

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: P837950

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2LO-27-120-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: P837950
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-27-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

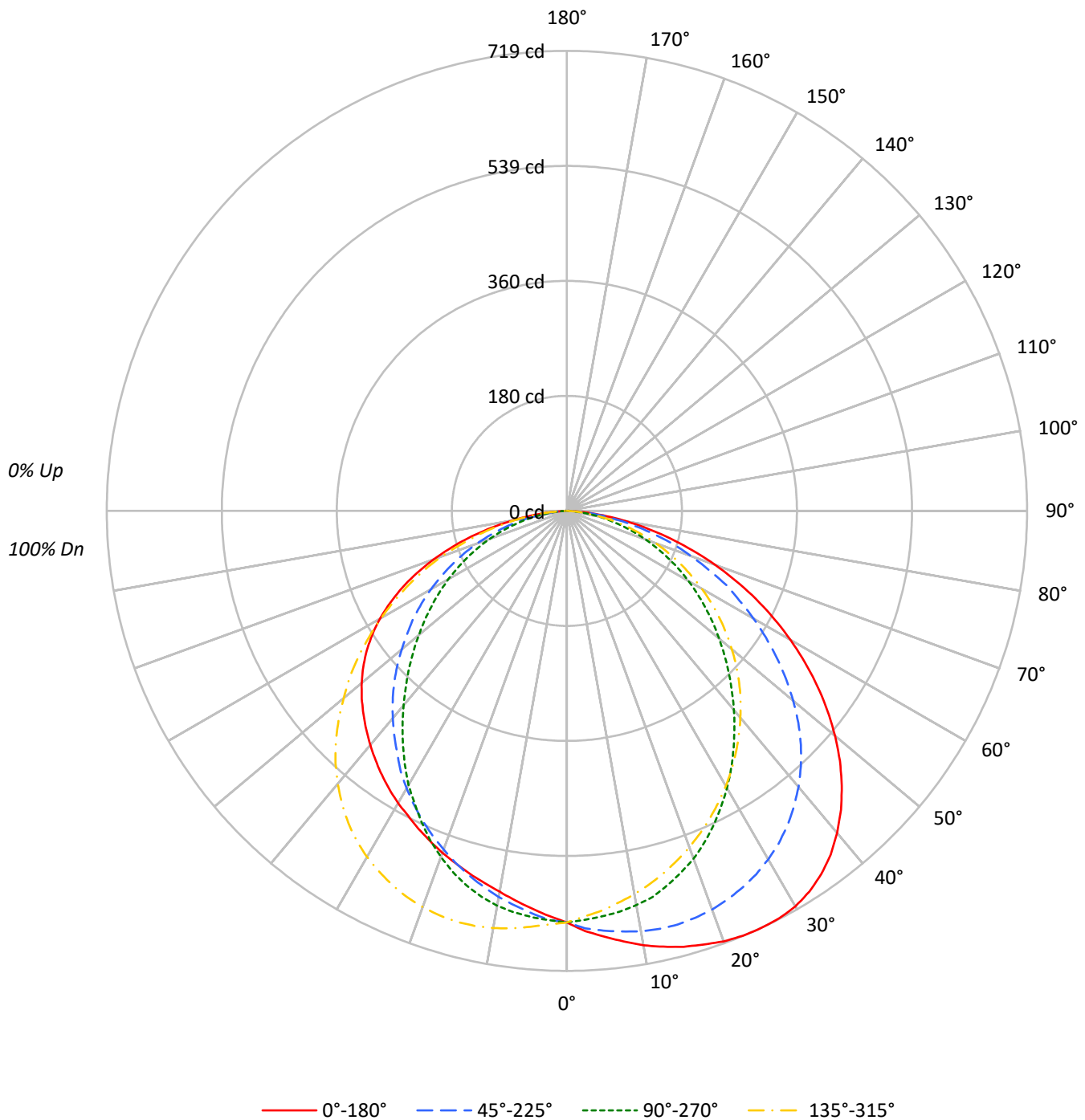
Lumens per Lamp: N/A
Luminaire Lumens: 1886.8 lumens
Efficiency: N/A
Efficacy: 80.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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°	1731	1731	1731	1731
5°	1804	1718	1686	1721
10°	1884	1709	1652	1712
15°	1965	1688	1635	1688
20°	2050	1657	1628	1647
25°	2135	1610	1628	1594
30°	2218	1555	1639	1537
35°	2277	1491	1655	1467
40°	2307	1427	1678	1394
45°	2312	1362	1711	1327
50°	2290	1299	1753	1265
55°	2242	1241	1792	1207
60°	2172	1181	1816	1151
65°	2074	1112	1806	1086
70°	1938	1031	1742	1012
75°	1744	919	1599	914
80°	1478	770	1344	781
85°	1028	509	852	525

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.1	3.2
10°-20°	176.8	9.4
20°-30°	271.0	14.4
30°-40°	329.5	17.5
40°-50°	342.5	18.2
50°-60°	309.4	16.4
60°-70°	235.2	12.5
70°-80°	131.1	7.0
80°-90°	30.2	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°	508.8	27.0
0°-40°	838.3	44.4
0°-60°	1490.2	79.0
0°-90°	1886.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1886.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	643	643	643	643	643	
5°	668	636	624	637	668	64
15°	705	606	587	606	705	200
25°	719	542	548	537	719	332
35°	693	454	504	447	693	433
45°	607	358	450	349	607	468
55°	478	265	382	257	478	427
65°	326	175	284	171	326	322
75°	168	88	154	88	168	178
85°	33	16	28	17	33	42
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°	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1
2.5°	657.4	647.8	647.9	656.3	649.9	653.0	644.0	647.5	646.4	647.2	639.8
5°	667.7	657.4	657.2	664.4	657.2	658.6	647.2	649.4	646.1	644.0	636.1
7.5°	678.7	668.3	667.3	673.6	664.1	663.1	650.5	650.5	644.5	639.2	631.7
10°	689.5	678.8	677.5	682.3	670.6	667.1	651.8	649.4	641.5	633.7	625.6
12.5°	697.6	686.8	685.7	688.7	675.5	669.2	651.8	647.2	635.5	624.5	618.2
15°	705.2	694.1	691.3	692.8	677.6	669.2	649.7	642.5	627.5	613.1	605.8
17.5°	710.6	700.0	697.1	697.0	678.7	666.7	645.2	635.3	617.3	599.9	592.6
20°	716.0	705.4	701.8	699.1	678.4	663.2	638.6	625.3	604.3	584.8	578.6
22.5°	718.7	707.8	703.9	699.8	676.4	656.9	630.5	613.6	589.6	566.3	561.2
25°	719.2	707.9	703.7	697.9	672.5	649.4	620.0	599.5	572.6	546.8	542.4
27.5°	718.0	705.7	701.5	694.4	666.7	640.3	607.6	583.4	554.6	526.1	521.4
30°	713.8	701.3	697.3	688.1	658.4	629.0	593.9	565.5	534.6	504.3	500.3
32.5°	705.4	693.2	689.9	680.8	649.4	616.0	578.0	546.3	512.6	483.6	477.6
35°	693.1	680.9	678.8	669.2	636.8	600.4	560.6	525.3	489.2	459.6	453.8
37.5°	677.0	666.8	663.7	654.2	622.0	582.7	540.6	502.5	465.3	433.5	429.9
40°	656.8	647.2	644.8	636.4	604.7	563.0	519.0	479.0	440.7	411.2	406.1
42.5°	633.7	624.7	623.3	614.6	583.4	541.2	495.6	454.5	415.1	386.6	381.5
45°	607.4	598.7	598.4	590.2	560.1	517.1	471.0	429.8	390.0	360.5	357.8
47.5°	578.5	570.6	570.6	563.0	534.2	490.5	445.7	404.0	364.8	338.7	333.9
50°	546.9	539.6	537.3	533.6	505.5	461.6	419.0	378.8	339.9	315.0	310.4
52.5°	513.3	507.0	508.5	501.6	474.5	431.4	392.0	350.4	314.9	292.2	287.6
55°	477.9	468.9	470.3	467.7	442.1	400.4	361.7	327.0	290.3	269.0	264.6
57.5°	441.2	429.5	434.3	432.8	407.6	368.6	333.9	300.5	265.8	246.2	242.0
60°	403.5	392.3	397.2	395.9	372.2	336.8	305.3	274.2	241.5	223.7	219.5
62.5°	364.8	354.5	359.0	357.9	336.2	304.2	276.8	248.3	217.1	201.0	197.1
65°	325.8	315.9	320.0	319.2	299.1	274.8	247.5	221.4	192.5	178.5	174.6
67.5°	285.9	276.8	280.5	280.5	262.1	238.8	218.1	194.3	168.3	156.3	152.7
70°	246.3	237.8	241.1	240.8	225.2	206.3	188.4	167.1	143.9	134.0	131.0
72.5°	206.4	198.9	201.9	201.6	188.6	176.4	158.7	140.3	120.0	112.1	109.4
75°	167.7	160.7	163.5	163.2	152.6	141.2	129.3	114.0	96.6	91.1	88.4
77.5°	130.8	123.6	126.0	126.0	118.2	110.0	100.5	88.7	76.4	70.4	68.4
80°	95.4	92.0	90.8	90.9	85.7	80.3	75.5	64.1	55.1	51.0	49.7
82.5°	62.7	59.9	58.7	59.0	56.0	52.7	49.7	41.7	35.7	33.3	32.6
85°	33.3	31.2	30.2	30.9	30.3	28.5	27.0	21.6	17.9	17.0	16.5
87.5°	10.5	9.2	8.4	11.1	9.5	8.4	8.1	6.5	5.0	5.0	4.8
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°	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1
2.5°	642.2	642.2	636.4	635.0	634.4	635.2	629.3	628.3	636.7	633.8	627.4
5°	637.1	636.8	628.6	627.1	627.1	626.2	619.6	618.1	626.5	624.1	617.0
7.5°	630.8	629.9	620.2	619.1	617.6	617.0	609.7	608.6	615.8	614.3	607.7
10°	623.2	622.3	610.7	610.0	608.3	607.1	600.2	599.5	606.8	604.4	599.2
12.5°	613.1	611.5	599.6	598.9	597.5	597.1	590.3	590.0	598.1	595.7	590.2
15°	599.9	598.6	585.4	585.7	585.8	585.8	580.4	580.1	588.1	587.0	581.0
17.5°	585.4	583.6	570.9	571.8	572.9	574.1	569.9	570.6	579.1	577.7	572.3
20°	568.8	567.0	554.7	557.3	559.5	561.9	559.2	561.3	569.1	568.5	564.5
22.5°	550.4	548.6	537.2	541.1	544.8	549.3	548.1	550.5	558.8	558.6	555.0
25°	527.9	528.3	518.3	523.1	529.4	535.7	536.1	540.0	549.2	548.3	545.0
27.5°	506.9	507.5	496.8	504.9	513.3	521.4	523.4	528.8	538.1	537.3	534.5
30°	484.8	485.6	475.2	486.3	496.5	506.4	510.6	518.0	527.4	527.4	524.4
32.5°	461.9	463.2	452.4	467.3	479.1	490.7	498.0	505.7	516.5	516.2	513.6
35°	438.3	439.8	429.9	448.8	460.7	474.8	483.9	494.1	503.7	503.9	501.9
37.5°	414.3	416.1	407.1	427.8	441.3	458.0	469.7	479.9	490.5	491.1	489.3
40°	390.5	392.4	384.6	404.6	421.7	440.3	453.8	465.8	477.5	477.8	476.6
42.5°	366.6	368.7	362.9	382.4	401.7	421.7	437.6	451.2	463.2	464.0	462.6
45°	343.4	345.2	341.0	362.3	380.9	402.6	420.9	436.4	448.5	449.6	449.1
47.5°	320.3	321.9	318.2	337.7	359.1	382.2	403.4	420.5	433.4	434.6	434.3
50°	297.6	299.0	294.9	315.3	336.6	361.2	383.3	403.1	417.5	418.7	418.5
52.5°	275.1	276.5	273.0	294.5	313.8	339.8	363.8	385.2	399.5	401.3	401.6
55°	253.4	254.0	251.3	271.8	290.6	317.7	345.3	366.2	380.4	381.9	382.8
57.5°	231.6	231.8	229.5	249.2	267.2	294.9	323.9	345.8	359.3	360.8	362.1
60°	210.0	209.9	207.3	226.4	243.6	271.1	301.2	323.0	336.0	337.4	339.2
62.5°	188.6	188.1	185.9	203.4	219.6	246.8	277.1	298.1	310.5	311.4	313.8
65°	167.3	166.8	164.7	180.9	195.6	221.6	251.3	271.2	282.5	283.7	283.2
67.5°	146.3	145.4	143.7	158.3	171.6	195.6	224.1	243.2	252.5	253.5	256.4
70°	125.3	124.2	120.5	135.9	147.6	169.1	195.6	212.6	220.4	221.4	221.0
72.5°	104.6	103.5	99.5	113.7	123.6	142.4	166.1	180.2	186.9	187.8	187.8
75°	84.5	83.9	81.3	92.1	100.4	115.7	135.8	147.5	152.7	153.8	153.5
77.5°	65.1	64.7	62.1	71.4	77.9	89.3	105.5	114.6	118.5	119.7	122.3
80°	46.7	46.5	42.5	51.6	54.5	64.1	75.9	83.0	85.1	86.7	88.5
82.5°	29.9	30.0	26.0	33.8	35.0	41.1	48.5	52.8	54.3	55.7	57.0
85°	14.6	15.2	12.9	17.9	18.0	21.2	24.3	26.0	26.6	27.6	28.8
87.5°	3.8	4.4	2.4	5.1	4.5	5.9	6.8	7.2	7.1	7.8	8.3
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°	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1
2.5°	629.5	634.3	631.9	639.7	642.7	637.9	646.3	646.4	640.4	647.5	651.4
5°	619.7	624.7	623.2	631.3	635.0	630.8	641.0	643.0	637.1	645.1	651.4
7.5°	609.8	615.7	613.7	622.0	626.5	623.2	634.1	637.3	632.8	641.5	649.9
10°	601.3	606.2	604.1	612.8	616.7	614.0	624.8	630.7	626.5	637.1	647.2
12.5°	592.9	596.9	594.5	601.7	605.5	602.0	615.2	620.6	617.6	628.7	641.6
15°	582.1	586.6	583.3	589.7	592.6	589.6	600.4	609.7	605.9	618.1	632.3
17.5°	573.8	576.4	571.8	577.0	578.6	574.6	585.5	594.7	592.0	605.2	621.7
20°	564.6	566.7	560.4	563.3	563.1	558.0	568.1	577.1	575.3	589.9	608.6
22.5°	554.4	555.5	548.1	548.7	548.4	540.0	549.0	558.2	557.4	572.1	593.2
25°	543.6	543.8	534.3	534.0	530.7	520.8	528.8	539.1	536.9	552.8	574.9
27.5°	533.0	531.5	520.1	517.4	512.1	500.3	507.3	516.6	515.3	530.9	555.3
30°	521.6	519.6	505.7	500.7	493.1	479.4	485.3	494.0	494.7	508.4	534.0
32.5°	510.8	505.8	490.4	483.2	473.6	457.7	460.8	469.7	470.9	484.7	511.1
35°	496.8	493.5	474.5	462.2	452.7	435.3	438.6	444.8	446.6	460.1	486.9
37.5°	483.6	478.4	458.1	443.1	431.0	412.7	413.6	419.9	421.7	435.3	461.9
40°	470.0	462.5	440.7	423.2	409.2	390.0	389.0	395.6	396.9	410.3	434.3
42.5°	455.4	446.4	422.0	402.8	386.7	367.2	365.1	370.8	372.3	385.4	408.9
45°	440.7	429.9	402.8	381.8	364.2	344.3	342.2	346.5	348.8	361.1	383.7
47.5°	425.1	412.5	383.0	359.6	341.4	321.5	318.9	323.3	325.1	337.2	358.7
50°	408.8	393.5	362.6	336.8	318.8	299.1	295.4	300.5	302.1	313.5	334.5
52.5°	390.8	373.8	340.8	313.8	295.8	277.1	272.6	277.5	279.5	290.6	309.9
55°	371.7	353.4	318.9	292.7	273.2	254.9	251.1	253.1	257.3	267.8	285.8
57.5°	350.3	332.1	295.8	269.1	250.4	232.8	229.7	231.5	235.4	245.6	261.8
60°	327.5	308.3	272.3	245.6	227.4	210.8	207.9	209.6	213.8	223.1	238.1
62.5°	305.0	283.4	248.0	221.4	204.9	189.5	188.7	188.1	192.0	201.0	214.2
65°	277.7	257.0	222.6	197.4	182.4	168.5	165.5	166.8	170.6	178.8	192.6
67.5°	248.4	229.7	196.7	173.4	160.1	147.6	145.1	145.7	149.6	156.8	168.8
70°	217.4	200.9	170.1	149.3	138.0	126.3	124.7	124.8	128.6	134.9	145.4
72.5°	184.8	170.0	143.3	125.4	116.1	107.7	106.2	104.4	107.9	113.3	122.3
75°	151.7	138.6	116.6	102.0	94.7	87.6	86.3	84.5	87.9	92.6	99.6
77.5°	118.2	107.7	90.6	79.4	73.7	68.4	67.2	65.3	68.7	72.2	77.7
80°	85.5	77.9	67.7	55.8	53.9	50.4	49.2	47.1	50.4	52.7	56.9
82.5°	55.2	50.1	44.3	36.0	35.7	33.2	32.6	30.2	33.2	34.5	37.7
85°	27.9	25.5	24.0	18.3	18.9	17.3	17.1	14.6	17.0	17.6	19.4
87.5°	8.0	8.4	7.5	4.5	5.7	5.4	5.4	3.9	5.4	5.4	6.2
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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CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2LO-27-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1
2.5°	643.7	646.3	646.9	646.7	648.4	657.4	654.4	657.4
5°	645.2	650.9	652.4	654.5	657.2	667.4	664.1	667.7
7.5°	646.1	654.7	658.0	662.0	666.4	677.8	675.1	678.7
10°	646.1	657.2	662.0	668.8	674.6	687.8	685.3	689.5
12.5°	643.4	657.7	664.4	673.9	681.4	695.6	694.6	697.6
15°	637.9	655.4	664.7	676.9	686.2	702.1	701.6	705.2
17.5°	630.4	651.5	662.8	678.1	689.8	707.6	708.7	710.6
20°	620.9	644.2	658.9	677.6	692.3	712.0	713.3	716.0
22.5°	608.5	635.3	653.0	675.7	692.6	713.8	716.2	718.7
25°	593.8	624.7	645.4	671.9	691.1	713.6	716.9	719.2
27.5°	577.0	610.9	635.6	665.9	686.9	711.2	715.3	718.0
30°	557.4	596.2	624.5	658.1	681.2	706.7	711.1	713.8
32.5°	537.3	580.0	611.3	648.1	673.0	699.5	703.3	705.4
35°	515.4	560.3	595.4	635.2	662.3	688.0	690.8	693.1
37.5°	491.6	539.0	577.3	620.6	647.3	671.9	674.5	677.0
40°	467.0	516.6	556.8	602.8	629.5	652.3	655.0	656.8
42.5°	442.2	491.9	535.1	581.8	608.3	630.2	631.9	633.7
45°	417.2	466.2	510.6	558.5	584.8	605.3	605.9	607.4
47.5°	391.7	439.7	483.8	531.9	557.9	576.7	577.3	578.5
50°	366.0	413.1	455.1	503.3	528.6	548.4	545.7	546.9
52.5°	340.8	385.2	428.1	472.4	497.4	515.0	515.7	513.3
55°	316.1	357.9	397.4	440.0	463.8	477.5	477.0	477.9
57.5°	291.0	330.3	366.5	405.5	428.7	441.6	444.3	441.2
60°	265.5	302.4	334.8	370.1	392.6	403.4	406.5	403.5
62.5°	240.2	274.1	303.5	334.2	355.1	368.4	368.1	364.8
65°	214.8	245.6	271.8	297.9	316.1	329.4	328.8	325.8
67.5°	191.4	216.8	240.3	261.5	277.2	286.4	289.5	285.9
70°	165.6	187.5	208.2	225.2	238.2	246.5	249.5	246.3
72.5°	139.8	158.4	173.0	189.3	199.4	206.3	209.4	206.4
75°	114.3	129.6	141.5	154.2	161.3	167.1	170.7	167.7
77.5°	89.6	101.4	110.9	120.2	128.3	129.6	132.8	130.8
80°	66.0	74.6	81.5	87.6	93.5	94.1	96.6	95.4
82.5°	44.0	49.7	51.5	57.9	61.7	61.1	63.6	62.7
85°	23.3	26.7	29.9	31.8	33.9	32.0	34.2	33.3
87.5°	7.8	8.3	7.2	10.2	11.3	9.6	11.0	10.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)