

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: P837860

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2LO-30-120-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: P837860
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-30-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

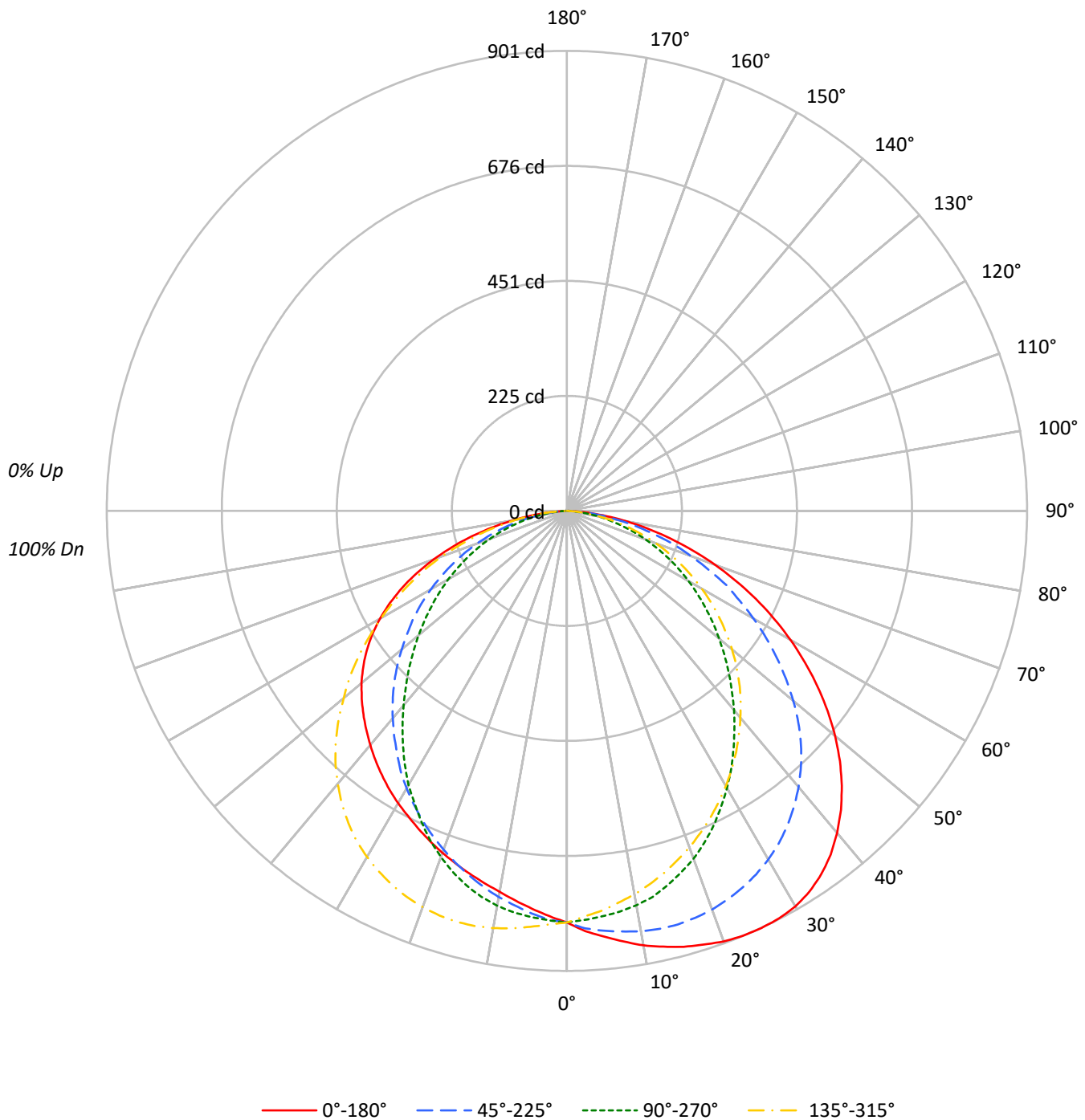
Lumens per Lamp: N/A
Luminaire Lumens: 2364.8 lumens
Efficiency: N/A
Efficacy: 101.1 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	2169	2169	2169	2169
5°	2261	2153	2113	2157
10°	2361	2142	2070	2146
15°	2462	2115	2050	2116
20°	2570	2077	2041	2065
25°	2676	2019	2040	1998
30°	2780	1948	2054	1927
35°	2853	1868	2075	1839
40°	2891	1788	2103	1748
45°	2897	1706	2144	1663
50°	2870	1629	2197	1585
55°	2810	1556	2246	1513
60°	2722	1481	2275	1442
65°	2600	1394	2264	1361
70°	2429	1291	2183	1268
75°	2185	1151	2004	1146
80°	1853	964	1684	979
85°	1288	639	1068	655

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.5	3.2
10°-20°	221.6	9.4
20°-30°	339.6	14.4
30°-40°	413.0	17.5
40°-50°	429.3	18.2
50°-60°	387.8	16.4
60°-70°	294.8	12.5
70°-80°	164.4	7.0
80°-90°	37.8	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°	637.7	27.0
0°-40°	1050.7	44.4
0°-60°	1867.8	79.0
0°-90°	2364.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2364.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	806	806	806	806	806	
5°	837	797	782	798	837	81
15°	884	759	736	759	884	251
25°	901	680	687	673	901	416
35°	869	569	632	560	869	543
45°	761	448	564	437	761	586
55°	599	332	479	322	599	535
65°	408	219	356	214	408	404
75°	210	111	193	110	210	223
85°	42	21	35	21	42	53
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°	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0
2.5°	823.9	811.9	812.0	822.6	814.5	818.4	807.2	811.5	810.2	811.1	801.9
5°	836.9	823.9	823.7	832.7	823.7	825.4	811.1	813.9	809.8	807.2	797.2
7.5°	850.6	837.6	836.3	844.2	832.3	831.0	815.2	815.2	807.7	801.1	791.7
10°	864.1	850.8	849.1	855.1	840.4	836.1	816.9	813.9	804.0	794.2	784.0
12.5°	874.3	860.7	859.4	863.2	846.6	838.7	816.9	811.1	796.4	782.7	774.8
15°	883.9	870.0	866.4	868.3	849.3	838.7	814.3	805.3	786.5	768.4	759.2
17.5°	890.6	877.3	873.7	873.5	850.6	835.5	808.7	796.2	773.7	751.9	742.7
20°	897.4	884.1	879.5	876.2	850.2	831.2	800.4	783.7	757.3	732.9	725.2
22.5°	900.8	887.1	882.2	877.1	847.8	823.3	790.2	769.0	738.9	709.8	703.4
25°	901.4	887.2	882.0	874.7	842.9	813.9	777.1	751.3	717.7	685.3	679.9
27.5°	899.8	884.4	879.2	870.3	835.5	802.5	761.5	731.2	695.1	659.4	653.5
30°	894.6	879.0	873.9	862.4	825.2	788.4	744.4	708.8	670.1	632.1	627.0
32.5°	884.1	868.8	864.7	853.2	813.9	772.0	724.4	684.8	642.5	606.2	598.6
35°	868.6	853.4	850.8	838.7	798.1	752.4	702.6	658.4	613.1	576.1	568.7
37.5°	848.5	835.7	831.8	819.9	779.5	730.3	677.6	629.9	583.2	543.4	538.9
40°	823.1	811.1	808.1	797.6	757.9	705.6	650.5	600.3	552.4	515.4	509.0
42.5°	794.2	782.9	781.2	770.3	731.2	678.4	621.2	569.7	520.2	484.5	478.1
45°	761.3	750.4	750.0	739.7	702.1	648.1	590.4	538.7	488.8	451.8	448.4
47.5°	725.0	715.2	715.2	705.6	669.5	614.8	558.6	506.3	457.3	424.5	418.5
50°	685.5	676.3	673.5	668.8	633.6	578.5	525.1	474.7	426.0	394.8	389.0
52.5°	643.4	635.5	637.4	628.7	594.7	540.7	491.3	439.2	394.6	366.3	360.4
55°	599.0	587.7	589.4	586.2	554.1	501.8	453.3	409.9	363.8	337.1	331.7
57.5°	553.0	538.3	544.3	542.4	510.8	462.0	418.5	376.6	333.2	308.5	303.3
60°	505.8	491.7	497.9	496.2	466.5	422.1	382.6	343.7	302.7	280.3	275.1
62.5°	457.3	444.3	449.9	448.6	421.3	381.3	346.9	311.2	272.1	251.9	247.1
65°	408.4	396.0	401.0	400.1	374.9	344.4	310.2	277.5	241.2	223.7	218.9
67.5°	358.4	346.9	351.6	351.6	328.5	299.3	273.4	243.5	211.0	195.9	191.4
70°	308.7	298.0	302.1	301.8	282.2	258.5	236.1	209.5	180.3	167.9	164.1
72.5°	258.7	249.3	253.1	252.7	236.3	221.1	198.9	175.8	150.4	140.4	137.1
75°	210.2	201.4	204.9	204.6	191.2	176.9	162.1	142.9	121.1	114.1	110.7
77.5°	164.0	154.9	157.9	157.9	148.2	137.8	126.0	111.1	95.7	88.2	85.7
80°	119.6	115.3	113.7	113.9	107.4	100.6	94.6	80.3	69.0	63.9	62.2
82.5°	78.6	75.0	73.5	73.9	70.1	66.0	62.2	52.3	44.7	41.7	40.8
85°	41.7	39.1	37.8	38.7	38.0	35.7	33.8	27.1	22.4	21.2	20.7
87.5°	13.2	11.5	10.5	13.9	11.8	10.5	10.2	8.1	6.2	6.2	6.0
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°	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0
2.5°	804.9	804.9	797.6	795.9	795.1	796.1	788.7	787.4	797.9	794.4	786.3
5°	798.5	798.1	787.8	785.9	785.9	784.8	776.5	774.6	785.2	782.1	773.3
7.5°	790.6	789.5	777.3	775.9	774.1	773.3	764.1	762.8	771.8	769.9	761.7
10°	781.0	779.9	765.4	764.5	762.4	760.9	752.3	751.3	760.5	757.5	750.9
12.5°	768.4	766.4	751.5	750.6	748.9	748.3	739.8	739.5	749.6	746.6	739.7
15°	751.9	750.2	733.6	734.0	734.2	734.2	727.4	727.1	737.0	735.7	728.2
17.5°	733.6	731.4	715.6	716.7	718.0	719.5	714.3	715.2	725.7	724.1	717.3
20°	713.0	710.7	695.3	698.5	701.3	704.3	700.9	703.6	713.3	712.6	707.5
22.5°	689.8	687.6	673.3	678.2	682.9	688.5	687.0	690.0	700.4	700.2	695.7
25°	661.6	662.2	649.6	655.6	663.5	671.4	672.0	676.9	688.3	687.2	683.1
27.5°	635.3	636.1	622.7	632.9	643.4	653.5	656.0	662.8	674.4	673.5	669.9
30°	607.7	608.6	595.6	609.5	622.3	634.7	640.0	649.2	661.1	661.1	657.3
32.5°	578.9	580.6	567.1	585.7	600.5	615.0	624.2	633.8	647.3	647.0	643.8
35°	549.4	551.3	538.9	562.5	577.4	595.1	606.5	619.3	631.4	631.5	629.1
37.5°	519.3	521.6	510.3	536.2	553.1	574.0	588.7	601.5	614.8	615.6	613.3
40°	489.4	491.9	482.1	507.1	528.5	551.8	568.7	583.8	598.5	598.8	597.3
42.5°	459.5	462.1	454.8	479.3	503.5	528.5	548.4	565.6	580.6	581.5	579.8
45°	430.4	432.6	427.4	454.1	477.4	504.6	527.6	546.9	562.2	563.5	562.9
47.5°	401.4	403.5	398.8	423.2	450.1	479.1	505.6	527.0	543.2	544.7	544.3
50°	373.0	374.7	369.6	395.2	421.9	452.7	480.4	505.2	523.2	524.8	524.6
52.5°	344.8	346.5	342.2	369.1	393.3	425.9	455.9	482.8	500.7	502.9	503.3
55°	317.6	318.3	314.9	340.7	364.2	398.2	432.8	458.9	476.8	478.7	479.8
57.5°	290.3	290.5	287.7	312.3	334.9	369.6	405.9	433.4	450.3	452.2	453.9
60°	263.2	263.0	259.8	283.7	305.3	339.7	377.5	404.8	421.2	422.8	425.1
62.5°	236.3	235.8	233.0	255.0	275.3	309.3	347.3	373.6	389.2	390.3	393.3
65°	209.6	209.1	206.4	226.7	245.2	277.7	314.9	339.9	354.0	355.5	355.0
67.5°	183.3	182.2	180.1	198.4	215.1	245.2	280.9	304.8	316.4	317.7	321.3
70°	157.0	155.7	151.0	170.3	185.0	211.9	245.2	266.4	276.2	277.5	276.9
72.5°	131.0	129.7	124.7	142.5	154.9	178.4	208.1	225.8	234.3	235.4	235.4
75°	105.9	105.1	101.9	115.4	125.8	145.0	170.2	184.8	191.4	192.7	192.3
77.5°	81.6	81.0	77.8	89.5	97.6	111.9	132.2	143.6	148.5	150.0	153.2
80°	58.5	58.3	53.2	64.7	68.2	80.3	95.1	104.0	106.6	108.7	110.9
82.5°	37.4	37.6	32.5	42.3	43.8	51.5	60.7	66.2	68.1	69.8	71.4
85°	18.2	19.0	16.2	22.4	22.6	26.5	30.5	32.5	33.3	34.6	36.1
87.5°	4.7	5.5	3.0	6.4	5.6	7.3	8.5	9.0	8.8	9.8	10.3
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0
2.5°	788.9	794.9	791.9	801.7	805.5	799.4	810.0	810.2	802.6	811.5	816.4
5°	776.7	782.9	781.0	791.2	795.9	790.6	803.4	805.8	798.5	808.5	816.4
7.5°	764.3	771.6	769.2	779.5	785.2	781.0	794.7	798.7	793.1	804.0	814.5
10°	753.6	759.8	757.1	768.0	772.9	769.6	783.1	790.4	785.2	798.5	811.1
12.5°	743.0	748.1	745.1	754.1	758.8	754.5	771.1	777.8	774.1	788.0	804.1
15°	729.5	735.1	731.0	739.1	742.7	738.9	752.4	764.1	759.4	774.6	792.5
17.5°	719.2	722.4	716.7	723.1	725.2	720.1	733.8	745.3	741.9	758.5	779.1
20°	707.7	710.3	702.4	706.0	705.8	699.4	712.0	723.3	721.0	739.3	762.8
22.5°	694.9	696.2	687.0	687.8	687.4	676.9	688.1	699.6	698.7	717.1	743.4
25°	681.4	681.6	669.7	669.3	665.2	652.8	662.8	675.7	672.9	692.8	720.5
27.5°	668.0	666.1	651.9	648.5	641.9	627.0	635.9	647.5	645.8	665.4	696.0
30°	653.7	651.3	633.8	627.6	618.0	600.9	608.2	619.1	620.1	637.2	669.3
32.5°	640.2	634.0	614.6	605.6	593.6	573.6	577.6	588.7	590.2	607.5	640.6
35°	622.7	618.6	594.7	579.3	567.4	545.6	549.8	557.5	559.7	576.6	610.3
37.5°	606.2	599.6	574.2	555.4	540.2	517.2	518.4	526.3	528.5	545.6	578.9
40°	589.1	579.7	552.4	530.4	512.9	488.8	487.5	495.8	497.5	514.2	544.3
42.5°	570.8	559.5	528.9	504.8	484.7	460.3	457.6	464.8	466.7	483.0	512.5
45°	552.4	538.9	504.8	478.5	456.5	431.5	428.9	434.3	437.1	452.6	480.9
47.5°	532.8	517.0	480.0	450.7	427.9	402.9	399.7	405.2	407.4	422.7	449.5
50°	512.3	493.2	454.4	422.1	399.5	374.9	370.2	376.6	378.7	393.0	419.3
52.5°	489.8	468.5	427.2	393.3	370.8	347.3	341.6	347.8	350.3	364.2	388.4
55°	465.9	443.0	399.7	366.8	342.4	319.4	314.7	317.2	322.4	335.6	358.2
57.5°	439.0	416.3	370.8	337.3	313.8	291.8	287.9	290.1	295.0	307.8	328.1
60°	410.4	386.4	341.2	307.8	285.0	264.2	260.6	262.7	267.9	279.6	298.4
62.5°	382.2	355.2	310.8	277.5	256.8	237.5	236.5	235.8	240.7	251.9	268.5
65°	348.0	322.1	279.0	247.4	228.6	211.1	207.4	209.1	213.8	224.1	241.4
67.5°	311.4	287.9	246.5	217.3	200.6	185.0	181.8	182.6	187.5	196.5	211.5
70°	272.4	251.8	213.2	187.1	173.0	158.3	156.2	156.4	161.1	169.0	182.2
72.5°	231.6	213.0	179.6	157.2	145.5	135.0	133.1	130.9	135.2	142.0	153.2
75°	190.1	173.7	146.1	127.9	118.6	109.8	108.1	105.9	110.2	116.0	124.8
77.5°	148.2	135.0	113.6	99.5	92.3	85.7	84.2	81.8	86.1	90.4	97.4
80°	107.2	97.6	84.8	69.9	67.5	63.2	61.7	59.0	63.2	66.0	71.3
82.5°	69.2	62.8	55.5	45.1	44.7	41.6	40.8	37.8	41.6	43.2	47.2
85°	35.0	32.0	30.1	22.9	23.7	21.6	21.4	18.2	21.2	22.0	24.3
87.5°	10.0	10.5	9.4	5.6	7.1	6.8	6.8	4.9	6.8	6.8	7.7
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: P837860

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2LO-30-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0
2.5°	806.8	810.0	810.7	810.5	812.6	823.9	820.1	823.9
5°	808.7	815.8	817.7	820.3	823.7	836.5	832.3	836.9
7.5°	809.8	820.5	824.6	829.7	835.2	849.5	846.1	850.6
10°	809.8	823.7	829.7	838.2	845.5	862.1	858.9	864.1
12.5°	806.4	824.3	832.7	844.6	854.0	871.8	870.5	874.3
15°	799.4	821.4	833.1	848.3	860.0	879.9	879.4	883.9
17.5°	790.0	816.6	830.7	849.8	864.5	886.9	888.2	890.6
20°	778.2	807.3	825.8	849.3	867.7	892.3	894.0	897.4
22.5°	762.6	796.2	818.4	846.8	868.1	894.6	897.6	900.8
25°	744.2	782.9	808.8	842.1	866.2	894.4	898.5	901.4
27.5°	723.1	765.6	796.6	834.6	860.9	891.4	896.5	899.8
30°	698.7	747.2	782.7	824.8	853.8	885.7	891.2	894.6
32.5°	673.5	726.9	766.2	812.2	843.4	876.7	881.4	884.1
35°	646.0	702.2	746.2	796.1	830.1	862.2	865.8	868.6
37.5°	616.1	675.5	723.5	777.8	811.3	842.1	845.3	848.5
40°	585.3	647.5	697.9	755.4	788.9	817.5	820.9	823.1
42.5°	554.3	616.5	670.7	729.1	762.4	789.9	791.9	794.2
45°	522.9	584.4	640.0	700.0	732.9	758.6	759.4	761.3
47.5°	490.9	551.1	606.4	666.7	699.2	722.7	723.5	725.0
50°	458.8	517.8	570.4	630.8	662.6	687.4	684.0	685.5
52.5°	427.2	482.8	536.6	592.1	623.5	645.5	646.4	643.4
55°	396.2	448.6	498.1	551.5	581.3	598.5	597.9	599.0
57.5°	364.8	414.0	459.3	508.2	537.4	553.5	556.9	553.0
60°	332.8	379.0	419.7	463.8	492.0	505.6	509.5	505.8
62.5°	301.0	343.5	380.4	418.9	445.0	461.8	461.4	457.3
65°	269.2	307.8	340.7	373.4	396.2	412.9	412.1	408.4
67.5°	239.9	271.7	301.2	327.7	347.5	358.9	362.9	358.4
70°	207.6	235.0	261.0	282.2	298.6	308.9	312.7	308.7
72.5°	175.2	198.5	216.8	237.3	249.9	258.5	262.5	258.7
75°	143.3	162.4	177.3	193.3	202.1	209.5	214.0	210.2
77.5°	112.2	127.1	138.9	150.6	160.8	162.4	166.4	164.0
80°	82.7	93.4	102.1	109.8	117.1	117.9	121.1	119.6
82.5°	55.1	62.2	64.5	72.6	77.3	76.5	79.7	78.6
85°	29.1	33.5	37.4	39.9	42.5	40.0	42.9	41.7
87.5°	9.8	10.3	9.0	12.8	14.1	12.0	13.7	13.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)