

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: P838038

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1STD-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: P838038
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2R-LD4-1STD-20-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

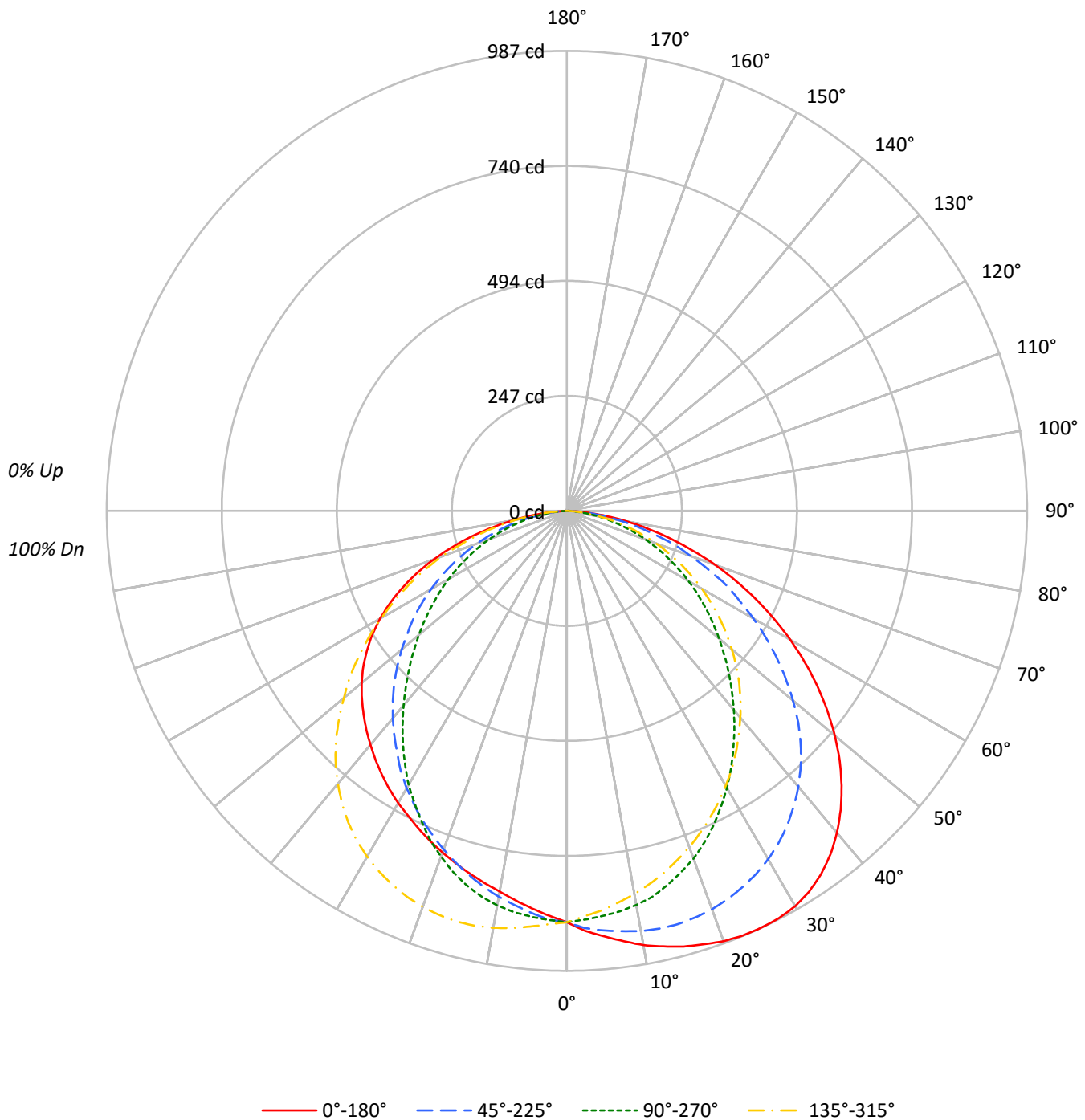
Lumens per Lamp: N/A
Luminaire Lumens: 2588.7 lumens
Efficiency: N/A
Efficacy: 77.7 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	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°	1187	1187	1187	1187
5°	1237	1179	1156	1181
10°	1292	1173	1133	1174
15°	1348	1158	1122	1158
20°	1407	1137	1117	1130
25°	1465	1105	1117	1094
30°	1521	1066	1124	1055
35°	1562	1023	1136	1006
40°	1583	979	1151	957
45°	1586	934	1174	910
50°	1571	891	1202	868
55°	1538	852	1229	828
60°	1490	810	1246	789
65°	1423	763	1239	745
70°	1330	707	1195	694
75°	1196	630	1097	627
80°	1014	528	922	536
85°	706	349	585	360

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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Peachtree City, GA 30269



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.8	3.2
10°-20°	242.6	9.4
20°-30°	371.8	14.4
30°-40°	452.1	17.5
40°-50°	469.9	18.2
50°-60°	424.5	16.4
60°-70°	322.7	12.5
70°-80°	179.9	7.0
80°-90°	41.4	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°	698.1	27.0
0°-40°	1150.2	44.4
0°-60°	2044.6	79.0
0°-90°	2588.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2588.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	882	882	882	882	882	
5°	916	873	856	874	916	88
15°	968	831	805	831	968	274
25°	987	744	752	737	987	456
35°	951	623	691	613	951	594
45°	833	491	617	478	833	642
55°	656	363	524	353	656	585
65°	447	240	389	234	447	442
75°	230	121	211	121	230	244
85°	46	23	38	23	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°	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4
2.5°	901.9	888.7	888.9	900.5	891.6	895.9	883.6	888.3	886.9	887.9	877.8
5°	916.1	901.9	901.7	911.6	901.7	903.6	887.9	891.0	886.5	883.6	872.7
7.5°	931.1	916.9	915.5	924.1	911.2	909.7	892.4	892.4	884.2	877.0	866.7
10°	946.0	931.3	929.5	936.1	920.0	915.3	894.3	891.0	880.1	869.4	858.3
12.5°	957.1	942.2	940.8	944.9	926.8	918.2	894.3	887.9	871.9	856.8	848.2
15°	967.6	952.3	948.4	950.5	929.7	918.2	891.4	881.5	860.9	841.2	831.1
17.5°	975.0	960.4	956.4	956.2	931.1	914.7	885.2	871.7	847.0	823.1	813.0
20°	982.4	967.8	962.8	959.1	930.7	909.9	876.2	857.9	829.0	802.3	793.9
22.5°	986.1	971.1	965.7	960.2	928.0	901.3	865.1	841.8	808.9	777.0	770.0
25°	986.7	971.3	965.5	957.5	922.7	891.0	850.7	822.5	785.6	750.2	744.2
27.5°	985.1	968.2	962.4	952.7	914.7	878.4	833.6	800.4	760.9	721.8	715.4
30°	979.3	962.2	956.7	944.1	903.3	863.0	814.8	775.9	733.5	692.0	686.4
32.5°	967.8	951.1	946.6	934.0	891.0	845.1	793.0	749.6	703.3	663.6	655.3
35°	950.9	934.2	931.3	918.2	873.7	823.7	769.2	720.8	671.2	630.6	622.6
37.5°	928.9	914.9	910.6	897.6	853.3	799.4	741.8	689.5	638.5	594.8	589.9
40°	901.1	887.9	884.6	873.1	829.7	772.4	712.1	657.2	604.7	564.2	557.2
42.5°	869.4	857.0	855.2	843.2	800.4	742.6	680.0	623.6	569.5	530.4	523.4
45°	833.4	821.4	821.0	809.7	768.5	709.5	646.3	589.7	535.1	494.6	490.9
47.5°	793.6	782.9	782.9	772.4	732.9	673.0	611.5	554.3	500.6	464.7	458.2
50°	750.4	740.3	737.3	732.1	693.6	633.3	574.9	519.7	466.4	432.2	425.8
52.5°	704.3	695.7	697.7	688.3	651.0	591.9	537.8	480.8	432.0	400.9	394.6
55°	655.7	643.4	645.2	641.7	606.6	549.3	496.2	448.7	398.3	369.0	363.1
57.5°	605.3	589.3	595.9	593.8	559.2	505.7	458.2	412.3	364.7	337.8	332.0
60°	553.7	538.2	545.0	543.2	510.6	462.1	418.8	376.2	331.4	306.9	301.1
62.5°	500.6	486.4	492.5	491.1	461.2	417.4	379.7	340.6	297.8	275.8	270.4
65°	447.0	433.5	439.0	438.0	410.4	377.1	339.6	303.8	264.1	244.9	239.6
67.5°	392.3	379.7	384.9	384.9	359.6	327.7	299.3	266.5	230.9	214.5	209.5
70°	338.0	326.2	330.8	330.3	308.9	283.0	258.5	229.3	197.4	183.8	179.7
72.5°	283.2	272.9	277.0	276.6	258.7	242.0	217.8	192.4	164.7	153.7	150.0
75°	230.1	220.4	224.3	223.9	209.3	193.7	177.4	156.4	132.5	124.9	121.2
77.5°	179.5	169.6	172.9	172.9	162.2	150.9	137.9	121.6	104.8	96.5	93.9
80°	130.9	126.2	124.5	124.7	117.5	110.1	103.5	87.9	75.5	70.0	68.1
82.5°	86.0	82.1	80.5	80.9	76.8	72.2	68.1	57.2	49.0	45.7	44.7
85°	45.7	42.8	41.4	42.4	41.6	39.1	37.0	29.6	24.5	23.3	22.6
87.5°	14.4	12.6	11.5	15.2	13.0	11.5	11.1	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°	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4
2.5°	881.1	881.1	873.1	871.2	870.4	871.4	863.4	862.0	873.5	869.6	860.7
5°	874.1	873.7	862.4	860.3	860.3	859.1	850.0	848.0	859.5	856.2	846.5
7.5°	865.5	864.2	850.9	849.4	847.4	846.5	836.5	835.0	844.9	842.8	833.8
10°	855.0	853.7	837.9	836.9	834.6	833.0	823.5	822.5	832.5	829.3	822.0
12.5°	841.2	838.9	822.7	821.6	819.8	819.2	809.9	809.5	820.6	817.3	809.7
15°	823.1	821.2	803.1	803.5	803.7	803.7	796.3	795.9	806.8	805.4	797.1
17.5°	803.1	800.6	783.4	784.6	786.0	787.7	781.9	782.9	794.5	792.6	785.2
20°	780.5	778.0	761.1	764.6	767.7	771.0	767.3	770.2	780.9	780.1	774.5
22.5°	755.2	752.7	737.0	742.4	747.5	753.7	752.1	755.4	766.7	766.5	761.5
25°	724.3	724.9	711.1	717.7	726.3	735.0	735.6	741.0	753.5	752.3	747.7
27.5°	695.5	696.3	681.7	692.8	704.3	715.4	718.1	725.5	738.3	737.3	733.3
30°	665.2	666.2	652.0	667.3	681.3	694.9	700.6	710.7	723.7	723.7	719.5
32.5°	633.7	635.6	620.8	641.1	657.4	673.2	683.3	693.8	708.6	708.2	704.7
35°	601.4	603.5	589.9	615.8	632.1	651.4	664.0	678.0	691.1	691.4	688.7
37.5°	568.5	570.9	558.6	587.0	605.5	628.4	644.4	658.4	673.0	673.9	671.4
40°	535.8	538.4	527.7	555.1	578.6	604.1	622.6	639.1	655.1	655.5	653.9
42.5°	503.0	505.9	497.9	524.6	551.2	578.6	600.4	619.1	635.6	636.6	634.8
45°	471.1	473.6	467.8	497.1	522.6	552.4	577.5	598.7	615.4	616.8	616.2
47.5°	439.4	441.7	436.5	463.3	492.7	524.4	553.5	576.9	594.6	596.3	595.9
50°	408.3	410.2	404.6	432.6	461.9	495.6	525.9	553.0	572.8	574.4	574.2
52.5°	377.5	379.3	374.6	404.0	430.6	466.2	499.1	528.5	548.1	550.6	551.0
55°	347.6	348.5	344.7	372.9	398.7	435.9	473.8	502.4	522.0	524.0	525.3
57.5°	317.8	318.0	314.9	341.9	366.6	404.6	444.4	474.4	492.9	495.0	496.9
60°	288.1	287.9	284.4	310.6	334.3	371.9	413.3	443.1	461.0	462.9	465.4
62.5°	258.7	258.1	255.0	279.1	301.3	338.6	380.2	409.0	426.0	427.3	430.6
65°	229.5	228.9	226.0	248.2	268.4	304.0	344.7	372.1	387.6	389.2	388.6
67.5°	200.7	199.4	197.2	217.1	235.5	268.4	307.5	333.6	346.4	347.8	351.7
70°	171.9	170.4	165.3	186.5	202.5	232.0	268.4	291.6	302.4	303.8	303.2
72.5°	143.5	142.0	136.5	156.0	169.6	195.3	227.8	247.2	256.5	257.7	257.7
75°	115.9	115.1	111.6	126.4	137.7	158.7	186.3	202.3	209.5	211.0	210.6
77.5°	89.3	88.7	85.2	98.0	106.8	122.5	144.7	157.2	162.6	164.2	167.7
80°	64.0	63.8	58.2	70.8	74.7	87.9	104.1	113.8	116.7	119.0	121.4
82.5°	41.0	41.2	35.6	46.3	48.0	56.4	66.5	72.4	74.5	76.4	78.2
85°	20.0	20.8	17.7	24.5	24.7	29.0	33.3	35.6	36.4	37.9	39.5
87.5°	5.1	6.0	3.3	7.0	6.2	8.0	9.3	9.9	9.7	10.7	11.3
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°	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4
2.5°	863.6	870.2	866.9	877.6	881.7	875.2	886.7	886.9	878.6	888.3	893.7
5°	850.2	857.0	855.0	866.1	871.2	865.5	879.5	882.1	874.1	885.0	893.7
7.5°	836.7	844.7	842.0	853.3	859.5	855.0	870.0	874.3	868.2	880.1	891.6
10°	824.9	831.7	828.8	840.8	846.1	842.4	857.2	865.3	859.5	874.1	887.9
12.5°	813.4	819.0	815.7	825.5	830.7	826.0	844.1	851.5	847.4	862.6	880.3
15°	798.6	804.8	800.2	809.1	813.0	808.9	823.7	836.5	831.3	848.0	867.5
17.5°	787.3	790.8	784.6	791.6	793.9	788.3	803.3	815.9	812.2	830.3	852.9
20°	774.7	777.6	768.9	772.9	772.7	765.7	779.4	791.8	789.3	809.3	835.0
22.5°	760.7	762.2	752.1	752.9	752.5	741.0	753.3	765.9	764.8	785.0	813.8
25°	745.9	746.1	733.1	732.7	728.2	714.6	725.5	739.7	736.6	758.4	788.7
27.5°	731.3	729.2	713.6	709.9	702.7	686.4	696.1	708.8	707.0	728.4	761.9
30°	715.6	713.0	693.8	687.0	676.5	657.8	665.8	677.8	678.8	697.5	732.7
32.5°	700.8	694.0	672.8	662.9	649.8	628.0	632.3	644.4	646.1	665.0	701.2
35°	681.7	677.2	651.0	634.1	621.2	597.3	601.8	610.3	612.7	631.3	668.1
37.5°	663.6	656.4	628.6	608.0	591.3	566.2	567.4	576.1	578.6	597.3	633.7
40°	644.8	634.5	604.7	580.6	561.5	535.1	533.7	542.7	544.6	562.9	595.9
42.5°	624.9	612.5	579.0	552.6	530.6	503.8	501.0	508.8	510.8	528.8	561.1
45°	604.7	589.9	552.6	523.8	499.7	472.4	469.5	475.4	478.5	495.4	526.5
47.5°	583.3	566.0	525.5	493.4	468.4	441.1	437.6	443.5	446.0	462.7	492.1
50°	560.9	539.9	497.5	462.1	437.4	410.4	405.3	412.3	414.5	430.2	459.0
52.5°	536.2	512.9	467.6	430.6	405.9	380.2	374.0	380.8	383.4	398.7	425.2
55°	510.0	484.9	437.6	401.6	374.8	349.7	344.5	347.2	353.0	367.4	392.1
57.5°	480.6	455.7	405.9	369.2	343.5	319.4	315.1	317.6	322.9	336.9	359.2
60°	449.3	423.0	373.6	336.9	312.0	289.2	285.3	287.5	293.3	306.1	326.6
62.5°	418.4	388.8	340.2	303.8	281.2	260.0	258.9	258.1	263.5	275.8	293.9
65°	381.0	352.6	305.4	270.9	250.3	231.1	227.0	228.9	234.0	245.3	264.3
67.5°	340.8	315.1	269.8	237.9	219.6	202.5	199.0	199.9	205.2	215.1	231.5
70°	298.2	275.6	233.4	204.8	189.4	173.3	171.0	171.2	176.4	185.0	199.4
72.5°	253.6	233.2	196.6	172.1	159.3	147.8	145.7	143.3	148.0	155.4	167.7
75°	208.1	190.2	159.9	140.0	129.9	120.2	118.3	115.9	120.6	127.0	136.7
77.5°	162.2	147.8	124.3	108.9	101.1	93.9	92.2	89.5	94.3	99.0	106.6
80°	117.3	106.8	92.8	76.6	73.9	69.2	67.5	64.6	69.2	72.2	78.0
82.5°	75.7	68.7	60.7	49.4	49.0	45.5	44.7	41.4	45.5	47.3	51.7
85°	38.3	35.0	32.9	25.1	25.9	23.7	23.5	20.0	23.3	24.1	26.6
87.5°	10.9	11.5	10.3	6.2	7.8	7.4	7.4	5.4	7.4	7.4	8.4
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-24-4-INS-ASY2R-LD4-1STD-20-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	882.4	882.4	882.4	882.4	882.4	882.4	882.4	882.4
2.5°	883.2	886.7	887.5	887.3	889.6	901.9	897.8	901.9
5°	885.2	893.1	895.1	898.0	901.7	915.7	911.2	916.1
7.5°	886.5	898.2	902.7	908.3	914.3	929.9	926.2	931.1
10°	886.5	901.7	908.3	917.5	925.6	943.7	940.2	946.0
12.5°	882.8	902.3	911.6	924.5	934.8	954.4	953.0	957.1
15°	875.2	899.2	912.0	928.7	941.4	963.2	962.6	967.6
17.5°	864.9	893.9	909.3	930.3	946.4	970.9	972.3	975.0
20°	851.9	883.8	904.0	929.7	949.9	976.8	978.7	982.4
22.5°	834.8	871.7	895.9	927.0	950.3	979.3	982.6	986.1
25°	814.6	857.0	885.4	921.9	948.2	979.1	983.6	986.7
27.5°	791.6	838.1	872.1	913.6	942.5	975.8	981.4	985.1
30°	764.8	817.9	856.8	902.9	934.6	969.6	975.6	979.3
32.5°	737.3	795.7	838.7	889.1	923.3	959.7	964.9	967.8
35°	707.2	768.7	816.9	871.4	908.7	943.9	947.8	950.9
37.5°	674.5	739.5	792.0	851.5	888.1	921.9	925.4	928.9
40°	640.7	708.8	764.0	827.0	863.6	894.9	898.6	901.1
42.5°	606.8	674.9	734.2	798.2	834.6	864.7	866.9	869.4
45°	572.4	639.7	700.6	766.3	802.3	830.5	831.3	833.4
47.5°	537.4	603.3	663.8	729.8	765.4	791.2	792.0	793.6
50°	502.2	566.8	624.5	690.5	725.3	752.5	748.8	750.4
52.5°	467.6	528.5	587.4	648.1	682.5	706.6	707.6	704.3
55°	433.7	491.1	545.2	603.7	636.4	655.1	654.5	655.7
57.5°	399.3	453.2	502.8	556.3	588.2	605.9	609.6	605.3
60°	364.3	414.9	459.4	507.8	538.6	553.5	557.8	553.7
62.5°	329.5	376.0	416.4	458.6	487.2	505.5	505.1	500.6
65°	294.7	336.9	372.9	408.8	433.7	452.0	451.2	447.0
67.5°	262.6	297.4	329.7	358.7	380.4	392.9	397.2	392.3
70°	227.2	257.3	285.7	308.9	326.8	338.2	342.3	338.0
72.5°	191.8	217.3	237.3	259.7	273.5	283.0	287.3	283.2
75°	156.8	177.8	194.1	211.6	221.3	229.3	234.2	230.1
77.5°	122.9	139.1	152.1	164.9	176.0	177.8	182.2	179.5
80°	90.6	102.3	111.8	120.2	128.2	129.0	132.5	130.9
82.5°	60.3	68.1	70.6	79.4	84.6	83.8	87.3	86.0
85°	31.9	36.6	41.0	43.6	46.5	43.8	46.9	45.7
87.5°	10.7	11.3	9.9	14.0	15.4	13.2	15.0	14.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)