

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: P838055

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1LO-27-120-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: P838055
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-LD4-1LO-27-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

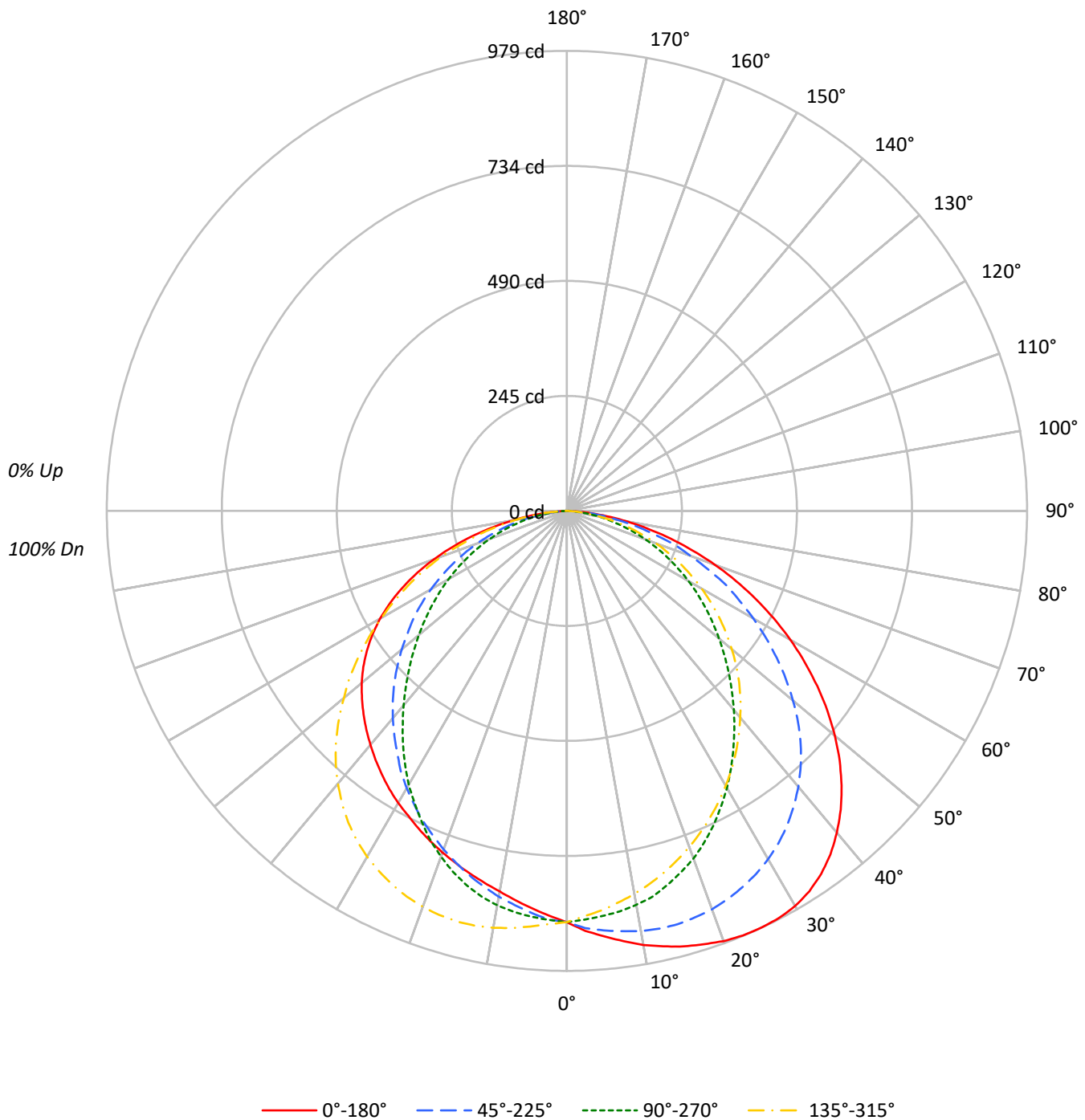
Lumens per Lamp: N/A
Luminaire Lumens: 2567.4 lumens
Efficiency: N/A
Efficacy: 109.7 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	89		90
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	88	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		56
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1177	1177	1177	1177
5°	1227	1169	1147	1171
10°	1282	1163	1124	1165
15°	1337	1148	1113	1148
20°	1395	1127	1108	1121
25°	1453	1096	1108	1085
30°	1509	1058	1115	1046
35°	1549	1014	1126	998
40°	1570	971	1142	949
45°	1573	926	1164	903
50°	1558	884	1193	861
55°	1525	845	1219	821
60°	1478	804	1235	783
65°	1412	756	1229	739
70°	1319	701	1185	688
75°	1186	625	1088	622
80°	1006	524	914	532
85°	699	347	580	357

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.1	3.2
10°-20°	240.6	9.4
20°-30°	368.7	14.4
30°-40°	448.3	17.5
40°-50°	466.1	18.2
50°-60°	421.0	16.4
60°-70°	320.1	12.5
70°-80°	178.4	7.0
80°-90°	41.1	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°	692.4	27.0
0°-40°	1140.7	44.4
0°-60°	2027.8	79.0
0°-90°	2567.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2567.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	875	875	875	875	875	
5°	909	866	849	867	909	88
15°	960	824	799	824	960	272
25°	979	738	746	731	979	452
35°	943	618	686	608	943	589
45°	826	487	612	475	826	636
55°	650	360	520	350	650	581
65°	443	238	386	232	443	438
75°	228	120	209	120	228	242
85°	45	22	38	23	45	57
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°	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1
2.5°	894.5	881.4	881.6	893.0	884.3	888.6	876.3	881.0	879.6	880.6	870.6
5°	908.6	894.5	894.3	904.1	894.3	896.1	880.6	883.7	879.2	876.3	865.5
7.5°	923.5	909.4	907.9	916.5	903.7	902.2	885.1	885.1	876.9	869.8	859.6
10°	938.2	923.7	921.8	928.4	912.4	907.7	886.9	883.7	872.8	862.2	851.2
12.5°	949.2	934.5	933.1	937.1	919.2	910.6	886.9	880.6	864.7	849.8	841.2
15°	959.6	944.5	940.6	942.6	922.0	910.6	884.1	874.3	853.9	834.3	824.3
17.5°	966.9	952.4	948.6	948.4	923.5	907.1	877.9	864.5	840.0	816.3	806.3
20°	974.3	959.8	954.9	951.2	923.0	902.4	869.0	850.8	822.2	795.7	787.3
22.5°	978.0	963.1	957.8	952.2	920.4	893.9	857.9	834.9	802.2	770.6	763.6
25°	978.6	963.3	957.5	949.6	915.1	883.7	843.6	815.7	779.1	744.0	738.1
27.5°	976.9	960.2	954.5	944.9	907.1	871.2	826.7	793.8	754.6	715.9	709.5
30°	971.2	954.3	948.8	936.3	895.9	855.9	808.1	769.5	727.5	686.3	680.8
32.5°	959.8	943.3	938.8	926.3	883.7	838.1	786.5	743.4	697.5	658.1	649.9
35°	943.1	926.5	923.7	910.6	866.5	816.9	762.8	714.8	665.6	625.4	617.5
37.5°	921.2	907.3	903.0	890.2	846.3	792.8	735.7	683.8	633.2	589.9	585.0
40°	893.7	880.6	877.3	865.9	822.8	766.1	706.3	651.8	599.7	559.5	552.6
42.5°	862.2	850.0	848.1	836.3	793.8	736.5	674.4	618.5	564.8	526.0	519.1
45°	826.5	814.7	814.3	803.0	762.2	703.6	640.9	584.8	530.7	490.5	486.8
47.5°	787.1	776.5	776.5	766.1	726.9	667.5	606.5	549.7	496.4	460.9	454.4
50°	744.2	734.2	731.2	726.1	687.9	628.1	570.1	515.4	462.5	428.7	422.3
52.5°	698.5	689.9	692.0	682.6	645.6	587.1	533.4	476.8	428.5	397.6	391.3
55°	650.3	638.1	639.9	636.5	601.6	544.8	492.1	445.0	395.0	366.0	360.1
57.5°	600.3	584.4	590.9	588.9	554.6	501.5	454.4	408.9	361.7	335.0	329.3
60°	549.1	533.8	540.5	538.7	506.4	458.3	415.4	373.1	328.6	304.3	298.6
62.5°	496.4	482.3	488.5	487.0	457.4	414.0	376.6	337.8	295.4	273.5	268.2
65°	443.4	429.9	435.4	434.4	407.0	374.0	336.8	301.3	261.9	242.9	237.6
67.5°	389.1	376.6	381.7	381.7	356.6	325.0	296.8	264.3	229.0	212.7	207.8
70°	335.2	323.5	328.0	327.6	306.4	280.7	256.4	227.4	195.8	182.3	178.2
72.5°	280.9	270.7	274.8	274.3	256.6	240.0	216.0	190.9	163.3	152.5	148.8
75°	228.2	218.6	222.5	222.1	207.6	192.1	176.0	155.1	131.5	123.9	120.2
77.5°	178.0	168.2	171.5	171.5	160.8	149.6	136.8	120.6	103.9	95.7	93.1
80°	129.8	125.1	123.5	123.7	116.6	109.2	102.7	87.2	74.9	69.4	67.6
82.5°	85.3	81.4	79.8	80.2	76.1	71.6	67.6	56.7	48.6	45.3	44.3
85°	45.3	42.5	41.0	42.0	41.2	38.8	36.7	29.4	24.3	23.1	22.5
87.5°	14.3	12.5	11.4	15.1	12.9	11.4	11.0	8.8	6.7	6.7	6.5
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°	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1
2.5°	873.9	873.9	865.9	864.1	863.2	864.3	856.3	854.9	866.3	862.4	853.6
5°	866.9	866.5	855.3	853.2	853.2	852.0	843.0	841.0	852.4	849.2	839.6
7.5°	858.3	857.1	843.8	842.4	840.4	839.6	829.6	828.1	837.9	835.9	826.9
10°	847.9	846.7	831.0	830.0	827.7	826.1	816.7	815.7	825.7	822.4	815.3
12.5°	834.3	832.0	815.9	814.9	813.0	812.4	803.2	802.8	813.8	810.6	803.0
15°	816.3	814.5	796.5	796.9	797.1	797.1	789.8	789.3	800.2	798.7	790.6
17.5°	796.5	794.0	776.9	778.1	779.6	781.2	775.5	776.5	787.9	786.1	778.7
20°	774.0	771.6	754.9	758.3	761.4	764.6	761.0	763.8	774.4	773.6	768.1
22.5°	748.9	746.5	731.0	736.3	741.4	747.5	745.9	749.1	760.4	760.2	755.3
25°	718.3	718.9	705.2	711.8	720.4	728.9	729.5	734.8	747.3	746.1	741.6
27.5°	689.7	690.6	676.1	687.1	698.5	709.5	712.2	719.5	732.2	731.2	727.3
30°	659.7	660.7	646.7	661.8	675.7	689.1	694.8	704.8	717.7	717.7	713.6
32.5°	628.5	630.3	615.6	635.8	652.0	667.7	677.7	688.1	702.8	702.4	698.9
35°	596.5	598.5	585.0	610.7	626.9	646.1	658.5	672.4	685.4	685.7	683.0
37.5°	563.8	566.2	554.0	582.2	600.5	623.2	639.1	653.0	667.5	668.3	665.9
40°	531.3	534.0	523.4	550.5	573.8	599.1	617.5	633.8	649.7	650.1	648.5
42.5°	498.9	501.7	493.8	520.3	546.6	573.8	595.4	614.0	630.3	631.4	629.5
45°	467.2	469.7	464.0	493.0	518.3	547.9	572.8	593.8	610.3	611.8	611.1
47.5°	435.8	438.1	432.9	459.5	488.7	520.1	548.9	572.2	589.7	591.3	590.9
50°	405.0	406.8	401.3	429.1	458.1	491.5	521.5	548.5	568.1	569.7	569.5
52.5°	374.4	376.2	371.5	400.7	427.0	462.3	495.0	524.2	543.6	546.0	546.4
55°	344.8	345.6	341.9	369.9	395.4	432.3	469.9	498.3	517.7	519.7	520.9
57.5°	315.2	315.4	312.3	339.1	363.5	401.3	440.7	470.5	488.9	490.9	492.8
60°	285.8	285.6	282.1	308.0	331.5	368.9	409.9	439.5	457.2	459.1	461.5
62.5°	256.6	256.0	252.9	276.8	298.8	335.8	377.0	405.6	422.5	423.8	427.0
65°	227.6	227.0	224.1	246.2	266.2	301.5	341.9	369.1	384.4	386.0	385.4
67.5°	199.0	197.8	195.6	215.4	233.5	266.2	305.0	330.9	343.5	345.0	348.8
70°	170.4	169.0	163.9	184.9	200.9	230.0	266.2	289.2	299.9	301.3	300.7
72.5°	142.3	140.8	135.3	154.7	168.2	193.7	226.0	245.2	254.3	255.6	255.6
75°	114.9	114.1	110.6	125.3	136.6	157.4	184.7	200.7	207.8	209.2	208.8
77.5°	88.6	88.0	84.5	97.2	105.9	121.5	143.5	156.0	161.3	162.9	166.4
80°	63.5	63.3	57.8	70.2	74.1	87.2	103.3	112.9	115.7	118.0	120.4
82.5°	40.6	40.8	35.3	45.9	47.6	55.9	65.9	71.9	73.9	75.7	77.6
85°	19.8	20.6	17.6	24.3	24.5	28.8	33.1	35.3	36.1	37.6	39.2
87.5°	5.1	5.9	3.3	6.9	6.1	8.0	9.2	9.8	9.6	10.6	11.2
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°	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1
2.5°	856.5	863.0	859.8	870.4	874.5	867.9	879.4	879.6	871.4	881.0	886.3
5°	843.2	850.0	847.9	859.0	864.1	858.3	872.2	874.9	866.9	877.7	886.3
7.5°	829.8	837.7	835.1	846.3	852.4	847.9	862.8	867.1	861.0	872.8	884.3
10°	818.1	824.9	822.0	833.8	839.2	835.5	850.2	858.1	852.4	866.9	880.6
12.5°	806.7	812.2	808.9	818.7	823.8	819.2	837.1	844.5	840.4	855.5	873.0
15°	792.0	798.1	793.6	802.4	806.3	802.2	816.9	829.6	824.5	841.0	860.4
17.5°	780.8	784.2	778.1	785.1	787.3	781.8	796.7	809.1	805.5	823.4	845.9
20°	768.3	771.2	762.6	766.5	766.3	759.3	773.0	785.3	782.8	802.6	828.1
22.5°	754.4	755.9	745.9	746.7	746.3	734.8	747.1	759.5	758.5	778.5	807.1
25°	739.7	739.9	727.1	726.7	722.2	708.7	719.5	733.6	730.6	752.2	782.2
27.5°	725.3	723.2	707.7	704.0	696.9	680.8	690.3	703.0	701.2	722.4	755.7
30°	709.7	707.1	688.1	681.4	671.0	652.4	660.3	672.2	673.2	691.8	726.7
32.5°	695.0	688.3	667.3	657.5	644.4	622.8	627.1	639.1	640.7	659.5	695.5
35°	676.1	671.6	645.6	628.9	616.0	592.4	596.9	605.2	607.7	626.0	662.6
37.5°	658.1	651.0	623.4	603.0	586.4	561.5	562.8	571.3	573.8	592.4	628.5
40°	639.5	629.3	599.7	575.8	556.9	530.7	529.3	538.3	540.1	558.3	590.9
42.5°	619.7	607.5	574.2	548.1	526.2	499.7	496.8	504.6	506.6	524.4	556.4
45°	599.7	585.0	548.1	519.5	495.6	468.5	465.6	471.5	474.6	491.3	522.1
47.5°	578.5	561.3	521.1	489.3	464.6	437.4	434.0	439.9	442.3	458.9	488.1
50°	556.2	535.4	493.4	458.3	433.8	407.0	401.9	408.9	411.1	426.6	455.2
52.5°	531.7	508.7	463.8	427.0	402.5	377.0	370.9	377.6	380.3	395.4	421.7
55°	505.8	480.9	434.0	398.2	371.7	346.8	341.7	344.4	350.1	364.4	388.9
57.5°	476.6	451.9	402.5	366.2	340.7	316.8	312.5	315.0	320.3	334.2	356.2
60°	445.6	419.5	370.5	334.2	309.5	286.8	282.9	285.2	290.9	303.5	323.9
62.5°	415.0	385.6	337.4	301.3	278.8	257.8	256.8	256.0	261.3	273.5	291.5
65°	377.8	349.7	302.9	268.6	248.2	229.2	225.1	227.0	232.1	243.3	262.1
67.5°	338.0	312.5	267.6	236.0	217.8	200.9	197.4	198.2	203.5	213.3	229.6
70°	295.8	273.3	231.5	203.1	187.8	171.9	169.6	169.8	174.9	183.5	197.8
72.5°	251.5	231.3	194.9	170.6	158.0	146.6	144.5	142.1	146.8	154.1	166.4
75°	206.4	188.6	158.6	138.8	128.8	119.2	117.4	114.9	119.6	125.9	135.5
77.5°	160.8	146.6	123.3	108.0	100.2	93.1	91.4	88.8	93.5	98.2	105.7
80°	116.4	105.9	92.1	75.9	73.3	68.6	67.0	64.1	68.6	71.6	77.4
82.5°	75.1	68.2	60.2	49.0	48.6	45.1	44.3	41.0	45.1	46.9	51.2
85°	38.0	34.7	32.7	24.9	25.7	23.5	23.3	19.8	23.1	23.9	26.3
87.5°	10.8	11.4	10.2	6.1	7.8	7.3	7.3	5.3	7.3	7.3	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-LD4-1LO-27-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	875.1	875.1	875.1	875.1	875.1	875.1	875.1	875.1
2.5°	875.9	879.4	880.2	880.0	882.2	894.5	890.4	894.5
5°	877.9	885.7	887.7	890.6	894.3	908.1	903.7	908.6
7.5°	879.2	890.8	895.3	900.8	906.7	922.2	918.6	923.5
10°	879.2	894.3	900.8	910.0	917.9	935.9	932.4	938.2
12.5°	875.5	894.9	904.1	916.9	927.1	946.5	945.1	949.2
15°	867.9	891.8	904.5	921.0	933.7	955.3	954.7	959.6
17.5°	857.7	886.5	901.8	922.6	938.6	962.9	964.3	966.9
20°	844.9	876.5	896.5	922.0	942.0	968.8	970.6	974.3
22.5°	827.9	864.5	888.6	919.4	942.4	971.2	974.5	978.0
25°	807.9	850.0	878.1	914.3	940.4	971.0	975.5	978.6
27.5°	785.1	831.2	864.9	906.1	934.7	967.8	973.3	976.9
30°	758.5	811.2	849.8	895.5	926.9	961.6	967.5	971.2
32.5°	731.2	789.1	831.8	881.8	915.7	951.8	956.9	959.8
35°	701.4	762.4	810.2	864.3	901.2	936.1	940.0	943.1
37.5°	668.9	733.4	785.5	844.5	880.8	914.3	917.7	921.2
40°	635.4	703.0	757.7	820.2	856.5	887.5	891.2	893.7
42.5°	601.8	669.3	728.1	791.6	827.7	857.5	859.8	862.2
45°	567.7	634.4	694.8	760.0	795.7	823.6	824.5	826.5
47.5°	533.0	598.3	658.3	723.8	759.1	784.7	785.5	787.1
50°	498.1	562.2	619.3	684.8	719.3	746.3	742.6	744.2
52.5°	463.8	524.2	582.6	642.8	676.9	700.8	701.8	698.5
55°	430.1	487.0	540.7	598.7	631.2	649.7	649.1	650.3
57.5°	396.0	449.5	498.7	551.7	583.4	600.9	604.6	600.3
60°	361.3	411.5	455.6	503.6	534.2	548.9	553.2	549.1
62.5°	326.8	372.9	412.9	454.8	483.2	501.3	500.9	496.4
65°	292.3	334.2	369.9	405.4	430.1	448.3	447.4	443.4
67.5°	260.5	295.0	327.0	355.8	377.2	389.7	394.0	389.1
70°	225.4	255.2	283.3	306.4	324.1	335.4	339.5	335.2
72.5°	190.2	215.6	235.4	257.6	271.3	280.7	285.0	280.9
75°	155.5	176.4	192.5	209.8	219.4	227.4	232.3	228.2
77.5°	121.9	138.0	150.8	163.5	174.5	176.4	180.6	178.0
80°	89.8	101.4	110.8	119.2	127.2	128.0	131.5	129.8
82.5°	59.8	67.6	70.0	78.8	83.9	83.1	86.5	85.3
85°	31.6	36.3	40.6	43.3	46.1	43.5	46.5	45.3
87.5°	10.6	11.2	9.8	13.9	15.3	13.1	14.9	14.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)