

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: P837913

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1HI-50-120-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: P837913
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-LD4-1HI-50-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

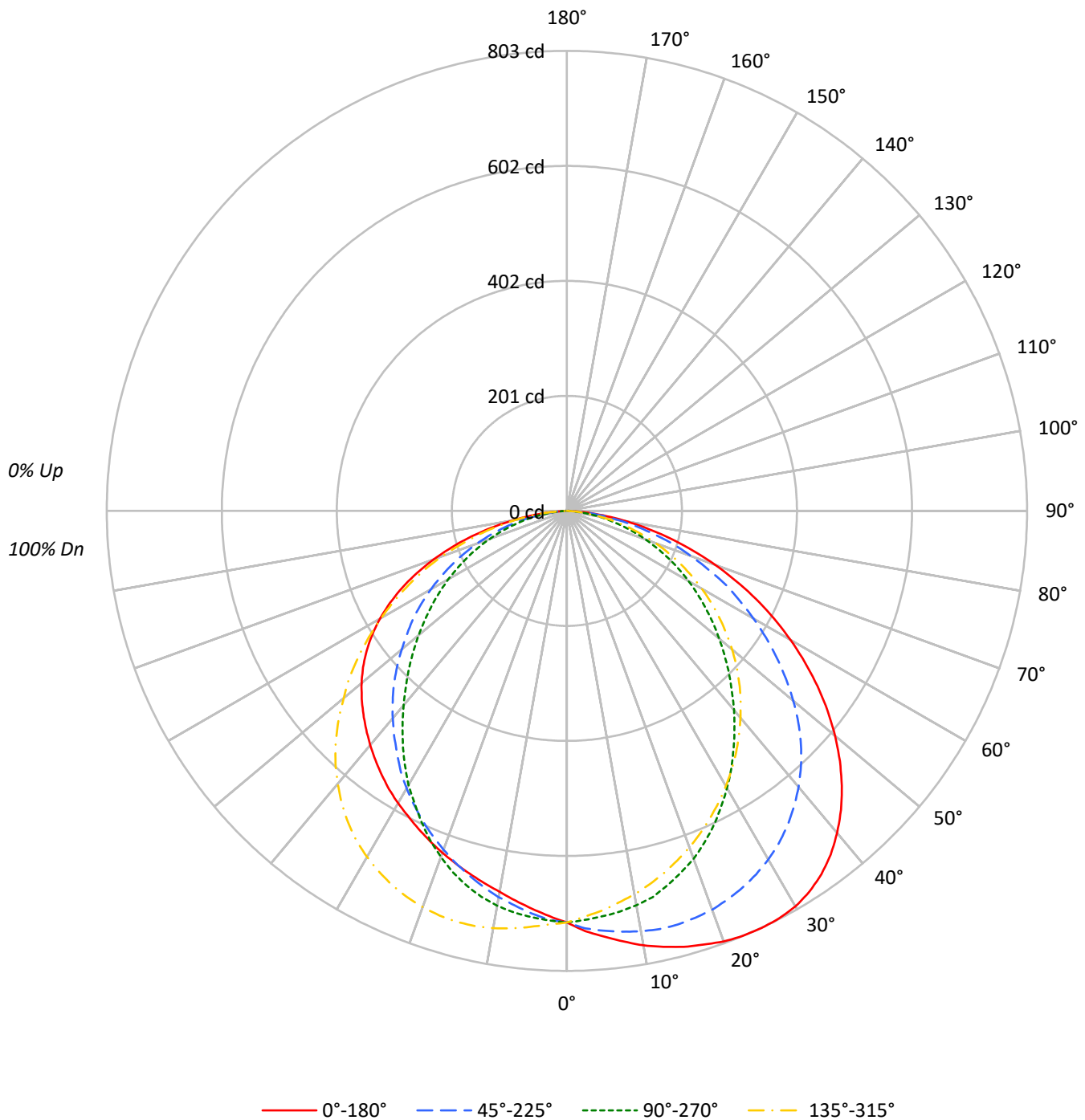
Lumens per Lamp: N/A
Luminaire Lumens: 2107.8 lumens
Efficiency: N/A
Efficacy: 95.8 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 22
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°	1933	1933	1933	1933
5°	2015	1919	1883	1922
10°	2105	1909	1845	1912
15°	2195	1885	1827	1886
20°	2291	1851	1819	1840
25°	2385	1799	1819	1781
30°	2478	1737	1831	1717
35°	2543	1665	1849	1639
40°	2577	1593	1875	1558
45°	2582	1521	1911	1483
50°	2558	1451	1958	1413
55°	2505	1387	2002	1348
60°	2426	1320	2028	1285
65°	2318	1242	2018	1213
70°	2165	1151	1947	1130
75°	1948	1026	1786	1021
80°	1652	860	1502	872
85°	1149	568	951	584



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.2	3.2
10°-20°	197.5	9.4
20°-30°	302.7	14.4
30°-40°	368.1	17.5
40°-50°	382.6	18.2
50°-60°	345.6	16.4
60°-70°	262.8	12.5
70°-80°	146.5	7.0
80°-90°	33.7	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°	568.4	27.0
0°-40°	936.5	44.4
0°-60°	1664.8	79.0
0°-90°	2107.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2107.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	718	718	718	718	718	
5°	746	710	697	712	746	72
15°	788	677	656	677	788	223
25°	803	606	612	600	803	371
35°	774	507	563	499	774	484
45°	678	400	502	390	678	522
55°	534	296	427	287	534	477
65°	364	195	317	190	364	360
75°	187	99	172	98	187	199
85°	37	18	31	19	37	47
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°	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4
2.5°	734.3	723.6	723.8	733.2	726.0	729.5	719.4	723.3	722.1	723.0	714.7
5°	745.9	734.3	734.2	742.2	734.2	735.7	723.0	725.5	721.8	719.4	710.5
7.5°	758.1	746.6	745.4	752.4	741.9	740.7	726.6	726.6	719.9	714.1	705.7
10°	770.2	758.3	756.8	762.2	749.1	745.2	728.1	725.5	716.6	707.9	698.8
12.5°	779.3	767.2	766.0	769.4	754.6	747.6	728.1	723.0	709.9	697.6	690.6
15°	787.8	775.4	772.2	773.9	757.0	747.6	725.8	717.8	701.0	684.9	676.7
17.5°	793.8	781.9	778.8	778.6	758.1	744.7	720.8	709.7	689.6	670.2	662.0
20°	799.9	788.0	784.0	780.9	757.8	740.9	713.4	698.5	675.0	653.2	646.4
22.5°	802.9	790.7	786.3	781.8	755.6	733.8	704.3	685.4	658.6	632.6	626.9
25°	803.4	790.8	786.1	779.6	751.3	725.5	692.6	669.7	639.7	610.8	606.0
27.5°	802.0	788.3	783.6	775.7	744.7	715.2	678.7	651.7	619.6	587.7	582.5
30°	797.4	783.4	778.9	768.7	735.5	702.7	663.5	631.8	597.3	563.4	558.9
32.5°	788.0	774.4	770.7	760.5	725.5	688.1	645.7	610.3	572.6	540.3	533.6
35°	774.2	760.7	758.3	747.6	711.4	670.7	626.3	586.9	546.5	513.5	506.9
37.5°	756.3	744.9	741.4	730.8	694.8	650.9	604.0	561.4	519.8	484.3	480.3
40°	733.7	723.0	720.3	710.9	675.5	628.9	579.8	535.1	492.4	459.3	453.6
42.5°	707.9	697.8	696.3	686.6	651.7	604.6	553.7	507.8	463.7	431.9	426.2
45°	678.5	668.8	668.5	659.3	625.8	577.7	526.2	480.1	435.7	402.7	399.7
47.5°	646.2	637.5	637.5	628.9	596.8	548.0	497.9	451.3	407.6	378.4	373.0
50°	611.0	602.8	600.3	596.1	564.8	515.7	468.1	423.1	379.7	351.9	346.7
52.5°	573.5	566.4	568.1	560.4	530.1	482.0	437.9	391.5	351.8	326.5	321.3
55°	533.9	523.9	525.4	522.5	493.9	447.3	404.0	365.3	324.3	300.5	295.6
57.5°	492.9	479.8	485.2	483.5	455.3	411.7	373.0	335.7	297.0	275.0	270.3
60°	450.8	438.2	443.8	442.2	415.8	376.2	341.0	306.3	269.8	249.9	245.2
62.5°	407.6	396.0	401.0	399.9	375.6	339.9	309.2	277.3	242.5	224.6	220.2
65°	364.0	352.9	357.5	356.6	334.2	307.0	276.5	247.4	215.0	199.4	195.1
67.5°	319.4	309.2	313.4	313.4	292.8	266.8	243.7	217.0	188.0	174.6	170.6
70°	275.2	265.6	269.3	269.0	251.5	230.4	210.5	186.7	160.7	149.7	146.3
72.5°	230.6	222.2	225.6	225.2	210.7	197.1	177.3	156.7	134.1	125.2	122.2
75°	187.4	179.5	182.7	182.3	170.4	157.7	144.5	127.4	107.9	101.7	98.7
77.5°	146.1	138.1	140.8	140.8	132.1	122.8	112.3	99.0	85.3	78.6	76.4
80°	106.6	102.7	101.4	101.6	95.7	89.7	84.3	71.6	61.5	57.0	55.5
82.5°	70.0	66.9	65.5	65.9	62.5	58.8	55.5	46.6	39.9	37.2	36.4
85°	37.2	34.9	33.7	34.5	33.9	31.8	30.2	24.1	19.9	18.9	18.4
87.5°	11.7	10.2	9.4	12.4	10.6	9.4	9.0	7.2	5.5	5.5	5.4
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4
2.5°	717.4	717.4	710.9	709.4	708.7	709.5	703.0	701.8	711.2	708.0	700.8
5°	711.7	711.4	702.2	700.5	700.5	699.5	692.1	690.4	699.8	697.1	689.3
7.5°	704.7	703.7	692.8	691.6	689.9	689.3	681.1	679.9	687.9	686.2	678.9
10°	696.1	695.1	682.2	681.4	679.5	678.2	670.5	669.7	677.9	675.2	669.3
12.5°	684.9	683.1	669.8	669.0	667.5	667.0	659.4	659.1	668.2	665.5	659.3
15°	670.2	668.7	653.9	654.2	654.4	654.4	648.4	648.0	656.9	655.7	649.0
17.5°	653.9	651.9	637.8	638.8	640.0	641.3	636.6	637.5	646.9	645.4	639.3
20°	635.5	633.5	619.7	622.6	625.1	627.8	624.7	627.1	635.8	635.1	630.6
22.5°	614.9	612.8	600.1	604.5	608.7	613.7	612.3	615.0	624.2	624.1	620.1
25°	589.7	590.2	579.0	584.4	591.4	598.4	598.9	603.3	613.5	612.5	608.8
27.5°	566.3	566.9	555.0	564.1	573.5	582.5	584.7	590.7	601.1	600.3	597.1
30°	541.6	542.5	530.9	543.3	554.7	565.8	570.5	578.7	589.2	589.2	585.9
32.5°	516.0	517.5	505.4	522.0	535.3	548.2	556.4	564.9	577.0	576.7	573.8
35°	489.7	491.4	480.3	501.4	514.6	530.4	540.6	552.0	562.7	562.9	560.7
37.5°	462.9	464.9	454.8	477.9	493.0	511.6	524.7	536.1	548.0	548.7	546.7
40°	436.2	438.4	429.7	452.0	471.1	491.9	506.9	520.3	533.4	533.7	532.4
42.5°	409.6	411.9	405.4	427.2	448.8	471.1	488.8	504.1	517.5	518.3	516.8
45°	383.6	385.6	380.9	404.7	425.5	449.8	470.2	487.5	501.1	502.2	501.7
47.5°	357.8	359.6	355.4	377.2	401.2	427.0	450.6	469.7	484.1	485.5	485.2
50°	332.5	334.0	329.5	352.3	376.1	403.5	428.2	450.3	466.4	467.7	467.6
52.5°	307.3	308.9	305.0	329.0	350.6	379.6	406.4	430.4	446.3	448.3	448.6
55°	283.0	283.7	280.7	303.7	324.6	354.9	385.8	409.1	425.0	426.7	427.7
57.5°	258.7	258.9	256.4	278.4	298.5	329.5	361.8	386.3	401.4	403.0	404.5
60°	234.6	234.4	231.6	252.9	272.2	302.8	336.5	360.8	375.4	376.9	378.9
62.5°	210.7	210.1	207.6	227.2	245.3	275.7	309.5	333.0	346.9	347.9	350.6
65°	186.9	186.4	184.0	202.1	218.5	247.5	280.7	303.0	315.6	316.9	316.4
67.5°	163.4	162.4	160.5	176.8	191.7	218.5	250.4	271.7	282.0	283.2	286.4
70°	139.9	138.8	134.6	151.8	164.9	188.9	218.5	237.5	246.2	247.4	246.8
72.5°	116.8	115.6	111.1	127.0	138.1	159.0	185.5	201.3	208.8	209.8	209.8
75°	94.3	93.7	90.8	102.9	112.1	129.2	151.7	164.7	170.6	171.8	171.4
77.5°	72.7	72.2	69.4	79.8	87.0	99.7	117.8	128.0	132.4	133.7	136.6
80°	52.1	52.0	47.4	57.6	60.8	71.6	84.8	92.7	95.0	96.9	98.9
82.5°	33.3	33.5	29.0	37.7	39.0	45.9	54.1	59.0	60.7	62.2	63.7
85°	16.3	16.9	14.4	19.9	20.1	23.6	27.1	29.0	29.7	30.8	32.2
87.5°	4.2	4.9	2.7	5.7	5.0	6.5	7.5	8.0	7.9	8.7	9.2
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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CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4
2.5°	703.2	708.5	705.9	714.6	717.9	712.6	721.9	722.1	715.4	723.3	727.6
5°	692.3	697.8	696.1	705.2	709.4	704.7	716.1	718.3	711.7	720.6	727.6
7.5°	681.2	687.8	685.6	694.8	699.8	696.1	708.4	711.9	706.9	716.6	726.0
10°	671.7	677.2	674.9	684.6	688.9	685.9	698.0	704.5	699.8	711.7	723.0
12.5°	662.3	666.8	664.1	672.2	676.4	672.5	687.3	693.3	689.9	702.3	716.7
15°	650.2	655.2	651.6	658.8	662.0	658.6	670.7	681.1	676.9	690.4	706.4
17.5°	641.0	643.9	638.8	644.5	646.4	641.8	654.1	664.3	661.3	676.0	694.5
20°	630.8	633.1	626.1	629.3	629.1	623.4	634.6	644.7	642.7	658.9	679.9
22.5°	619.4	620.6	612.3	613.0	612.7	603.3	613.4	623.6	622.7	639.2	662.6
25°	607.3	607.5	596.9	596.6	592.9	581.8	590.7	602.3	599.8	617.5	642.2
27.5°	595.4	593.7	581.0	578.0	572.1	558.9	566.8	577.2	575.6	593.1	620.4
30°	582.7	580.5	564.9	559.4	550.8	535.6	542.1	551.8	552.7	567.9	596.6
32.5°	570.6	565.1	547.8	539.8	529.1	511.3	514.8	524.7	526.0	541.5	571.0
35°	555.0	551.3	530.1	516.3	505.8	486.3	490.0	496.9	498.9	514.0	544.0
37.5°	540.3	534.4	511.8	495.0	481.5	461.0	462.0	469.1	471.1	486.3	516.0
40°	525.0	516.7	492.4	472.7	457.2	435.7	434.5	441.9	443.4	458.3	485.2
42.5°	508.8	498.7	471.4	450.0	432.0	410.2	407.9	414.3	415.9	430.5	456.8
45°	492.4	480.3	450.0	426.5	406.9	384.6	382.3	387.1	389.6	403.4	428.7
47.5°	474.9	460.9	427.8	401.7	381.4	359.1	356.3	361.1	363.2	376.7	400.7
50°	456.7	439.6	405.0	376.2	356.1	334.2	330.0	335.7	337.5	350.2	373.7
52.5°	436.6	417.6	380.7	350.6	330.5	309.5	304.5	310.0	312.2	324.6	346.2
55°	415.3	394.8	356.3	327.0	305.2	284.7	280.5	282.7	287.4	299.1	319.2
57.5°	391.3	371.0	330.5	300.6	279.7	260.1	256.6	258.6	262.9	274.3	292.4
60°	365.8	344.4	304.2	274.3	254.1	235.5	232.3	234.1	238.8	249.2	266.0
62.5°	340.7	316.6	277.0	247.4	228.9	211.7	210.8	210.1	214.5	224.6	239.3
65°	310.2	287.1	248.7	220.5	203.8	188.2	184.8	186.4	190.5	199.8	215.2
67.5°	277.5	256.6	219.7	193.7	178.8	164.9	162.1	162.7	167.1	175.1	188.5
70°	242.8	224.4	190.0	166.7	154.2	141.1	139.3	139.4	143.6	150.7	162.4
72.5°	206.5	189.9	160.0	140.1	129.7	120.3	118.6	116.6	120.5	126.5	136.6
75°	169.4	154.8	130.2	114.0	105.7	97.9	96.4	94.3	98.2	103.4	111.3
77.5°	132.1	120.3	101.2	88.7	82.3	76.4	75.1	72.9	76.8	80.6	86.8
80°	95.5	87.0	75.6	62.3	60.2	56.3	55.0	52.6	56.3	58.8	63.5
82.5°	61.7	56.0	49.4	40.2	39.9	37.0	36.4	33.7	37.0	38.5	42.1
85°	31.2	28.5	26.8	20.4	21.1	19.3	19.1	16.3	18.9	19.6	21.6
87.5°	8.9	9.4	8.4	5.0	6.4	6.0	6.0	4.4	6.0	6.0	6.9
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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CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-50-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	718.4	718.4	718.4	718.4	718.4	718.4	718.4	718.4
2.5°	719.1	721.9	722.6	722.4	724.3	734.3	731.0	734.3
5°	720.8	727.1	728.8	731.2	734.2	745.6	741.9	745.9
7.5°	721.8	731.3	735.0	739.5	744.4	757.1	754.1	758.1
10°	721.8	734.2	739.5	747.1	753.6	768.4	765.5	770.2
12.5°	718.8	734.7	742.2	752.8	761.2	777.1	775.9	779.3
15°	712.6	732.2	742.6	756.1	766.5	784.3	783.8	787.8
17.5°	704.2	727.8	740.4	757.5	770.5	790.5	791.7	793.8
20°	693.6	719.6	736.0	757.0	773.4	795.3	796.9	799.9
22.5°	679.7	709.7	729.5	754.8	773.7	797.4	800.0	802.9
25°	663.3	697.8	720.9	750.6	772.1	797.2	800.9	803.4
27.5°	644.5	682.4	710.0	743.9	767.4	794.5	799.0	802.0
30°	622.7	666.0	697.6	735.2	761.0	789.5	794.3	797.4
32.5°	600.3	647.9	682.9	724.0	751.8	781.4	785.6	788.0
35°	575.8	625.9	665.1	709.5	739.9	768.5	771.7	774.2
37.5°	549.2	602.1	644.9	693.3	723.1	750.6	753.5	756.3
40°	521.7	577.2	622.1	673.3	703.2	728.6	731.7	733.7
42.5°	494.0	549.5	597.8	649.9	679.5	704.0	705.9	707.9
45°	466.0	520.8	570.5	623.9	653.2	676.2	676.9	678.5
47.5°	437.6	491.2	540.5	594.2	623.2	644.2	644.9	646.2
50°	408.9	461.5	508.4	562.2	590.6	612.7	609.7	611.0
52.5°	380.7	430.4	478.3	527.7	555.7	575.3	576.1	573.5
55°	353.1	399.9	443.9	491.5	518.2	533.4	532.9	533.9
57.5°	325.1	369.0	409.4	453.0	479.0	493.4	496.4	492.9
60°	296.6	337.8	374.0	413.4	438.6	450.6	454.1	450.8
62.5°	268.3	306.2	339.0	373.4	396.7	411.6	411.2	407.6
65°	240.0	274.3	303.7	332.8	353.1	368.0	367.3	364.0
67.5°	213.8	242.2	268.5	292.1	309.7	319.9	323.4	319.4
70°	185.0	209.5	232.6	251.5	266.1	275.3	278.7	275.2
72.5°	156.2	177.0	193.2	211.5	222.7	230.4	233.9	230.6
75°	127.7	144.8	158.0	172.3	180.2	186.7	190.7	187.4
77.5°	100.0	113.3	123.8	134.2	143.3	144.8	148.3	146.1
80°	73.7	83.3	91.0	97.9	104.4	105.1	107.9	106.6
82.5°	49.1	55.5	57.5	64.7	68.9	68.2	71.1	70.0
85°	26.0	29.8	33.3	35.5	37.9	35.7	38.2	37.2
87.5°	8.7	9.2	8.0	11.4	12.6	10.7	12.2	11.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)