

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: P837825

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2STD-20-120-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: P837825
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-LD4-2STD-20-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

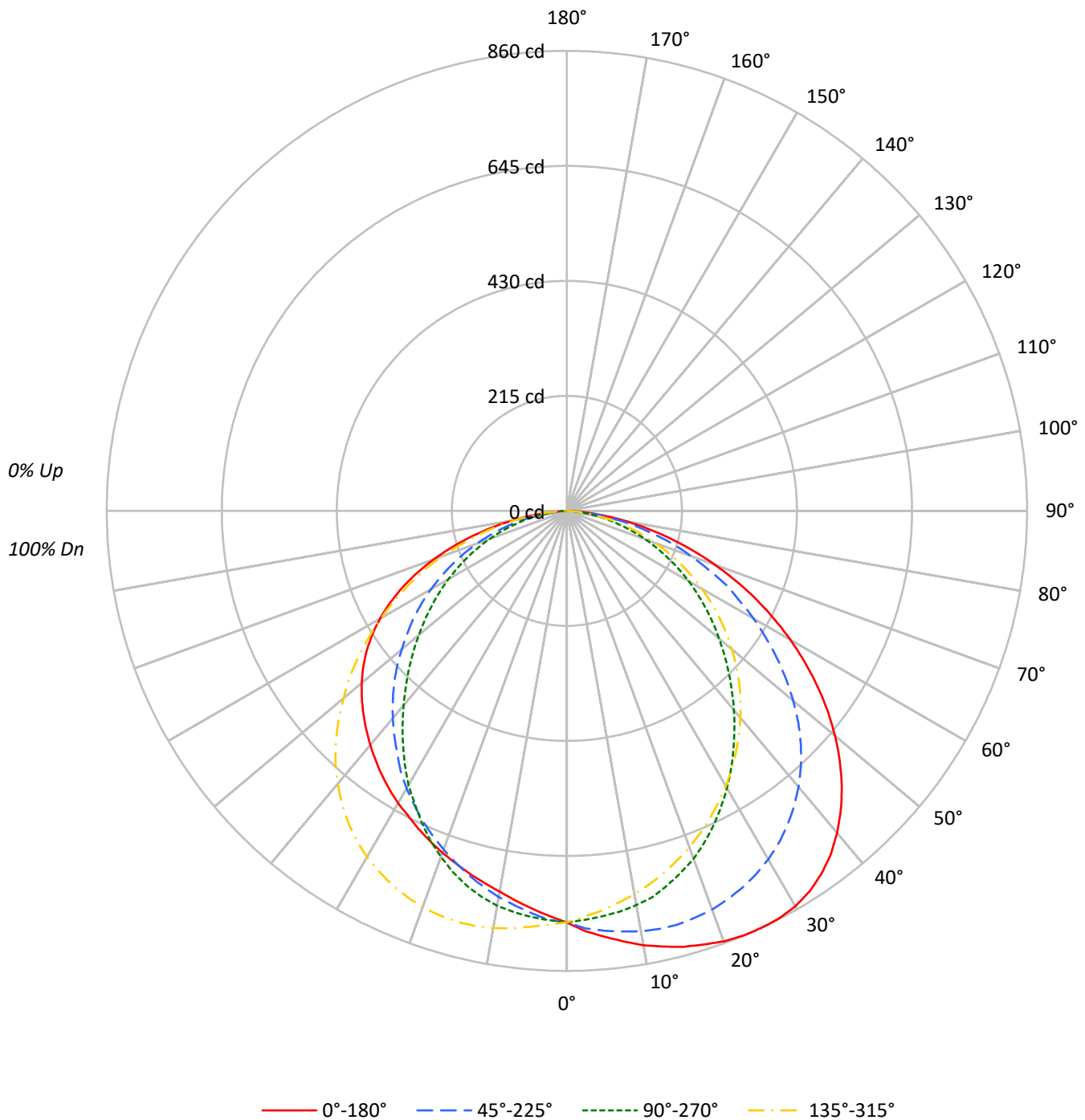
Lumens per Lamp: N/A
Luminaire Lumens: 2256.6 lumens
Efficiency: N/A
Efficacy: 67.8 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	86	86	84
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	70
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	61	61	59
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	52	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	45	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	40	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	35	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	31	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	28	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	26	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	2070	2070	2070	2070
5°	2157	2055	2016	2058
10°	2253	2044	1975	2047
15°	2350	2018	1956	2019
20°	2452	1982	1947	1970
25°	2554	1926	1947	1907
30°	2653	1859	1960	1839
35°	2723	1783	1980	1755
40°	2759	1706	2008	1668
45°	2765	1628	2046	1588
50°	2739	1554	2097	1513
55°	2682	1485	2143	1444
60°	2597	1413	2172	1376
65°	2481	1330	2160	1299
70°	2318	1232	2083	1210
75°	2086	1099	1912	1093
80°	1768	921	1607	934
85°	1229	608	1019	627



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.0	3.2
10°-20°	211.5	9.4
20°-30°	324.1	14.4
30°-40°	394.1	17.5
40°-50°	409.7	18.2
50°-60°	370.0	16.4
60°-70°	281.3	12.5
70°-80°	156.8	7.0
80°-90°	36.1	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°	608.6	27.0
0°-40°	1002.7	44.4
0°-60°	1782.4	79.0
0°-90°	2256.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2256.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	769	769	769	769	769	
5°	799	761	746	762	799	77
15°	844	724	702	725	844	239
25°	860	649	656	642	860	397
35°	829	543	603	534	829	518
45°	726	428	538	417	726	559
55°	572	316	457	308	572	510
65°	390	209	339	204	390	385
75°	201	106	184	105	201	213
85°	40	20	33	20	40	50
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°	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2
2.5°	786.2	774.7	774.9	785.0	777.2	781.0	770.2	774.4	773.1	774.0	765.2
5°	798.6	786.2	786.0	794.7	786.0	787.7	774.0	776.7	772.8	770.2	760.7
7.5°	811.7	799.3	798.1	805.6	794.3	793.0	778.0	778.0	770.8	764.5	755.5
10°	824.6	811.9	810.3	816.0	802.0	797.9	779.6	776.7	767.2	757.9	748.2
12.5°	834.3	821.4	820.1	823.7	807.9	800.4	779.6	774.0	760.0	746.9	739.4
15°	843.5	830.2	826.8	828.6	810.4	800.4	777.1	768.5	750.5	733.3	724.5
17.5°	849.9	837.2	833.8	833.6	811.7	797.3	771.7	759.8	738.3	717.5	708.7
20°	856.4	843.6	839.3	836.1	811.3	793.2	763.8	747.8	722.7	699.4	692.0
22.5°	859.6	846.5	841.8	837.0	809.0	785.7	754.1	733.8	705.1	677.3	671.2
25°	860.1	846.7	841.7	834.7	804.3	776.7	741.5	717.0	684.8	654.0	648.8
27.5°	858.7	844.0	839.0	830.5	797.3	765.8	726.7	697.8	663.3	629.2	623.7
30°	853.7	838.8	833.9	823.0	787.5	752.3	710.3	676.4	639.5	603.2	598.4
32.5°	843.6	829.1	825.2	814.2	776.7	736.7	691.3	653.4	613.1	578.4	571.3
35°	828.9	814.4	811.9	800.4	761.6	718.0	670.5	628.3	585.1	549.7	542.7
37.5°	809.7	797.5	793.8	782.4	743.9	696.9	646.6	601.1	556.6	518.5	514.2
40°	785.5	774.0	771.1	761.1	723.2	673.4	620.8	572.9	527.1	491.8	485.7
42.5°	757.9	747.1	745.5	735.1	697.8	647.3	592.8	543.6	496.5	462.4	456.3
45°	726.5	716.1	715.7	705.8	670.0	618.5	563.4	514.0	466.5	431.1	427.9
47.5°	691.8	682.5	682.5	673.4	638.9	586.7	533.1	483.2	436.3	405.1	399.4
50°	654.2	645.4	642.7	638.2	604.6	552.1	501.1	453.0	406.6	376.8	371.2
52.5°	614.0	606.4	608.2	600.0	567.5	516.0	468.8	419.1	376.6	349.5	343.9
55°	571.6	560.9	562.5	559.4	528.8	478.9	432.6	391.1	347.2	321.7	316.5
57.5°	527.7	513.7	519.4	517.6	487.5	440.8	399.4	359.4	317.9	294.4	289.4
60°	482.6	469.2	475.1	473.5	445.1	402.8	365.1	328.0	288.9	267.5	262.5
62.5°	436.3	424.0	429.4	428.1	402.1	363.9	331.0	296.9	259.6	240.4	235.8
65°	389.7	377.9	382.7	381.8	357.8	328.7	296.0	264.8	230.2	213.5	208.8
67.5°	342.0	331.0	335.5	335.5	313.4	285.6	260.9	232.3	201.3	187.0	182.6
70°	294.6	284.4	288.3	288.0	269.3	246.7	225.4	199.9	172.1	160.2	156.6
72.5°	246.9	237.9	241.5	241.1	225.5	211.0	189.8	167.8	143.5	134.0	130.8
75°	200.6	192.2	195.6	195.2	182.5	168.8	154.7	136.4	115.5	108.9	105.7
77.5°	156.5	147.8	150.7	150.7	141.4	131.5	120.2	106.0	91.3	84.1	81.8
80°	114.1	110.0	108.5	108.7	102.4	96.0	90.2	76.6	65.8	61.0	59.4
82.5°	75.0	71.6	70.2	70.5	66.9	63.0	59.4	49.9	42.7	39.8	38.9
85°	39.8	37.3	36.1	37.0	36.2	34.1	32.3	25.8	21.4	20.3	19.7
87.5°	12.6	10.9	10.0	13.3	11.3	10.0	9.7	7.7	5.9	5.9	5.7
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°	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2
2.5°	768.1	768.1	761.1	759.5	758.8	759.7	752.7	751.4	761.5	758.0	750.3
5°	762.0	761.6	751.8	750.0	750.0	748.9	741.0	739.2	749.3	746.4	738.0
7.5°	754.5	753.4	741.7	740.5	738.7	738.0	729.2	727.9	736.5	734.7	726.8
10°	745.3	744.2	730.4	729.5	727.5	726.1	717.9	717.0	725.8	722.9	716.6
12.5°	733.3	731.3	717.1	716.2	714.6	714.1	706.0	705.7	715.3	712.5	705.8
15°	717.5	715.9	700.1	700.5	700.6	700.6	694.2	693.8	703.3	702.1	694.9
17.5°	700.1	697.9	682.9	683.9	685.2	686.6	681.6	682.5	692.6	690.9	684.5
20°	680.4	678.2	663.5	666.5	669.2	672.1	668.9	671.4	680.7	680.0	675.2
22.5°	658.3	656.1	642.5	647.2	651.7	657.0	655.6	658.5	668.3	668.2	663.9
25°	631.4	631.9	619.9	625.6	633.2	640.7	641.2	645.9	656.9	655.8	651.8
27.5°	606.3	607.0	594.2	603.9	614.0	623.7	626.0	632.5	643.6	642.7	639.3
30°	579.9	580.8	568.4	581.7	593.9	605.7	610.7	619.5	630.8	630.8	627.3
32.5°	552.4	554.0	541.1	558.9	573.1	586.9	595.7	604.8	617.7	617.4	614.3
35°	524.3	526.1	514.2	536.8	551.0	567.9	578.8	591.0	602.5	602.7	600.3
37.5°	495.6	497.7	486.9	511.7	527.9	547.8	561.8	574.0	586.7	587.4	585.3
40°	467.0	469.4	460.0	483.9	504.3	526.6	542.7	557.1	571.1	571.5	570.0
42.5°	438.5	441.0	434.0	457.3	480.5	504.3	523.4	539.7	554.0	554.9	553.3
45°	410.7	412.8	407.8	433.3	455.5	481.6	503.5	521.9	536.5	537.7	537.2
47.5°	383.1	385.0	380.5	403.9	429.5	457.2	482.5	502.9	518.3	519.8	519.4
50°	356.0	357.6	352.7	377.1	402.6	432.0	458.4	482.1	499.3	500.8	500.6
52.5°	329.1	330.7	326.5	352.2	375.3	406.4	435.1	460.8	477.8	479.9	480.3
55°	303.0	303.8	300.5	325.1	347.5	380.0	413.0	438.0	455.0	456.8	457.9
57.5°	277.0	277.2	274.5	298.0	319.5	352.7	387.4	413.6	429.7	431.5	433.1
60°	251.2	251.0	248.0	270.7	291.4	324.2	360.3	386.3	401.9	403.5	405.7
62.5°	225.5	225.0	222.3	243.3	262.7	295.1	331.4	356.5	371.4	372.5	375.3
65°	200.1	199.5	197.0	216.4	234.0	265.0	300.5	324.4	337.8	339.3	338.7
67.5°	174.9	173.9	171.9	189.3	205.3	234.0	268.1	290.8	302.0	303.2	306.6
70°	149.8	148.6	144.1	162.6	176.5	202.2	234.0	254.2	263.6	264.8	264.3
72.5°	125.1	123.8	119.0	136.0	147.8	170.3	198.6	215.5	223.6	224.6	224.6
75°	101.0	100.3	97.2	110.2	120.0	138.3	162.4	176.4	182.6	183.9	183.5
77.5°	77.9	77.3	74.3	85.4	93.1	106.8	126.1	137.1	141.7	143.2	146.2
80°	55.8	55.6	50.8	61.7	65.1	76.6	90.8	99.2	101.7	103.7	105.9
82.5°	35.7	35.9	31.0	40.4	41.8	49.2	58.0	63.2	64.9	66.6	68.2
85°	17.4	18.1	15.4	21.4	21.5	25.3	29.1	31.0	31.8	33.0	34.4
87.5°	4.5	5.2	2.9	6.1	5.4	7.0	8.1	8.6	8.4	9.3	9.9
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°	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2
2.5°	752.8	758.6	755.7	765.0	768.6	762.9	772.9	773.1	765.9	774.4	779.0
5°	741.2	747.1	745.3	755.0	759.5	754.5	766.7	769.0	762.0	771.5	779.0
7.5°	729.3	736.3	734.0	743.9	749.3	745.3	758.4	762.2	756.8	767.2	777.2
10°	719.1	725.0	722.5	732.9	737.6	734.4	747.3	754.3	749.3	762.0	774.0
12.5°	709.1	713.9	711.0	719.7	724.1	720.0	735.8	742.3	738.7	751.9	767.4
15°	696.1	701.5	697.6	705.3	708.7	705.1	718.0	729.2	724.7	739.2	756.3
17.5°	686.3	689.3	683.9	690.0	692.0	687.2	700.3	711.2	708.0	723.8	743.5
20°	675.3	677.8	670.3	673.7	673.5	667.4	679.5	690.2	688.1	705.5	727.9
22.5°	663.1	664.4	655.6	656.3	656.0	645.9	656.7	667.6	666.7	684.3	709.4
25°	650.2	650.4	639.1	638.7	634.8	622.9	632.5	644.8	642.1	661.2	687.5
27.5°	637.5	635.7	622.0	618.8	612.5	598.4	606.8	617.9	616.3	635.0	664.2
30°	623.8	621.5	604.8	598.9	589.8	573.4	580.4	590.8	591.7	608.1	638.7
32.5°	610.9	605.0	586.5	577.9	566.4	547.4	551.2	561.8	563.2	579.7	611.3
35°	594.2	590.3	567.5	552.8	541.5	520.7	524.6	532.0	534.1	550.3	582.4
37.5°	578.4	572.2	547.9	530.0	515.5	493.6	494.7	502.2	504.3	520.7	552.4
40°	562.1	553.2	527.1	506.1	489.5	466.5	465.2	473.1	474.7	490.7	519.4
42.5°	544.7	534.0	504.7	481.7	462.5	439.2	436.7	443.5	445.3	460.9	489.1
45°	527.1	514.2	481.7	456.6	435.6	411.8	409.3	414.5	417.2	431.9	459.0
47.5°	508.5	493.4	458.1	430.1	408.4	384.5	381.4	386.6	388.8	403.3	429.0
50°	488.9	470.6	433.7	402.8	381.3	357.8	353.3	359.4	361.4	375.0	400.1
52.5°	467.4	447.1	407.6	375.3	353.8	331.4	326.0	331.9	334.3	347.5	370.7
55°	444.6	422.7	381.4	350.0	326.7	304.8	300.3	302.7	307.7	320.3	341.8
57.5°	418.9	397.2	353.8	321.9	299.5	278.5	274.7	276.8	281.5	293.7	313.1
60°	391.7	368.7	325.6	293.7	272.0	252.1	248.7	250.6	255.7	266.8	284.7
62.5°	364.8	338.9	296.6	264.8	245.1	226.6	225.7	225.0	229.7	240.4	256.2
65°	332.1	307.3	266.3	236.1	218.2	201.5	197.9	199.5	204.0	213.9	230.4
67.5°	297.1	274.7	235.2	207.4	191.4	176.5	173.5	174.2	178.9	187.5	201.8
70°	260.0	240.2	203.5	178.5	165.1	151.1	149.1	149.3	153.8	161.3	173.9
72.5°	221.0	203.3	171.3	150.0	138.9	128.8	127.0	124.9	129.0	135.5	146.2
75°	181.4	165.8	139.4	122.0	113.2	104.8	103.2	101.0	105.1	110.7	119.1
77.5°	141.4	128.8	108.4	94.9	88.1	81.8	80.4	78.0	82.2	86.3	92.9
80°	102.3	93.1	80.9	66.7	64.4	60.3	58.8	56.3	60.3	63.0	68.0
82.5°	66.0	59.9	52.9	43.1	42.7	39.7	38.9	36.1	39.7	41.3	45.0
85°	33.4	30.5	28.7	21.9	22.6	20.6	20.5	17.4	20.3	21.0	23.1
87.5°	9.5	10.0	9.0	5.4	6.8	6.5	6.5	4.7	6.5	6.5	7.4
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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CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2STD-20-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	769.2	769.2	769.2	769.2	769.2	769.2	769.2	769.2
2.5°	769.9	772.9	773.7	773.5	775.5	786.2	782.6	786.2
5°	771.7	778.5	780.3	782.8	786.0	798.2	794.3	798.6
7.5°	772.8	783.0	786.9	791.8	797.0	810.6	807.4	811.7
10°	772.8	786.0	791.8	799.9	806.9	822.6	819.6	824.6
12.5°	769.5	786.6	794.7	806.0	814.9	832.0	830.7	834.3
15°	762.9	783.9	795.0	809.5	820.7	839.7	839.1	843.5
17.5°	753.9	779.2	792.7	811.0	825.0	846.3	847.6	849.9
20°	742.6	770.4	788.0	810.4	828.0	851.5	853.1	856.4
22.5°	727.7	759.8	781.0	808.1	828.4	853.7	856.6	859.6
25°	710.1	747.1	771.9	803.6	826.6	853.5	857.4	860.1
27.5°	690.0	730.6	760.2	796.4	821.6	850.6	855.5	858.7
30°	666.7	713.0	746.9	787.1	814.7	845.2	850.5	853.7
32.5°	642.7	693.6	731.1	775.1	804.9	836.6	841.1	843.6
35°	616.5	670.1	712.1	759.7	792.1	822.8	826.2	828.9
37.5°	588.0	644.7	690.4	742.3	774.2	803.6	806.7	809.7
40°	558.5	617.9	666.0	720.9	752.8	780.1	783.3	785.5
42.5°	528.9	588.3	640.0	695.8	727.5	753.7	755.7	757.9
45°	499.0	557.6	610.7	668.0	699.4	724.0	724.7	726.5
47.5°	468.5	525.9	578.6	636.2	667.3	689.7	690.4	691.8
50°	437.8	494.1	544.4	602.0	632.3	656.0	652.7	654.2
52.5°	407.6	460.8	512.1	565.0	595.0	615.9	616.8	614.0
55°	378.0	428.1	475.3	526.2	554.8	571.1	570.6	571.6
57.5°	348.1	395.1	438.3	485.0	512.8	528.2	531.4	527.7
60°	317.6	361.7	400.5	442.6	469.5	482.5	486.2	482.6
62.5°	287.3	327.8	363.0	399.7	424.7	440.7	440.3	436.3
65°	256.9	293.7	325.1	356.3	378.0	394.0	393.3	389.7
67.5°	228.9	259.3	287.4	312.7	331.6	342.5	346.3	342.0
70°	198.1	224.3	249.0	269.3	284.9	294.8	298.4	294.6
72.5°	167.2	189.5	206.9	226.4	238.4	246.7	250.5	246.9
75°	136.7	155.0	169.2	184.4	192.9	199.9	204.2	200.6
77.5°	107.1	121.3	132.6	143.7	153.4	155.0	158.8	156.5
80°	78.9	89.2	97.4	104.8	111.8	112.5	115.5	114.1
82.5°	52.6	59.4	61.5	69.3	73.7	73.0	76.1	75.0
85°	27.8	31.9	35.7	38.0	40.5	38.2	40.9	39.8
87.5°	9.3	9.9	8.6	12.2	13.5	11.5	13.1	12.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)