

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: LUMARK

Report Number: P163792

Luminaire Tested: **LDRL-SL4-F01-E-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163792
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33728)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL4-F01-E-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (7) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1629.4 lumens
Efficiency: N/A
Efficacy: 62.9 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 1' x H: 0.1')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B0 - U0 - G1

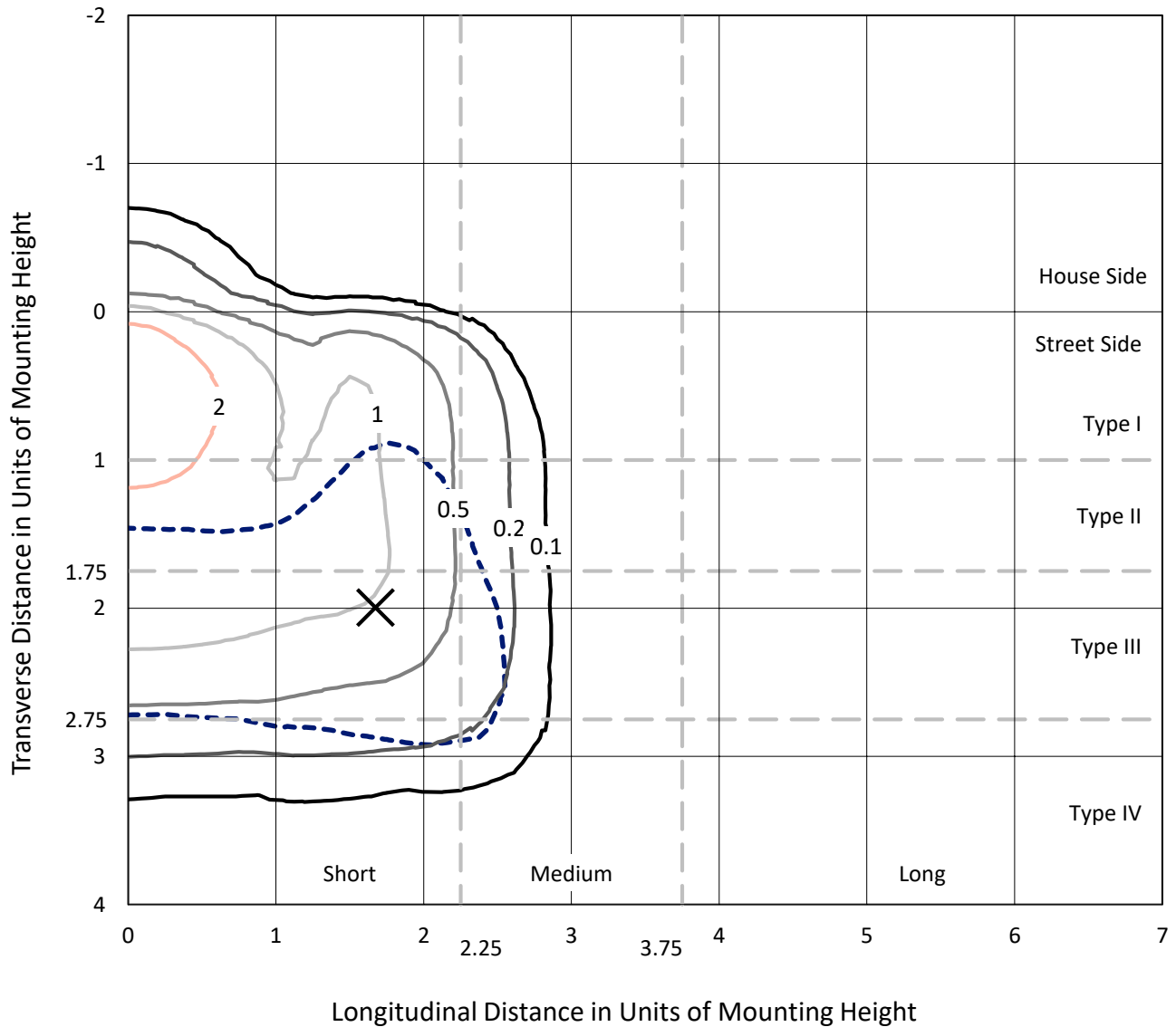
Input Watts (W): 25.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

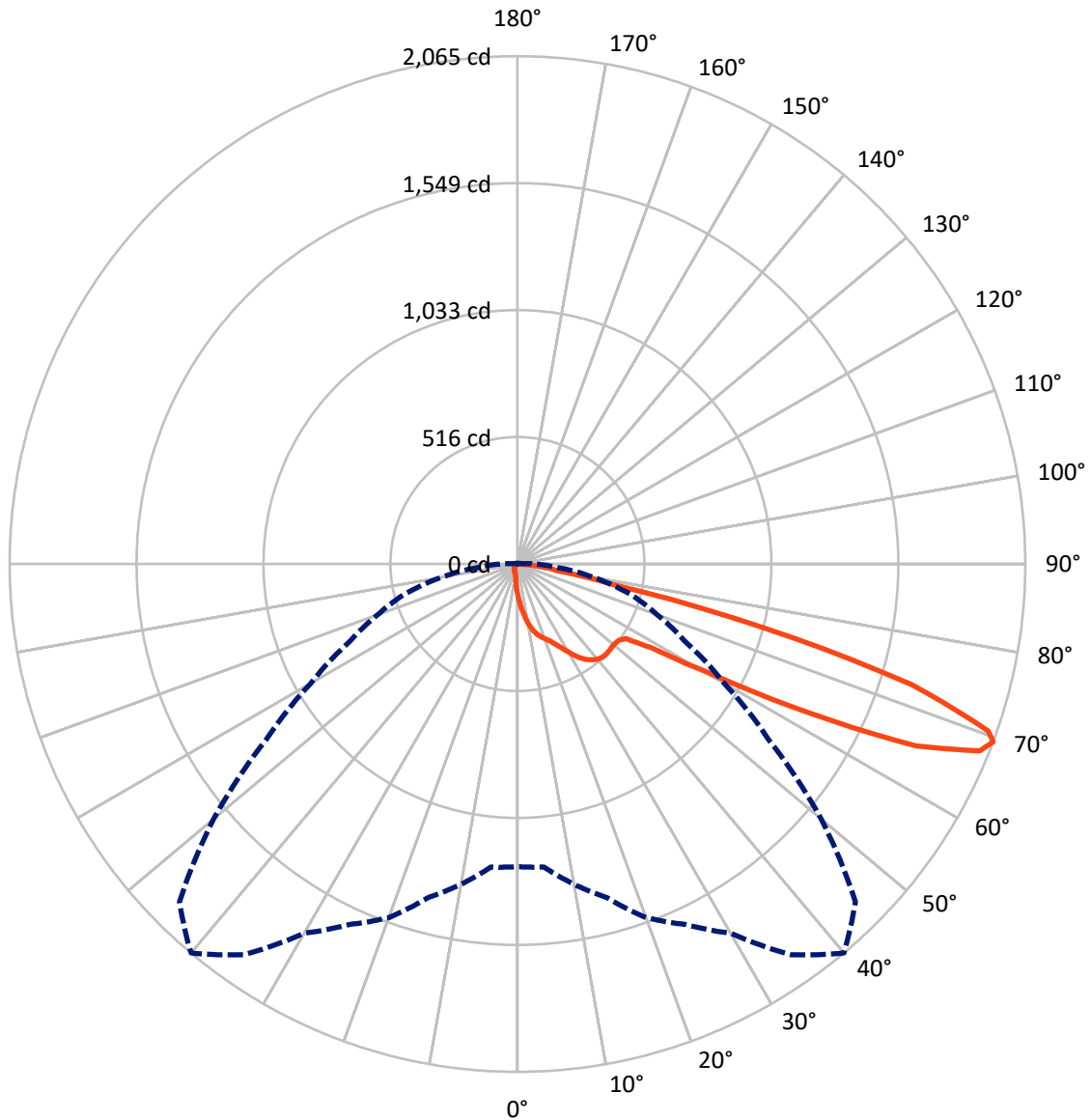
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.6 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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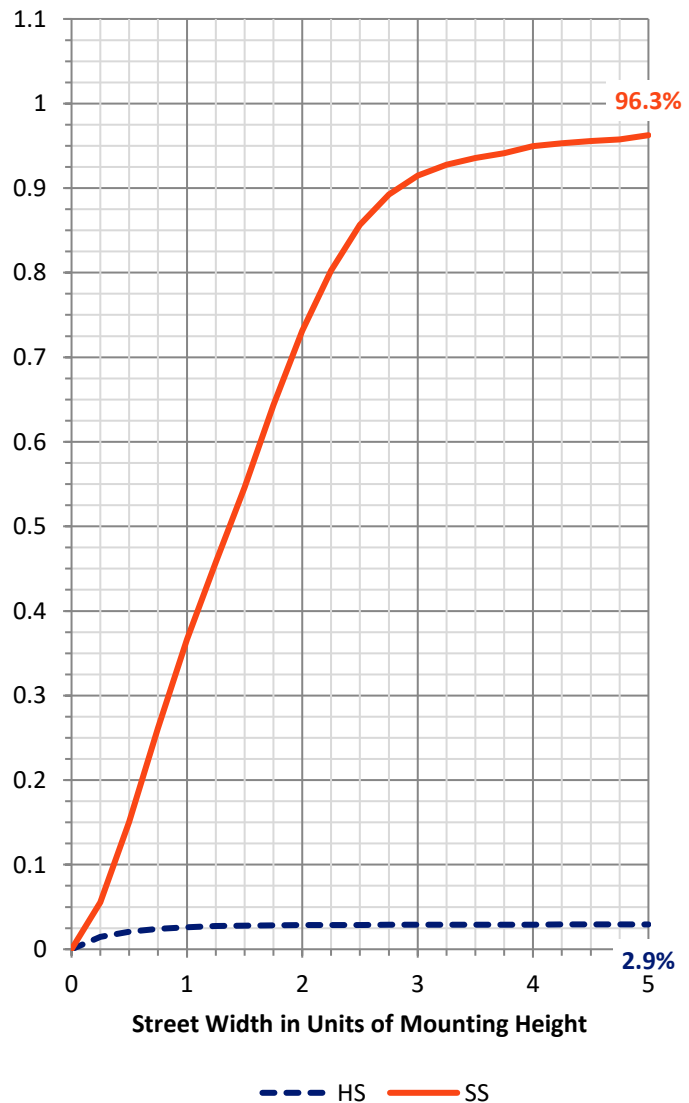
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	48.5	0.0	48.5
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	1580.9	0.0	1580.9
	% Fixture	97.0	0.0	97.0
Total	Lumens	1629.4	0.0	1629.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	12.6	0.8
10°-20°	43.6	2.7
20°-30°	83.5	5.1
30°-40°	138.8	8.5
40°-50°	187.8	11.5
50°-60°	293.7	18.0
60°-70°	603.9	37.1
70°-80°	243.0	14.9
80°-90°	22.5	1.4
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°-90°	1629.4	100.0
0°-180°	1629.4	100.0



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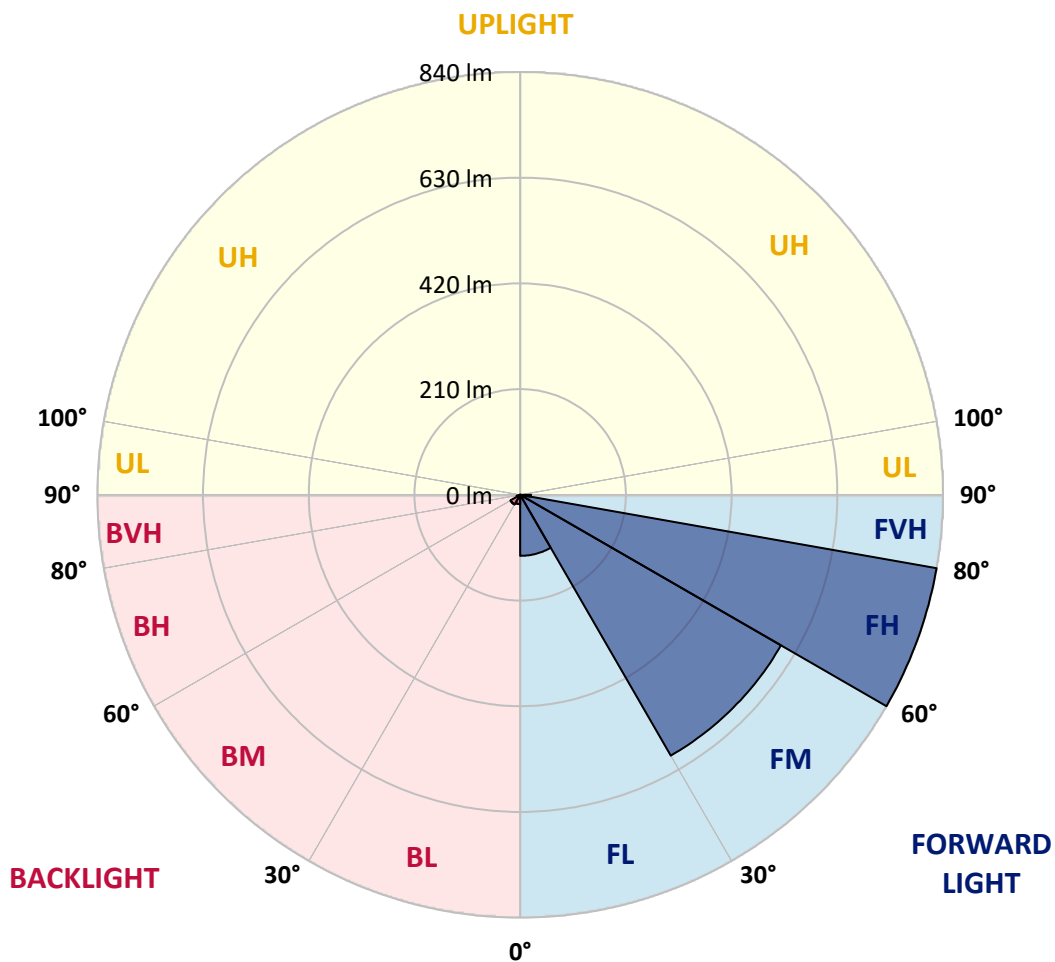
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	121.3	7.4			
FM (30°-60°)	598.2	36.7			
FH (60°-80°)	839.8	51.5			G1/1800
FVH (80°-90°)	21.6	1.3			G1/100
BL (0°-30°)	18.5	1.1	B0/110		
BM (30°-60°)	22.1	1.4	B0/220		
BH (60°-80°)	7.1	0.4	B0/110		G0/110
BVH (80°-90°)	0.8	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1
2.5°	164.1	162.3	160.2	160.2	157.5	157.5	155.9	151.6	151.1	148.7	146.3
5°	209.5	207.9	205.3	202.9	200.7	197.0	194.3	189.2	183.6	178.3	173.5
7.5°	253.8	253.0	248.2	247.4	244.0	237.8	232.5	225.0	215.4	207.9	199.1
10°	294.9	293.1	292.0	287.5	282.4	275.7	267.5	258.4	247.2	235.4	222.9
12.5°	327.5	326.4	321.6	319.8	314.4	307.8	297.3	285.6	274.4	259.2	244.5
15°	351.8	349.9	346.7	343.8	337.4	331.5	321.9	309.1	295.5	278.9	261.3
17.5°	372.1	368.6	367.8	363.3	356.6	349.7	339.0	327.2	311.2	294.7	275.5
20°	399.3	394.5	392.9	386.2	378.5	368.9	356.6	341.9	325.1	306.9	287.2
22.5°	431.3	427.9	424.4	418.5	408.7	395.0	377.1	361.1	339.8	319.8	298.4
25°	476.7	473.8	468.2	460.2	447.9	431.6	410.0	386.5	361.4	335.8	310.7
27.5°	520.8	518.1	514.1	507.9	494.1	476.2	449.5	419.6	387.8	356.9	329.1
30°	562.1	559.7	555.7	549.6	537.3	519.7	489.5	457.5	418.0	382.0	348.6
32.5°	606.7	605.9	601.4	592.6	581.9	558.1	525.3	490.9	450.8	409.2	370.2
35°	657.2	651.0	646.7	637.9	619.8	594.4	556.0	518.3	476.2	433.5	390.0
37.5°	699.9	694.0	688.7	677.4	655.3	623.0	579.5	538.1	494.6	451.1	406.8
40°	731.1	728.1	721.7	707.1	682.2	643.8	596.8	551.7	507.9	464.2	420.4
42.5°	754.3	749.8	742.6	727.4	698.0	654.2	603.8	557.3	514.1	472.2	429.2
45°	762.9	759.1	752.4	735.9	704.1	657.2	603.5	555.7	514.4	474.6	435.1
47.5°	757.8	754.0	748.2	732.7	701.5	653.7	598.7	551.2	511.7	475.4	440.4
50°	741.0	738.8	734.3	721.2	693.2	647.0	594.4	548.8	511.1	479.4	447.9
52.5°	739.4	738.0	732.4	719.3	690.8	644.9	593.9	550.1	515.7	484.5	453.2
55°	903.5	884.6	842.1	806.1	746.8	676.4	620.8	571.7	534.9	504.5	482.6
57.5°	1284.1	1255.8	1200.1	1131.5	995.3	861.6	754.6	677.2	639.0	625.1	633.4
60°	1462.4	1457.4	1448.6	1416.0	1346.3	1231.3	1103.2	964.6	909.1	904.3	921.1
62.5°	1547.1	1543.8	1546.5	1542.5	1520.9	1487.3	1450.4	1390.6	1335.6	1300.2	1224.9
65°	1586.0	1588.2	1603.4	1615.4	1618.0	1626.9	1653.8	1728.3	1782.7	1691.2	1482.2
67.5°	1487.0	1499.5	1534.5	1578.3	1629.5	1679.2	1759.2	1916.2	2028.0	1920.5	1623.7
69°	1231.0	1237.2	1322.6	1405.0	1530.2	1617.8	1733.9	1939.7	2065.4	1944.0	1612.4
70°	969.2	974.8	1066.3	1178.4	1390.1	1502.7	1654.6	1899.9	2030.4	1912.7	1554.8
72.5°	437.2	429.2	461.5	521.6	751.6	930.5	1196.1	1539.3	1675.2	1532.4	1163.2
75°	305.3	301.9	305.3	305.6	341.4	440.4	555.7	834.4	1031.9	890.4	555.7
77.5°	236.5	234.1	231.7	229.0	233.3	261.3	272.5	296.0	384.4	363.5	211.9
80°	187.1	185.0	190.8	189.0	189.0	192.2	190.1	181.2	164.7	152.7	136.7
82.5°	87.0	87.6	87.6	95.0	114.5	133.7	139.9	131.1	116.4	99.0	79.8
85°	8.3	9.3	15.8	24.3	48.3	54.5	54.7	45.4	45.4	35.8	28.8
87.5°	0.0	0.3	0.3	0.3	2.4	6.7	5.6	1.6	0.8	0.8	1.3
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1
2.5°	142.0	141.2	138.0	134.8	131.9	128.6	125.7	122.8	119.6	117.2	114.2
5°	166.0	160.2	153.5	147.1	140.7	134.0	127.0	120.9	114.5	108.6	103.0
7.5°	190.3	178.8	169.8	158.3	147.9	137.5	127.9	118.0	108.9	100.4	92.4
10°	210.9	197.0	182.8	168.2	153.2	139.3	126.0	114.2	102.2	91.8	81.9
12.5°	227.7	210.1	192.7	174.3	157.5	139.9	123.3	109.2	95.0	83.3	73.1
15°	242.9	222.6	201.8	180.4	159.1	139.1	120.6	103.0	88.6	75.3	63.8
17.5°	255.2	232.0	208.5	184.4	161.5	138.0	117.2	98.8	81.9	68.1	56.8
20°	265.9	241.6	216.2	189.2	163.1	137.7	114.2	93.4	76.1	61.4	50.4
22.5°	275.7	251.4	224.2	195.4	165.5	137.5	111.6	89.4	71.0	56.3	45.4
25°	286.9	261.3	232.7	201.8	169.8	138.5	110.0	86.2	66.5	51.5	41.4
27.5°	299.5	272.5	242.9	209.8	175.4	140.7	109.4	82.8	62.5	47.0	38.2
30°	317.1	285.9	253.0	217.8	180.4	143.1	108.9	80.6	58.4	43.5	35.0
32.5°	332.6	298.9	264.3	226.1	186.0	145.5	108.6	77.7	54.7	40.0	32.6
35°	348.9	311.0	273.9	234.1	190.8	148.1	108.4	75.5	51.2	36.6	30.2
37.5°	363.0	321.1	281.3	241.0	196.2	150.5	108.6	73.7	48.0	33.6	28.0
40°	375.0	331.5	289.6	247.4	201.8	154.3	108.9	71.8	44.8	31.0	26.2
42.5°	385.7	341.4	298.4	254.6	208.2	158.6	110.5	70.2	42.2	28.6	24.3
45°	394.0	350.5	308.0	264.8	218.6	165.5	113.4	69.1	39.5	26.4	22.7
47.5°	402.5	363.8	324.3	280.8	233.8	176.4	118.5	68.9	37.4	24.8	21.3
50°	414.2	377.1	338.7	297.1	247.7	187.6	124.7	69.1	34.7	23.2	20.0
52.5°	422.8	390.8	357.4	325.4	280.8	221.8	148.4	73.9	33.4	21.9	18.4
55°	473.2	467.6	468.4	473.8	439.3	377.4	248.2	106.8	39.2	24.8	18.1
57.5°	667.3	687.1	698.5	698.3	641.4	532.0	333.4	137.2	43.8	28.8	21.6
60°	922.5	907.5	886.4	834.4	758.8	607.2	372.9	147.6	37.9	22.9	19.7
62.5°	1148.0	1060.5	982.8	898.4	799.4	633.4	380.9	146.8	33.1	17.4	13.9
65°	1288.7	1131.2	1005.7	900.0	783.4	611.5	360.3	134.8	28.0	14.1	11.5
67.5°	1322.3	1093.0	915.5	780.7	654.5	475.9	264.5	101.4	21.9	11.7	10.1
69°	1248.9	971.6	758.6	605.6	476.2	315.8	163.6	64.1	16.8	10.7	9.3
70°	1148.8	845.1	617.9	486.1	352.6	221.8	114.5	45.1	13.6	9.9	8.5
72.5°	739.1	443.9	303.7	211.4	145.5	88.3	44.8	20.3	10.4	8.3	6.9
75°	286.7	164.1	119.0	90.5	70.7	49.1	27.2	13.1	8.8	6.9	5.3
77.5°	141.2	108.1	88.3	60.6	35.2	21.9	14.7	10.1	7.2	5.1	3.5
80°	111.6	74.2	44.3	27.5	20.8	15.8	11.2	8.3	5.3	3.2	2.4
82.5°	57.1	31.2	22.9	18.7	15.5	12.3	9.1	5.9	3.5	2.1	1.9
85°	17.9	13.1	11.7	11.5	10.7	8.8	6.4	3.7	2.1	1.3	1.3
87.5°	1.3	1.9	2.4	1.9	2.1	1.9	2.4	1.6	1.1	1.1	0.8
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1
2.5°	112.1	108.9	106.0	104.1	100.6	99.3	98.0	97.4	95.0	95.6	93.4
5°	98.0	92.4	88.1	83.8	79.8	76.9	74.5	71.5	69.1	68.1	65.9
7.5°	85.1	77.9	72.3	67.8	63.0	59.3	56.1	53.9	51.8	49.6	48.6
10°	73.9	66.2	59.8	55.2	50.7	47.5	45.1	43.5	42.2	41.4	41.1
12.5°	63.5	56.1	50.2	46.2	42.7	41.1	40.0	39.2	39.0	38.7	38.7
15°	55.5	48.0	43.5	40.6	39.0	38.2	37.9	37.4	36.8	36.6	36.6
17.5°	48.0	42.4	39.2	37.6	36.8	36.3	35.8	35.2	34.7	34.4	34.4
20°	43.0	38.4	36.8	35.8	35.0	34.4	33.6	33.1	32.8	32.6	32.3
22.5°	39.0	36.0	35.0	34.2	33.1	32.3	31.8	31.2	30.7	30.4	30.2
25°	36.0	34.2	33.4	32.3	31.2	30.4	29.6	28.8	28.3	28.0	27.5
27.5°	33.9	32.6	31.5	30.2	29.1	28.3	27.5	26.7	26.2	25.6	25.4
30°	32.0	30.7	29.4	28.3	27.0	26.2	25.1	24.3	24.0	23.5	22.9
32.5°	30.2	28.8	27.5	26.2	24.8	23.8	23.2	22.2	21.6	21.3	20.8
35°	28.0	26.7	25.1	24.0	22.7	21.6	20.8	20.0	19.5	19.0	18.7
37.5°	26.2	24.6	22.9	21.6	20.6	19.5	18.7	17.9	17.4	16.8	16.5
40°	24.0	22.4	20.8	19.5	18.4	17.6	16.8	16.0	15.5	15.2	15.2
42.5°	22.2	20.3	18.7	17.6	16.8	15.8	14.9	14.1	13.9	13.6	13.9
45°	20.3	18.4	17.1	16.0	15.2	14.1	13.3	12.8	12.5	12.8	13.1
47.5°	18.7	16.8	15.5	14.7	13.9	13.1	12.3	11.7	11.7	12.3	12.8
50°	17.1	15.2	14.1	13.6	12.8	12.0	10.9	10.7	10.9	11.5	12.0
52.5°	15.5	13.3	12.5	12.3	11.5	10.7	9.9	9.6	9.9	10.4	10.1
55°	13.9	11.7	11.5	11.2	10.4	9.3	8.5	8.5	8.5	8.3	7.7
57.5°	13.3	10.4	10.1	9.9	9.1	8.0	7.5	6.9	6.7	5.9	5.6
60°	13.9	9.3	9.3	8.8	8.0	6.9	6.1	5.3	4.8	4.3	4.3
62.5°	11.2	8.5	8.3	7.7	6.7	5.6	4.8	4.0	3.7	3.5	3.5
65°	9.1	7.7	7.2	6.4	5.6	4.5	3.7	3.2	2.9	2.9	3.2
67.5°	8.3	6.9	6.1	5.3	4.5	3.5	2.9	2.7	2.7	2.9	2.9
69°	7.7	6.4	5.6	4.8	4.0	3.2	2.7	2.7	2.7	2.7	2.9
70°	7.2	6.1	5.3	4.5	3.5	2.7	2.4	2.4	2.7	2.7	2.9
72.5°	5.6	4.8	4.5	3.7	2.7	2.4	2.1	2.4	2.4	2.7	2.7
75°	4.3	3.5	3.5	2.9	2.1	1.9	1.9	2.1	2.1	2.4	2.4
77.5°	2.9	2.4	2.4	2.1	1.9	1.6	1.6	1.9	2.1	2.1	2.4
80°	2.1	1.9	1.6	1.9	1.6	1.3	1.6	1.9	1.9	2.1	2.1
82.5°	1.6	1.6	1.6	1.6	1.3	1.3	1.6	1.6	1.9	2.1	2.1
85°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.6	1.6	1.9	1.9
87.5°	0.8	0.8	0.8	1.1	1.1	1.3	1.3	1.3	1.3	1.6	1.6
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):

	165°	170°	175°	180°
0°	123.1	123.1	123.1	123.1
2.5°	92.9	92.6	91.6	91.8
5°	65.1	63.5	64.6	64.3
7.5°	47.8	47.5	47.2	47.8
10°	40.8	40.8	40.6	40.8
12.5°	38.4	38.4	38.4	38.4
15°	36.6	36.6	36.3	36.3
17.5°	34.4	34.4	34.4	34.2
20°	32.3	32.0	32.0	32.0
22.5°	29.9	29.6	29.6	29.6
25°	27.5	27.2	27.2	27.2
27.5°	25.1	24.8	24.6	24.6
30°	22.7	22.4	22.2	22.2
32.5°	20.3	20.0	19.7	19.7
35°	18.1	18.1	17.9	17.6
37.5°	16.3	16.3	16.3	16.3
40°	14.9	15.2	15.2	15.2
42.5°	14.1	14.4	14.7	14.9
45°	13.6	14.1	14.4	14.4
47.5°	13.3	13.6	13.9	13.9
50°	12.3	12.0	12.0	12.0
52.5°	9.9	9.3	9.1	8.8
55°	7.2	6.9	6.4	6.4
57.5°	5.1	5.1	4.8	4.8
60°	4.0	4.0	3.7	4.0
62.5°	3.5	3.5	3.5	3.5
65°	3.2	3.2	3.2	3.2
67.5°	3.2	3.2	3.2	3.2
69°	2.9	2.9	2.9	2.9
70°	2.9	2.9	2.9	2.9
72.5°	2.7	2.7	2.7	2.7
75°	2.4	2.7	2.7	2.7
77.5°	2.4	2.4	2.4	2.4
80°	2.1	2.1	2.4	2.4
82.5°	2.1	2.1	2.1	2.1
85°	1.9	1.9	2.1	2.1
87.5°	1.6	1.6	1.9	1.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)