

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: P838003

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1HI-40-120-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: P838003
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-40-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

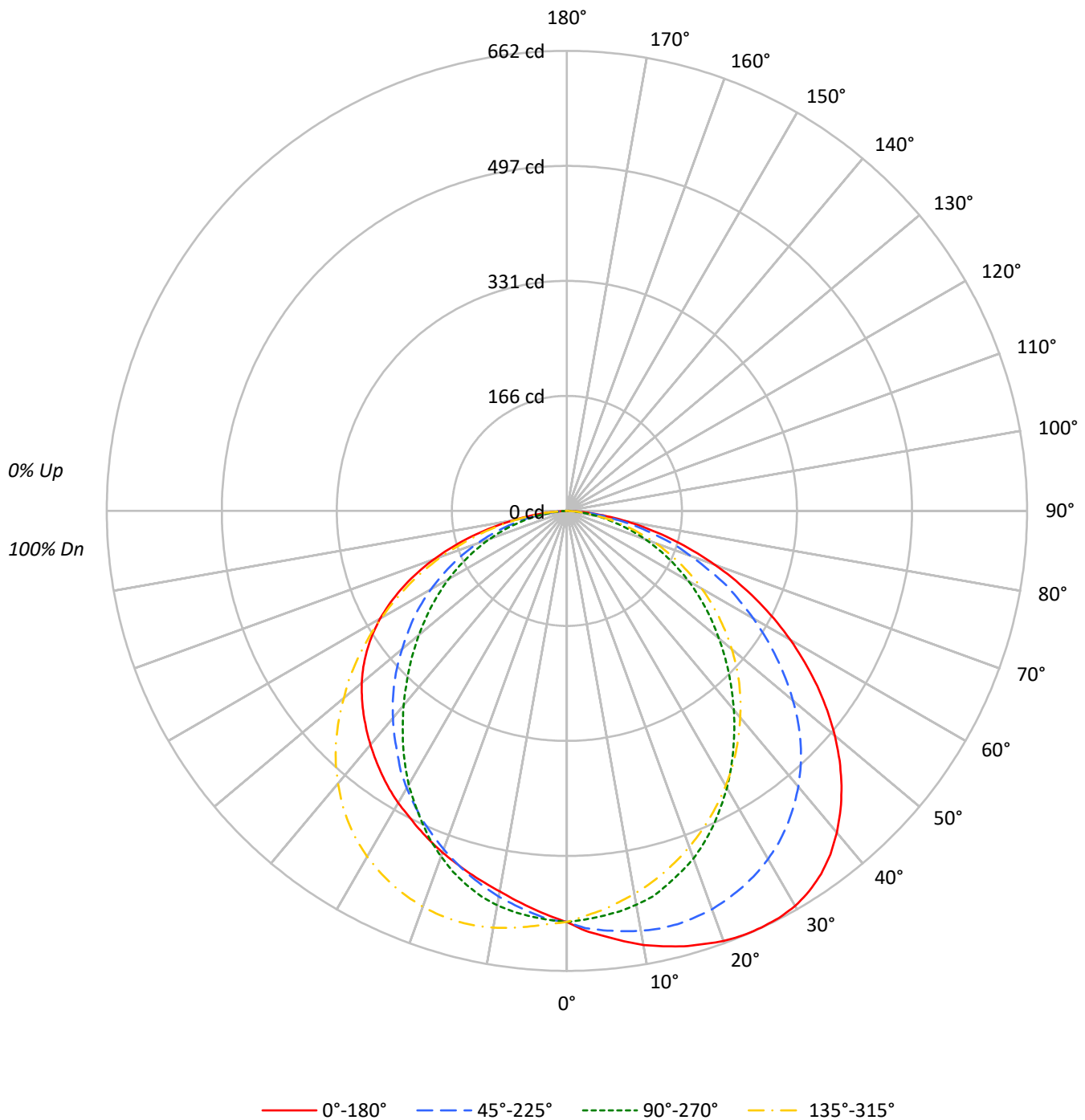
Lumens per Lamp: N/A
Luminaire Lumens: 1735.8 lumens
Efficiency: N/A
Efficacy: 78.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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°	1592	1592	1592	1592
5°	1659	1581	1551	1583
10°	1733	1573	1519	1575
15°	1807	1553	1504	1553
20°	1886	1524	1498	1516
25°	1964	1482	1498	1466
30°	2040	1430	1508	1414
35°	2095	1372	1523	1350
40°	2122	1312	1544	1283
45°	2127	1253	1574	1221
50°	2107	1195	1613	1164
55°	2063	1142	1649	1110
60°	1998	1087	1671	1059
65°	1909	1023	1662	999
70°	1783	948	1603	931
75°	1604	845	1471	841
80°	1361	708	1237	719
85°	945	469	784	482

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°	56.2	3.2
10°-20°	162.7	9.4
20°-30°	249.3	14.4
30°-40°	303.1	17.5
40°-50°	315.1	18.2
50°-60°	284.6	16.4
60°-70°	216.4	12.5
70°-80°	120.6	7.0
80°-90°	27.8	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°	468.1	27.0
0°-40°	771.2	44.4
0°-60°	1371.0	79.0
0°-90°	1735.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1735.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	592	592	592	592	592	
5°	614	585	574	586	614	59
15°	649	557	540	557	649	184
25°	662	499	504	494	662	306
35°	638	418	464	411	638	398
45°	559	329	414	321	559	430
55°	440	243	351	237	440	393
65°	300	161	261	157	300	296
75°	154	81	142	81	154	164
85°	31	15	25	16	31	39
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°	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6
2.5°	604.8	595.9	596.1	603.8	597.9	600.8	592.5	595.6	594.7	595.4	588.6
5°	614.3	604.8	604.6	611.2	604.6	605.9	595.4	597.4	594.4	592.5	585.2
7.5°	624.4	614.8	613.9	619.7	611.0	610.0	598.4	598.4	592.9	588.1	581.2
10°	634.3	624.5	623.2	627.7	616.9	613.7	599.6	597.4	590.1	582.9	575.5
12.5°	641.7	631.8	630.8	633.6	621.5	615.7	599.6	595.4	584.6	574.5	568.7
15°	648.8	638.6	635.9	637.3	623.4	615.7	597.7	591.1	577.3	564.0	557.3
17.5°	653.7	643.9	641.3	641.2	624.4	613.3	593.6	584.5	567.9	551.9	545.1
20°	658.7	648.9	645.6	643.1	624.1	610.1	587.5	575.2	555.9	538.0	532.3
22.5°	661.2	651.1	647.5	643.8	622.3	604.3	580.1	564.5	542.4	521.0	516.3
25°	661.6	651.3	647.4	642.0	618.7	597.4	570.4	551.5	526.8	503.0	499.0
27.5°	660.5	649.2	645.3	638.8	613.3	589.0	558.9	536.7	510.2	484.0	479.7
30°	656.6	645.2	641.5	633.0	605.7	578.7	546.4	520.3	491.9	464.0	460.3
32.5°	648.9	637.7	634.7	626.3	597.4	566.7	531.7	502.6	471.6	444.9	439.4
35°	637.6	626.4	624.5	615.7	585.8	552.3	515.7	483.3	450.0	422.9	417.5
37.5°	622.8	613.4	610.6	601.9	572.2	536.0	497.4	462.3	428.1	398.8	395.5
40°	604.2	595.4	593.2	585.4	556.3	517.9	477.5	440.7	405.5	378.3	373.6
42.5°	582.9	574.7	573.4	565.4	536.7	497.9	456.0	418.2	381.9	355.6	351.0
45°	558.8	550.8	550.5	542.9	515.3	475.7	433.3	395.4	358.8	331.6	329.2
47.5°	532.2	525.0	525.0	517.9	491.4	451.3	410.0	371.7	335.6	311.6	307.2
50°	503.2	496.4	494.3	490.9	465.1	424.7	385.5	348.5	312.7	289.8	285.5
52.5°	472.3	466.5	467.9	461.5	436.5	396.9	360.6	322.4	289.7	268.8	264.6
55°	439.7	431.4	432.7	430.3	406.7	368.3	332.7	300.9	267.0	247.5	243.4
57.5°	405.9	395.1	399.5	398.2	375.0	339.1	307.2	276.4	244.6	226.5	222.6
60°	371.2	360.9	365.4	364.2	342.4	309.8	280.8	252.3	222.2	205.8	201.9
62.5°	335.6	326.1	330.3	329.3	309.3	279.9	254.6	228.4	199.7	184.9	181.3
65°	299.8	290.6	294.4	293.7	275.2	252.8	227.7	203.7	177.1	164.2	160.6
67.5°	263.0	254.6	258.1	258.1	241.1	219.7	200.7	178.7	154.8	143.8	140.5
70°	226.6	218.7	221.8	221.5	207.2	189.8	173.3	153.7	132.4	123.2	120.5
72.5°	189.9	183.0	185.8	185.5	173.5	162.3	146.0	129.0	110.4	103.1	100.6
75°	154.3	147.8	150.4	150.2	140.4	129.9	119.0	104.9	88.9	83.8	81.3
77.5°	120.3	113.7	115.9	115.9	108.8	101.2	92.5	81.6	70.2	64.7	62.9
80°	87.8	84.6	83.5	83.6	78.8	73.8	69.4	58.9	50.6	46.9	45.7
82.5°	57.7	55.1	54.0	54.2	51.5	48.4	45.7	38.4	32.8	30.6	29.9
85°	30.6	28.7	27.7	28.4	27.9	26.2	24.8	19.9	16.4	15.6	15.2
87.5°	9.7	8.4	7.7	10.2	8.7	7.7	7.5	5.9	4.6	4.6	4.4
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°	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6
2.5°	590.8	590.8	585.4	584.2	583.6	584.3	578.9	578.0	585.7	583.1	577.2
5°	586.1	585.8	578.3	576.9	576.9	576.0	570.0	568.6	576.3	574.1	567.6
7.5°	580.3	579.5	570.5	569.6	568.2	567.6	560.9	559.9	566.5	565.1	559.1
10°	573.3	572.5	561.8	561.1	559.6	558.5	552.2	551.5	558.2	556.0	551.2
12.5°	564.0	562.5	551.6	550.9	549.7	549.3	543.1	542.8	550.2	548.0	542.9
15°	551.9	550.7	538.5	538.8	538.9	538.9	534.0	533.7	541.0	540.0	534.5
17.5°	538.5	536.9	525.3	526.1	527.1	528.2	524.3	525.0	532.7	531.5	526.5
20°	523.3	521.7	510.4	512.7	514.8	517.0	514.5	516.4	523.6	523.1	519.3
22.5°	506.4	504.7	494.2	497.8	501.2	505.4	504.3	506.5	514.1	513.9	510.6
25°	485.7	486.1	476.8	481.2	487.0	492.8	493.2	496.8	505.3	504.4	501.4
27.5°	466.3	466.9	457.1	464.5	472.3	479.7	481.5	486.5	495.0	494.3	491.7
30°	446.0	446.7	437.2	447.4	456.8	465.9	469.8	476.5	485.2	485.2	482.5
32.5°	424.9	426.2	416.2	429.9	440.8	451.4	458.2	465.2	475.2	474.9	472.5
35°	403.3	404.6	395.5	412.9	423.8	436.8	445.2	454.6	463.4	463.6	461.8
37.5°	381.2	382.8	374.6	393.6	406.0	421.3	432.1	441.5	451.3	451.8	450.2
40°	359.2	361.0	353.9	372.2	387.9	405.1	417.5	428.5	439.3	439.6	438.5
42.5°	337.3	339.2	333.8	351.8	369.6	387.9	402.6	415.1	426.2	426.9	425.6
45°	315.9	317.6	313.7	333.3	350.4	370.4	387.3	401.5	412.6	413.6	413.2
47.5°	294.6	296.2	292.7	310.7	330.4	351.6	371.1	386.8	398.7	399.8	399.5
50°	273.8	275.1	271.3	290.1	309.7	332.3	352.6	370.8	384.1	385.2	385.0
52.5°	253.1	254.4	251.2	270.9	288.7	312.6	334.7	354.4	367.5	369.2	369.4
55°	233.1	233.6	231.2	250.1	267.3	292.3	317.7	336.9	350.0	351.4	352.2
57.5°	213.1	213.2	211.2	229.2	245.8	271.3	298.0	318.1	330.5	331.9	333.2
60°	193.2	193.1	190.7	208.3	224.1	249.4	277.1	297.1	309.1	310.4	312.0
62.5°	173.5	173.1	171.0	187.1	202.0	227.0	254.9	274.2	285.7	286.5	288.7
65°	153.9	153.5	151.5	166.4	180.0	203.8	231.2	249.5	259.9	261.0	260.6
67.5°	134.6	133.7	132.2	145.6	157.9	180.0	206.2	223.7	232.3	233.2	235.9
70°	115.2	114.3	110.8	125.0	135.8	155.5	180.0	195.6	202.7	203.7	203.3
72.5°	96.2	95.2	91.5	104.6	113.7	131.0	152.8	165.7	172.0	172.8	172.8
75°	77.7	77.1	74.8	84.7	92.3	106.4	124.9	135.7	140.5	141.5	141.2
77.5°	59.9	59.5	57.1	65.7	71.6	82.1	97.0	105.4	109.0	110.1	112.5
80°	42.9	42.8	39.1	47.5	50.1	58.9	69.8	76.3	78.3	79.8	81.4
82.5°	27.5	27.6	23.9	31.1	32.2	37.8	44.6	48.6	50.0	51.2	52.4
85°	13.4	13.9	11.9	16.4	16.6	19.5	22.4	23.9	24.4	25.4	26.5
87.5°	3.5	4.0	2.2	4.7	4.1	5.4	6.2	6.6	6.5	7.2	7.6
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6
2.5°	579.1	583.5	581.3	588.5	591.2	586.8	594.5	594.7	589.2	595.6	599.2
5°	570.1	574.7	573.3	580.7	584.2	580.3	589.7	591.5	586.1	593.4	599.2
7.5°	561.0	566.4	564.6	572.2	576.3	573.3	583.4	586.3	582.1	590.1	597.9
10°	553.1	557.7	555.8	563.8	567.4	564.9	574.8	580.2	576.3	586.1	595.4
12.5°	545.4	549.1	546.9	553.6	557.0	553.8	566.0	570.9	568.2	578.4	590.3
15°	535.5	539.6	536.6	542.5	545.1	542.4	552.3	560.9	557.4	568.6	581.7
17.5°	527.9	530.2	526.1	530.8	532.3	528.6	538.6	547.1	544.6	556.7	571.9
20°	519.5	521.4	515.6	518.2	518.1	513.4	522.6	530.9	529.3	542.7	559.9
22.5°	510.1	511.0	504.3	504.8	504.6	496.8	505.1	513.5	512.8	526.4	545.7
25°	500.1	500.3	491.6	491.3	488.3	479.2	486.5	496.0	493.9	508.6	528.9
27.5°	490.3	489.0	478.5	476.0	471.2	460.3	466.7	475.3	474.1	488.4	510.9
30°	479.9	478.1	465.2	460.7	453.6	441.1	446.5	454.5	455.2	467.7	491.3
32.5°	469.9	465.4	451.2	444.5	435.7	421.1	424.0	432.1	433.2	445.9	470.2
35°	457.1	454.0	436.5	425.2	416.5	400.5	403.5	409.2	410.9	423.3	448.0
37.5°	444.9	440.1	421.5	407.7	396.5	379.7	380.5	386.3	387.9	400.5	424.9
40°	432.4	425.5	405.5	389.3	376.5	358.8	357.9	363.9	365.2	377.5	399.5
42.5°	419.0	410.7	388.2	370.6	355.8	337.8	335.9	341.2	342.5	354.5	376.2
45°	405.5	395.5	370.6	351.2	335.1	316.7	314.8	318.8	320.9	332.2	353.0
47.5°	391.1	379.5	352.3	330.8	314.1	295.8	293.4	297.4	299.1	310.2	330.0
50°	376.1	362.0	333.6	309.8	293.3	275.2	271.7	276.4	278.0	288.4	307.8
52.5°	359.5	343.9	313.6	288.7	272.2	254.9	250.8	255.3	257.1	267.3	285.1
55°	342.0	325.1	293.4	269.3	251.3	234.5	231.0	232.8	236.7	246.3	262.9
57.5°	322.3	305.6	272.2	247.6	230.3	214.2	211.3	212.9	216.5	225.9	240.8
60°	301.3	283.6	250.5	225.9	209.2	193.9	191.3	192.8	196.7	205.2	219.0
62.5°	280.6	260.7	228.1	203.7	188.5	174.3	173.6	173.1	176.7	184.9	197.1
65°	255.5	236.4	204.8	181.6	167.8	155.0	152.2	153.5	156.9	164.5	177.2
67.5°	228.5	211.3	180.9	159.5	147.3	135.8	133.5	134.0	137.6	144.2	155.3
70°	200.0	184.8	156.5	137.3	127.0	116.2	114.7	114.8	118.3	124.1	133.7
72.5°	170.0	156.4	131.8	115.4	106.8	99.1	97.7	96.1	99.2	104.2	112.5
75°	139.5	127.5	107.2	93.8	87.1	80.6	79.4	77.7	80.9	85.2	91.6
77.5°	108.8	99.1	83.4	73.0	67.8	62.9	61.8	60.0	63.2	66.4	71.5
80°	78.7	71.6	62.2	51.3	49.5	46.4	45.3	43.3	46.4	48.4	52.3
82.5°	50.8	46.1	40.7	33.1	32.8	30.5	29.9	27.7	30.5	31.7	34.6
85°	25.7	23.5	22.1	16.8	17.4	15.9	15.7	13.4	15.6	16.1	17.8
87.5°	7.3	7.7	6.9	4.1	5.2	5.0	5.0	3.6	5.0	5.0	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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6
2.5°	592.2	594.5	595.1	595.0	596.5	604.8	602.0	604.8
5°	593.6	598.8	600.2	602.1	604.6	614.0	611.0	614.3
7.5°	594.4	602.3	605.3	609.0	613.0	623.5	621.0	624.4
10°	594.4	604.6	609.0	615.2	620.6	632.8	630.4	634.3
12.5°	591.9	605.0	611.2	619.9	626.8	639.9	639.0	641.7
15°	586.8	603.0	611.5	622.7	631.3	645.9	645.5	648.8
17.5°	579.9	599.4	609.7	623.8	634.6	651.0	652.0	653.7
20°	571.2	592.6	606.1	623.4	636.9	655.0	656.2	658.7
22.5°	559.8	584.5	600.8	621.6	637.2	656.6	658.9	661.2
25°	546.2	574.7	593.7	618.1	635.8	656.5	659.5	661.6
27.5°	530.8	562.0	584.7	612.6	631.9	654.3	658.0	660.5
30°	512.8	548.4	574.5	605.4	626.7	650.2	654.2	656.6
32.5°	494.3	533.5	562.4	596.2	619.1	643.5	647.0	648.9
35°	474.2	515.5	547.8	584.3	609.3	632.9	635.5	637.6
37.5°	452.3	495.9	531.1	570.9	595.5	618.1	620.5	622.8
40°	429.6	475.3	512.3	554.5	579.1	600.1	602.5	604.2
42.5°	406.9	452.5	492.3	535.2	559.6	579.8	581.3	582.9
45°	383.8	428.9	469.8	513.8	538.0	556.9	557.4	558.8
47.5°	360.3	404.5	445.1	489.4	513.3	530.5	531.1	532.2
50°	336.7	380.1	418.7	463.0	486.3	504.6	502.1	503.2
52.5°	313.6	354.4	393.9	434.6	457.6	473.8	474.5	472.3
55°	290.8	329.3	365.6	404.8	426.7	439.3	438.9	439.7
57.5°	267.7	303.9	337.2	373.0	394.4	406.3	408.8	405.9
60°	244.3	278.2	308.0	340.5	361.2	371.1	374.0	371.2
62.5°	221.0	252.1	279.2	307.5	326.7	339.0	338.7	335.6
65°	197.6	225.9	250.1	274.1	290.8	303.1	302.5	299.8
67.5°	176.1	199.4	221.1	240.5	255.0	263.5	266.4	263.0
70°	152.4	172.5	191.6	207.2	219.2	226.7	229.5	226.6
72.5°	128.6	145.7	159.1	174.2	183.4	189.8	192.7	189.9
75°	105.2	119.2	130.1	141.9	148.4	153.7	157.1	154.3
77.5°	82.4	93.3	102.0	110.5	118.0	119.2	122.1	120.3
80°	60.7	68.6	74.9	80.6	86.0	86.5	88.9	87.8
82.5°	40.4	45.7	47.3	53.3	56.7	56.2	58.5	57.7
85°	21.4	24.6	27.5	29.3	31.2	29.4	31.5	30.6
87.5°	7.2	7.6	6.6	9.4	10.4	8.8	10.1	9.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)