

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: P837769

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-1HI-20-120-EDD-90**

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: P837769
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2R-LD4-1HI-20-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

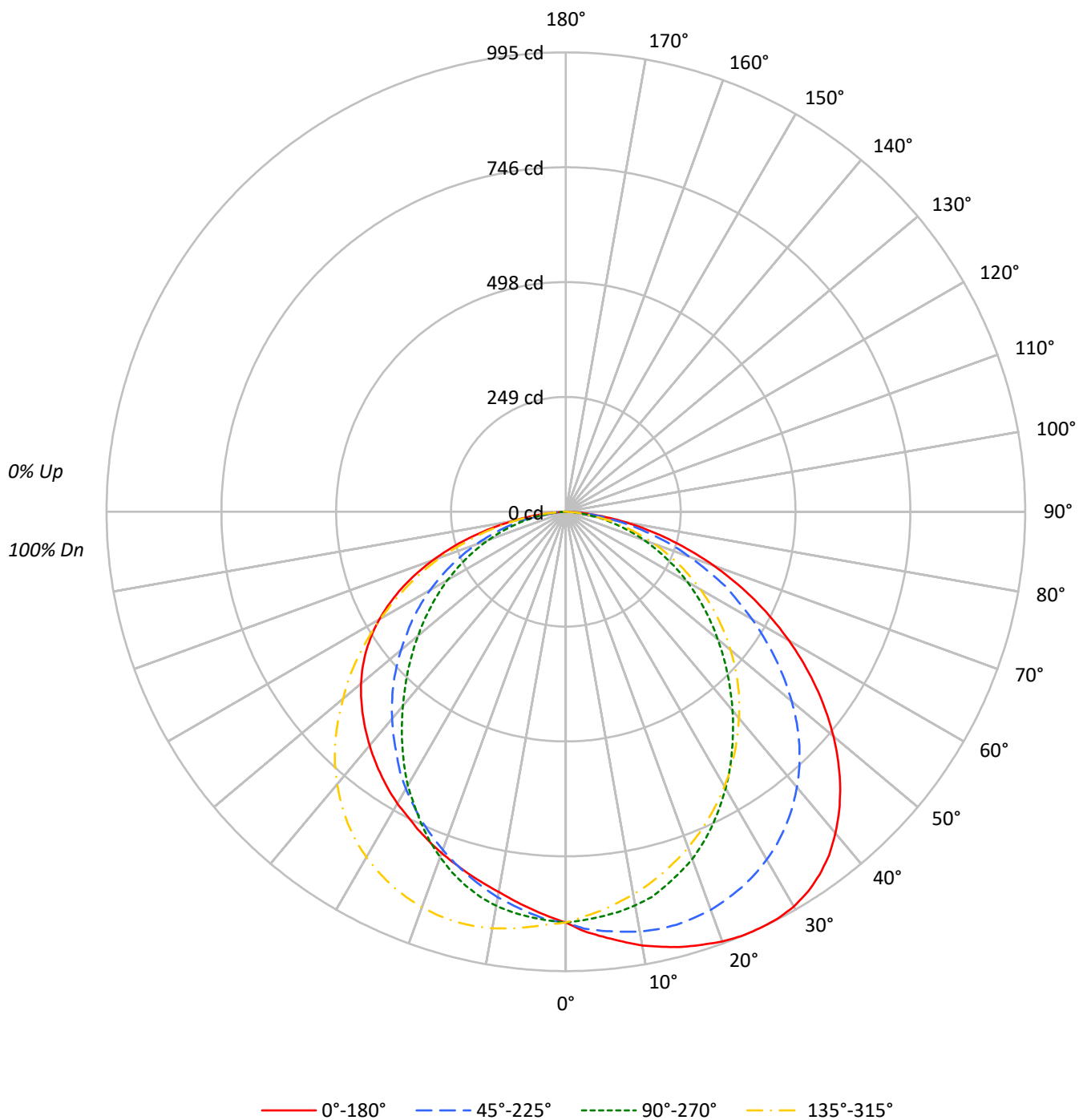
Lumens per Lamp: N/A
Luminaire Lumens: 2610.7 lumens
Efficiency: N/A
Efficacy: 59.3 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 44
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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CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1HI-20-120-EDD-90

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°	2394	2394	2394	2394
5°	2496	2377	2333	2381
10°	2607	2365	2285	2369
15°	2718	2335	2263	2336
20°	2837	2293	2253	2279
25°	2955	2229	2253	2206
30°	3069	2151	2268	2127
35°	3150	2063	2290	2030
40°	3192	1974	2322	1929
45°	3198	1884	2367	1837
50°	3168	1798	2425	1750
55°	3103	1718	2479	1670
60°	3005	1635	2512	1592
65°	2870	1538	2499	1503
70°	2681	1426	2411	1400
75°	2413	1272	2213	1264
80°	2046	1065	1860	1080
85°	1423	704	1179	726



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.5	3.2
10°-20°	244.6	9.4
20°-30°	374.9	14.4
30°-40°	455.9	17.5
40°-50°	473.9	18.2
50°-60°	428.1	16.4
60°-70°	325.5	12.5
70°-80°	181.4	7.0
80°-90°	41.8	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°	704.1	27.0
0°-40°	1160.0	44.4
0°-60°	2062.0	79.0
0°-90°	2610.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2610.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	890	890	890	890	890	
5°	924	880	864	882	924	89
15°	976	838	812	838	976	277
25°	995	751	759	743	995	460
35°	959	628	697	618	959	599
45°	840	495	622	483	840	647
55°	661	366	528	356	661	590
65°	451	242	392	236	451	446
75°	232	122	213	122	232	247
85°	46	23	38	24	46	58
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°	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8
2.5°	909.6	896.3	896.5	908.1	899.2	903.5	891.1	895.9	894.4	895.4	885.3
5°	923.9	909.6	909.4	919.3	909.4	911.2	895.4	898.6	894.0	891.1	880.1
7.5°	939.0	924.7	923.3	932.0	918.9	917.4	900.0	900.0	891.7	884.4	874.1
10°	954.0	939.2	937.4	944.0	927.8	923.1	901.9	898.6	887.6	876.8	865.6
12.5°	965.2	950.2	948.8	952.9	934.7	926.0	901.9	895.4	879.3	864.1	855.4
15°	975.8	960.4	956.5	958.5	937.6	926.0	899.0	889.0	868.3	848.3	838.2
17.5°	983.2	968.5	964.6	964.4	939.0	922.4	892.7	879.0	854.1	830.1	819.9
20°	990.7	976.0	971.0	967.3	938.6	917.7	883.6	865.1	836.1	809.1	800.6
22.5°	994.5	979.3	973.9	968.3	935.9	908.9	872.4	848.9	815.7	783.6	776.5
25°	995.1	979.5	973.7	965.6	930.5	898.6	857.9	829.4	792.3	756.6	750.6
27.5°	993.4	976.4	970.6	960.8	922.4	885.9	840.6	807.2	767.4	727.9	721.5
30°	987.6	970.4	964.8	952.1	911.0	870.3	821.8	782.5	739.8	697.8	692.2
32.5°	976.0	959.2	954.6	941.9	898.6	852.3	799.8	756.0	709.3	669.2	660.9
35°	959.0	942.1	939.2	926.0	881.1	830.7	775.7	726.9	676.9	636.0	627.9
37.5°	936.8	922.6	918.3	905.2	860.6	806.2	748.1	695.3	643.9	599.9	594.9
40°	908.7	895.4	892.1	880.5	836.7	779.0	718.2	662.8	609.8	568.9	561.9
42.5°	876.8	864.3	862.4	850.4	807.2	748.9	685.8	628.9	574.3	534.9	527.8
45°	840.4	828.4	828.0	816.6	775.1	715.5	651.8	594.7	539.7	498.8	495.0
47.5°	800.4	789.6	789.6	779.0	739.1	678.7	616.7	559.0	504.8	468.7	462.0
50°	756.8	746.6	743.5	738.3	699.5	638.7	579.7	524.1	470.3	435.9	429.5
52.5°	710.3	701.6	703.7	694.1	656.5	597.0	542.4	484.9	435.7	404.3	397.9
55°	661.3	648.9	650.7	647.2	611.7	554.0	500.4	452.5	401.6	372.2	366.1
57.5°	610.5	594.3	600.9	598.8	564.0	510.0	462.0	415.8	367.8	340.6	334.8
60°	558.4	542.8	549.6	547.8	515.0	466.0	422.4	379.4	334.2	309.5	303.7
62.5°	504.8	490.5	496.7	495.3	465.2	420.9	383.0	343.5	300.3	278.1	272.7
65°	450.8	437.1	442.7	441.7	413.9	380.3	342.5	306.4	266.3	247.0	241.6
67.5°	395.6	383.0	388.2	388.2	362.6	330.4	301.8	268.8	232.9	216.3	211.3
70°	340.8	329.0	333.6	333.1	311.6	285.4	260.7	231.2	199.1	185.4	181.2
72.5°	285.6	275.2	279.4	279.0	260.9	244.1	219.6	194.1	166.1	155.1	151.3
75°	232.1	222.3	226.2	225.8	211.1	195.3	178.9	157.8	133.7	126.0	122.3
77.5°	181.0	171.0	174.4	174.4	163.6	152.1	139.1	122.7	105.7	97.3	94.7
80°	132.0	127.2	125.6	125.8	118.5	111.0	104.4	88.6	76.2	70.6	68.7
82.5°	86.8	82.8	81.2	81.6	77.4	72.9	68.7	57.7	49.4	46.1	45.0
85°	46.1	43.2	41.7	42.8	41.9	39.4	37.4	29.9	24.7	23.5	22.8
87.5°	14.5	12.7	11.6	15.4	13.1	11.6	11.2	8.9	6.8	6.8	6.6
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°	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8
2.5°	888.6	888.6	880.5	878.6	877.8	878.8	870.7	869.3	880.9	877.0	868.0
5°	881.5	881.1	869.7	867.6	867.6	866.4	857.3	855.2	866.8	863.5	853.7
7.5°	872.8	871.6	858.1	856.6	854.6	853.7	843.6	842.1	852.1	850.0	840.9
10°	862.2	861.0	845.0	844.0	841.7	840.0	830.5	829.4	839.6	836.3	829.0
12.5°	848.3	846.0	829.6	828.6	826.7	826.1	816.8	816.4	827.6	824.2	816.6
15°	830.1	828.2	809.9	810.3	810.5	810.5	803.1	802.7	813.7	812.2	803.9
17.5°	809.9	807.4	790.0	791.2	792.7	794.4	788.5	789.6	801.2	799.3	791.9
20°	787.1	784.6	767.6	771.1	774.2	777.5	773.8	776.7	787.5	786.7	781.1
22.5°	761.6	759.1	743.3	748.7	753.9	760.1	758.5	761.8	773.2	773.0	768.0
25°	730.4	731.1	717.1	723.8	732.5	741.2	741.8	747.2	759.9	758.7	754.1
27.5°	701.4	702.2	687.5	698.7	710.3	721.5	724.2	731.7	744.5	743.5	739.6
30°	670.9	671.9	657.6	672.9	687.0	700.7	706.6	716.7	729.8	729.8	725.7
32.5°	639.1	641.0	626.0	646.6	663.0	679.0	689.1	699.7	714.7	714.2	710.7
35°	606.5	608.6	594.9	621.0	637.4	656.9	669.6	683.7	697.0	697.2	694.5
37.5°	573.3	575.8	563.3	592.0	610.7	633.7	649.9	664.0	678.7	679.6	677.1
40°	540.3	543.0	532.2	559.8	583.5	609.2	627.9	644.5	660.7	661.1	659.4
42.5°	507.3	510.2	502.1	529.1	555.9	583.5	605.5	624.4	641.0	642.0	640.1
45°	475.1	477.6	471.8	501.3	527.0	557.1	582.4	603.8	620.6	622.1	621.5
47.5°	443.2	445.4	440.2	467.2	496.9	528.9	558.1	581.8	599.7	601.3	600.9
50°	411.8	413.7	408.1	436.3	465.8	499.8	530.3	557.7	577.7	579.3	579.1
52.5°	380.7	382.5	377.8	407.5	434.2	470.1	503.4	533.0	552.8	555.2	555.7
55°	350.6	351.4	347.7	376.1	402.1	439.6	477.8	506.7	526.4	528.5	529.7
57.5°	320.5	320.7	317.6	344.8	369.7	408.1	448.1	478.4	497.1	499.2	501.1
60°	290.6	290.4	286.9	313.2	337.1	375.1	416.8	446.9	465.0	466.8	469.3
62.5°	260.9	260.3	257.2	281.5	303.9	341.4	383.4	412.4	429.7	430.9	434.2
65°	231.4	230.8	227.9	250.3	270.7	306.6	347.7	375.3	390.8	392.5	391.9
67.5°	202.4	201.1	198.8	219.0	237.5	270.7	310.1	336.5	349.3	350.8	354.7
70°	173.3	171.9	166.7	188.1	204.2	233.9	270.7	294.1	304.9	306.4	305.7
72.5°	144.7	143.2	137.6	157.3	171.0	197.0	229.8	249.3	258.6	259.9	259.9
75°	116.9	116.0	112.5	127.4	138.9	160.0	187.8	204.0	211.3	212.8	212.3
77.5°	90.1	89.5	85.9	98.8	107.7	123.5	145.9	158.6	164.0	165.6	169.2
80°	64.6	64.3	58.7	71.4	75.3	88.6	105.0	114.8	117.7	120.0	122.5
82.5°	41.3	41.5	35.9	46.7	48.4	56.9	67.0	73.1	75.1	77.0	78.9
85°	20.1	21.0	17.9	24.7	24.9	29.3	33.6	35.9	36.7	38.2	39.9
87.5°	5.2	6.0	3.3	7.1	6.2	8.1	9.3	10.0	9.8	10.8	11.4
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8
2.5°	871.0	877.6	874.3	885.1	889.2	882.6	894.2	894.4	886.1	895.9	901.3
5°	857.5	864.3	862.2	873.4	878.6	872.8	886.9	889.6	881.5	892.5	901.3
7.5°	843.8	851.9	849.2	860.6	866.8	862.2	877.4	881.7	875.5	887.6	899.2
10°	831.9	838.8	835.9	847.9	853.3	849.6	864.5	872.6	866.8	881.5	895.4
12.5°	820.3	825.9	822.6	832.6	837.7	833.0	851.2	858.7	854.6	869.9	887.8
15°	805.4	811.6	807.0	815.9	819.9	815.7	830.7	843.6	838.4	855.2	874.9
17.5°	793.9	797.5	791.2	798.3	800.6	795.0	810.1	822.8	819.1	837.3	860.2
20°	781.3	784.2	775.5	779.4	779.2	772.1	786.1	798.5	796.0	816.2	842.1
22.5°	767.2	768.6	758.5	759.3	758.9	747.2	759.7	772.4	771.3	791.7	820.7
25°	752.2	752.4	739.4	738.9	734.4	720.7	731.7	746.0	742.9	764.9	795.4
27.5°	737.5	735.4	719.6	715.9	708.6	692.2	702.0	714.9	713.0	734.6	768.4
30°	721.7	719.0	699.7	692.9	682.3	663.4	671.5	683.5	684.6	703.4	738.9
32.5°	706.8	699.9	678.5	668.6	655.3	633.3	637.6	649.9	651.6	670.6	707.2
35°	687.5	682.9	656.5	639.5	626.4	602.4	606.9	615.4	617.9	636.6	673.8
37.5°	669.2	661.9	633.9	613.2	596.3	571.0	572.3	581.0	583.5	602.4	639.1
40°	650.3	639.9	609.8	585.5	566.2	539.7	538.2	547.4	549.2	567.7	600.9
42.5°	630.2	617.7	583.9	557.3	535.1	508.1	505.2	513.1	515.2	533.2	565.8
45°	609.8	594.9	557.3	528.3	504.0	476.4	473.5	479.5	482.6	499.6	531.0
47.5°	588.2	570.8	529.9	497.5	472.4	444.8	441.3	447.3	449.8	466.6	496.3
50°	565.6	544.4	501.7	466.0	441.1	413.9	408.7	415.8	418.0	433.8	462.9
52.5°	540.7	517.3	471.6	434.2	409.3	383.4	377.1	384.0	386.7	402.1	428.8
55°	514.4	489.0	441.3	405.0	378.0	352.7	347.5	350.2	356.0	370.5	395.4
57.5°	484.7	459.6	409.3	372.4	346.4	322.1	317.8	320.3	325.7	339.8	362.2
60°	453.1	426.6	376.7	339.8	314.7	291.6	287.7	290.0	295.8	308.7	329.4
62.5°	422.0	392.1	343.1	306.4	283.5	262.2	261.1	260.3	265.7	278.1	296.4
65°	384.2	355.6	308.0	273.2	252.4	233.1	228.9	230.8	236.0	247.4	266.5
67.5°	343.7	317.8	272.1	239.9	221.5	204.2	200.7	201.5	206.9	216.9	233.5
70°	300.8	277.9	235.4	206.5	191.0	174.8	172.5	172.7	177.9	186.6	201.1
72.5°	255.7	235.2	198.2	173.5	160.7	149.0	147.0	144.5	149.2	156.7	169.2
75°	209.9	191.8	161.3	141.1	131.0	121.2	119.4	116.9	121.6	128.1	137.8
77.5°	163.6	149.0	125.4	109.8	101.9	94.7	93.0	90.3	95.1	99.8	107.5
80°	118.3	107.7	93.6	77.2	74.5	69.7	68.1	65.2	69.7	72.9	78.7
82.5°	76.4	69.3	61.2	49.8	49.4	45.9	45.0	41.7	45.9	47.7	52.1
85°	38.6	35.3	33.2	25.3	26.2	23.9	23.7	20.1	23.5	24.3	26.8
87.5°	11.0	11.6	10.4	6.2	7.9	7.5	7.5	5.4	7.5	7.5	8.5
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: P837769

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1HI-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	889.8	889.8	889.8	889.8	889.8	889.8	889.8	889.8
2.5°	890.7	894.2	895.0	894.8	897.1	909.6	905.4	909.6
5°	892.7	900.6	902.7	905.6	909.4	923.5	918.9	923.9
7.5°	894.0	905.8	910.4	916.0	922.0	937.8	934.1	939.0
10°	894.0	909.4	916.0	925.3	933.4	951.7	948.2	954.0
12.5°	890.3	910.0	919.3	932.4	942.8	962.5	961.0	965.2
15°	882.6	906.9	919.7	936.5	949.4	971.4	970.8	975.8
17.5°	872.2	901.5	917.0	938.2	954.4	979.1	980.5	983.2
20°	859.1	891.3	911.6	937.6	957.9	985.1	987.0	990.7
22.5°	841.9	879.0	903.5	934.9	958.3	987.6	990.9	994.5
25°	821.6	864.3	893.0	929.7	956.3	987.4	992.0	995.1
27.5°	798.3	845.2	879.5	921.4	950.4	984.1	989.7	993.4
30°	771.3	824.9	864.1	910.6	942.6	977.8	983.9	987.6
32.5°	743.5	802.5	845.8	896.7	931.1	967.9	973.1	976.0
35°	713.2	775.3	823.8	878.8	916.4	951.9	955.8	959.0
37.5°	680.2	745.8	798.7	858.7	895.7	929.7	933.2	936.8
40°	646.2	714.9	770.5	834.0	871.0	902.5	906.2	908.7
42.5°	611.9	680.6	740.4	804.9	841.7	872.0	874.3	876.8
45°	577.2	645.1	706.6	772.8	809.1	837.5	838.4	840.4
47.5°	542.0	608.4	669.4	736.0	771.9	797.9	798.7	800.4
50°	506.5	571.6	629.8	696.4	731.5	758.9	755.1	756.8
52.5°	471.6	533.0	592.4	653.6	688.3	712.6	713.6	710.3
55°	437.3	495.3	549.8	608.8	641.8	660.7	660.1	661.3
57.5°	402.7	457.1	507.1	561.1	593.2	611.1	614.8	610.5
60°	367.4	418.5	463.3	512.1	543.2	558.1	562.5	558.4
62.5°	332.3	379.2	419.9	462.5	491.3	509.8	509.4	504.8
65°	297.2	339.8	376.1	412.2	437.3	455.8	455.0	450.8
67.5°	264.9	299.9	332.5	361.8	383.6	396.2	400.6	395.6
70°	229.2	259.5	288.1	311.6	329.6	341.0	345.2	340.8
72.5°	193.5	219.2	239.3	261.9	275.9	285.4	289.8	285.6
75°	158.2	179.3	195.7	213.4	223.1	231.2	236.2	232.1
77.5°	123.9	140.3	153.4	166.3	177.5	179.3	183.7	181.0
80°	91.3	103.2	112.7	121.2	129.3	130.1	133.7	132.0
82.5°	60.8	68.7	71.2	80.1	85.3	84.5	88.0	86.8
85°	32.2	36.9	41.3	44.0	46.9	44.2	47.3	46.1
87.5°	10.8	11.4	10.0	14.1	15.6	13.3	15.2	14.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)