.6	540.2	514.8	513.5	522.2	524.0	541.6	573.3
42.5°	601.2	589.3	557.0	531.7	510.5	484.7	482.0	489.5	491.5	508.7	539.8
45°	581.8	567.5	531.7	504.0	480.8	454.4	451.7	457.4	460.4	476.6	506.5
47.5°	561.2	544.5	505.5	474.6	450.7	424.4	421.0	426.7	429.1	445.1	473.5
50°	539.6	519.4	478.6	444.5	420.8	394.8	389.9	396.6	398.8	413.9	441.6
52.5°	515.8	493.5	449.9	414.3	390.5	365.7	359.8	366.3	368.9	383.6	409.1
55°	490.7	466.5	421.0	386.3	360.6	336.4	331.5	334.1	339.6	353.5	377.2
57.5°	462.4	438.4	390.5	355.2	330.5	307.3	303.2	305.5	310.7	324.2	345.5
60°	432.3	406.9	359.4	324.2	300.2	278.2	274.5	276.6	282.2	294.5	314.3
62.5°	402.6	374.1	327.3	292.3	270.5	250.1	249.1	248.3	253.5	265.3	282.8
65°	366.5	339.2	293.9	260.6	240.8	222.4	218.4	220.2	225.1	236.0	254.3
67.5°	327.9	303.2	259.6	228.9	211.3	194.8	191.5	192.3	197.4	206.9	222.8
70°	286.9	265.1	224.6	197.0	182.2	166.7	164.6	164.8	169.7	178.0	191.9
72.5°	244.0	224.4	189.1	165.5	153.3	142.2	140.2	137.8	142.4	149.5	161.4
75°	200.2	183.0	153.9	134.7	124.9	115.6	113.9	111.5	116.0	122.2	131.5
77.5°	156.0	142.2	119.6	104.8	97.2	90.3	88.7	86.1	90.7	95.2	102.6
80°	112.9	102.8	89.3	73.7	71.1	66.5	64.9	62.2	66.5	69.5	75.0
82.5°	72.9	66.1	58.4	47.5	47.1	43.8	43.0	39.8	43.8	45.5	49.7
85°	36.8	33.7	31.7	24.2	25.0	22.8	22.6	19.2	22.4	23.2	25.5
87.5°	10.5	11.1	9.9	5.9	7.5	7.1	7.1	5.1	7.1	7.1	8.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P837878

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

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9
2.5°	849.7	853.1	853.9	853.7	855.8	867.7	863.8	867.7
5°	851.7	859.2	861.2	863.9	867.5	881.0	876.6	881.4
7.5°	852.9	864.1	868.5	873.9	879.6	894.6	891.1	895.8
10°	852.9	867.5	873.9	882.8	890.5	907.9	904.5	910.1
12.5°	849.3	868.1	877.0	889.5	899.4	918.2	916.8	920.8
15°	842.0	865.1	877.4	893.5	905.7	926.7	926.1	930.9
17.5°	832.1	860.0	874.8	895.0	910.5	934.0	935.4	938.0
20°	819.6	850.3	869.7	894.4	913.8	939.8	941.6	945.1
22.5°	803.2	838.6	862.0	891.9	914.2	942.2	945.3	948.7
25°	783.8	824.5	851.9	886.9	912.3	942.0	946.3	949.3
27.5°	761.6	806.3	839.0	879.0	906.7	938.8	944.1	947.7
30°	735.8	786.9	824.3	868.7	899.2	932.9	938.6	942.2
32.5°	709.3	765.5	806.9	855.4	888.3	923.4	928.3	931.1
35°	680.4	739.6	785.9	838.4	874.2	908.1	911.9	914.8
37.5°	648.9	711.5	762.0	819.2	854.4	886.9	890.3	893.7
40°	616.4	682.0	735.0	795.6	830.9	861.0	864.5	866.9
42.5°	583.8	649.3	706.3	767.9	803.0	831.9	834.0	836.4
45°	550.7	615.4	674.1	737.2	771.9	799.0	799.8	801.8
47.5°	517.0	580.4	638.6	702.2	736.4	761.2	762.0	763.6
50°	483.2	545.3	600.8	664.3	697.8	724.0	720.4	722.0
52.5°	449.9	508.5	565.1	623.6	656.6	679.8	680.8	677.6
55°	417.2	472.5	524.5	580.8	612.3	630.3	629.7	630.9
57.5°	384.2	436.0	483.8	535.2	565.9	583.0	586.5	582.4
60°	350.5	399.2	442.0	488.5	518.2	532.5	536.6	532.7
62.5°	317.0	361.8	400.6	441.2	468.7	486.3	485.9	481.6
65°	283.6	324.2	358.8	393.3	417.2	434.8	434.1	430.1
67.5°	252.7	286.1	317.2	345.1	365.9	378.0	382.2	377.4
70°	218.6	247.5	274.8	297.2	314.5	325.3	329.3	325.1
72.5°	184.6	209.1	228.3	249.9	263.2	272.3	276.4	272.5
75°	150.9	171.1	186.7	203.6	212.9	220.6	225.3	221.4
77.5°	118.2	133.9	146.3	158.6	169.3	171.1	175.2	172.7
80°	87.1	98.4	107.5	115.6	123.4	124.2	127.5	125.9
82.5°	58.0	65.5	67.9	76.4	81.4	80.6	84.0	82.8
85°	30.7	35.2	39.4	42.0	44.8	42.2	45.1	44.0
87.5°	10.3	10.9	9.5	13.5	14.9	12.7	14.5	13.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)