

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: P163788

Luminaire Tested: **LDRL-SL4-E01-E-7050-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163788
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-E01-E-7050-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: (21) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2025.3 lumens
Efficiency: N/A
Efficacy: 82.0 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): 24.7
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

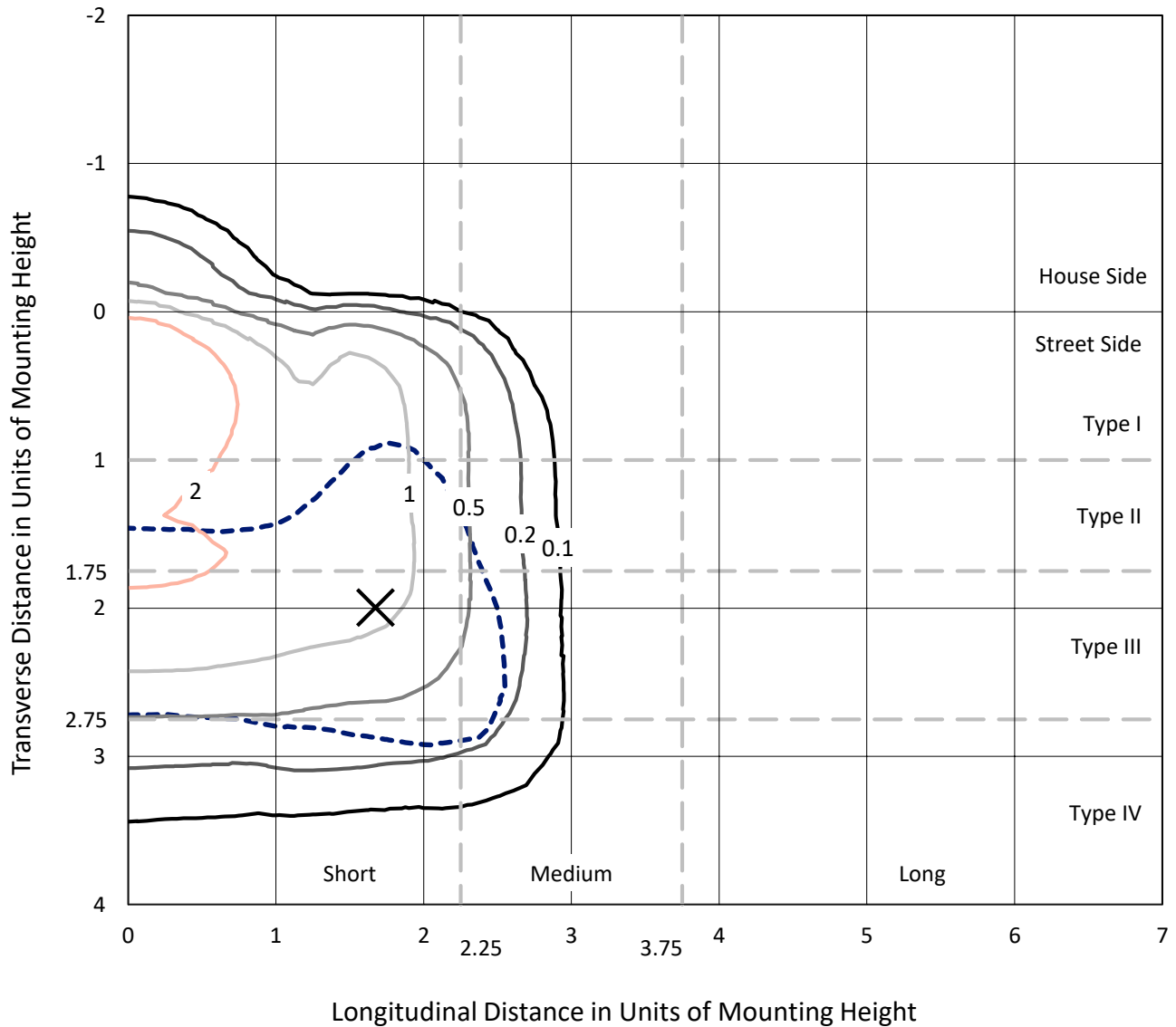


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

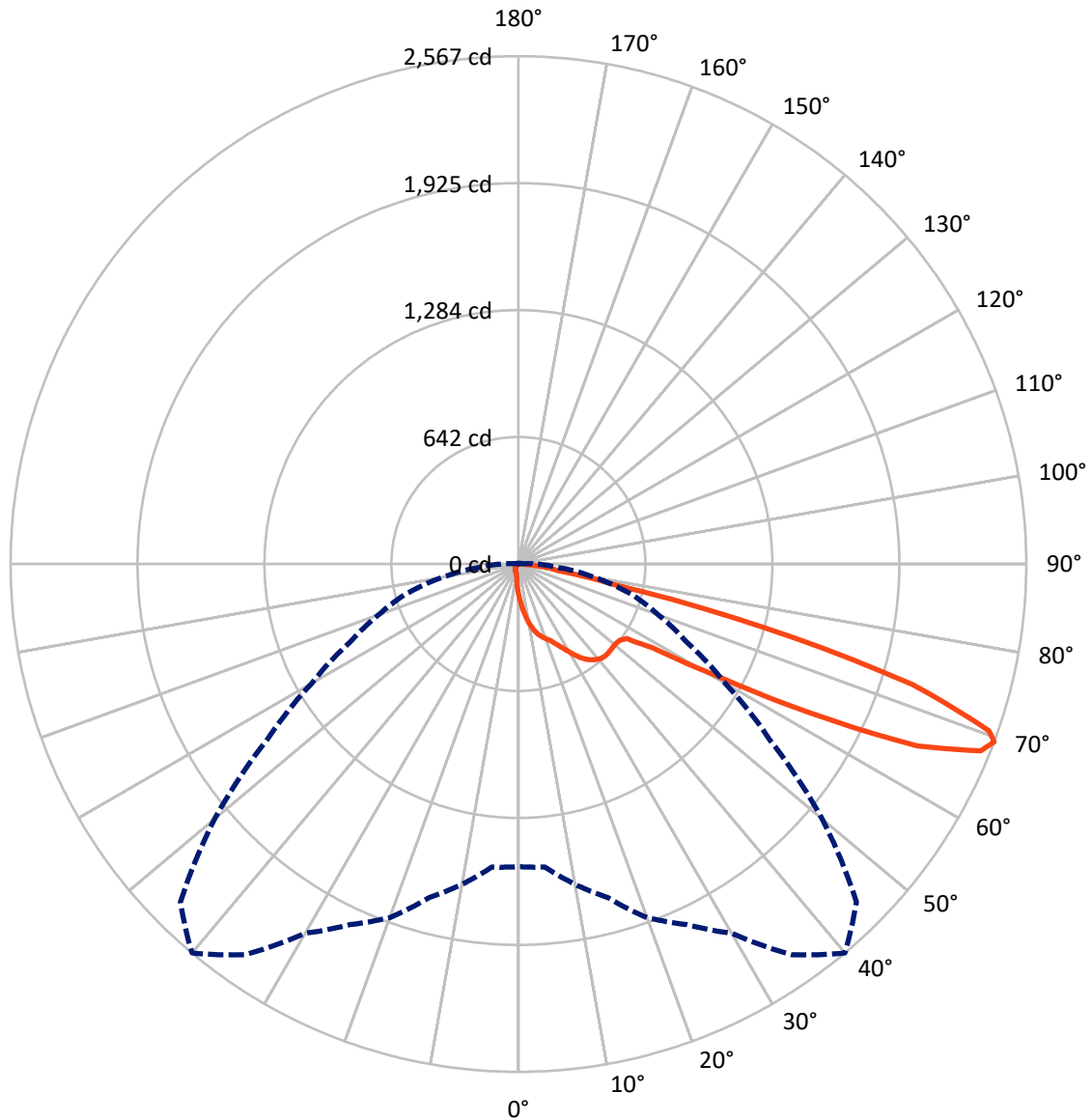


Based on 10 foot mounting height. Maximum calculated value = 4.5 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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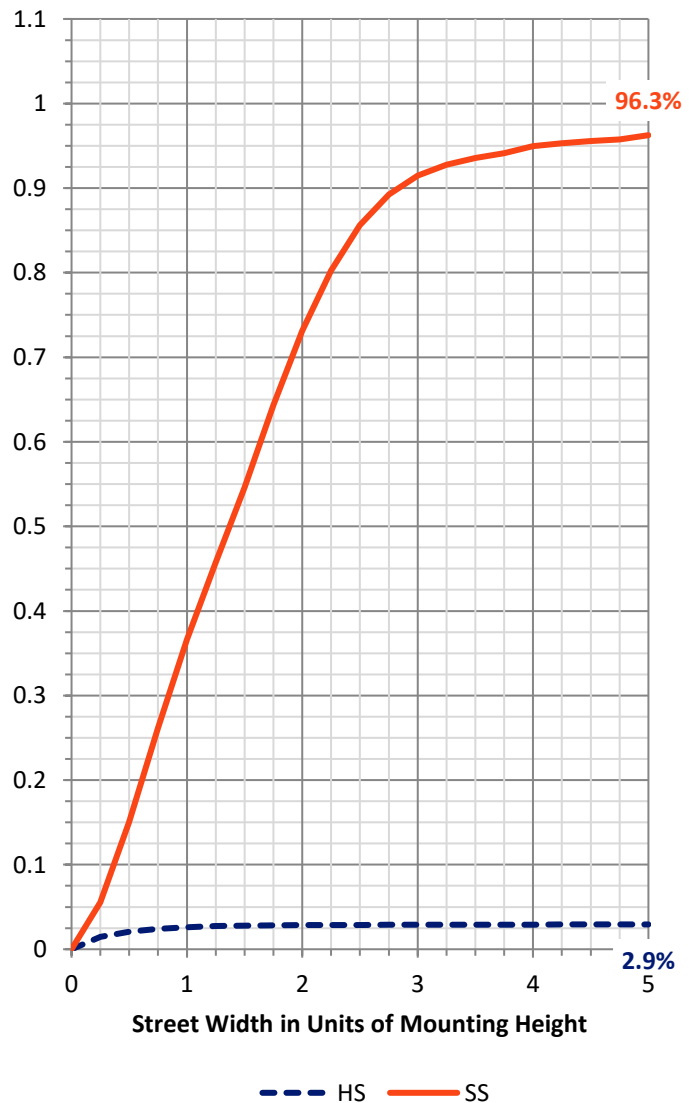
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	60.3	0.0	60.3
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	1965.0	0.0	1965.0
	% Fixture	97.0	0.0	97.0
Total	Lumens	2025.3	0.0	2025.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	15.7	0.8
10°-20°	54.2	2.7
20°-30°	103.7	5.1
30°-40°	172.5	8.5
40°-50°	233.4	11.5
50°-60°	365.1	18.0
60°-70°	750.6	37.1
70°-80°	302.0	14.9
80°-90°	27.9	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°	2025.3	100.0
0°-180°	2025.3	100.0



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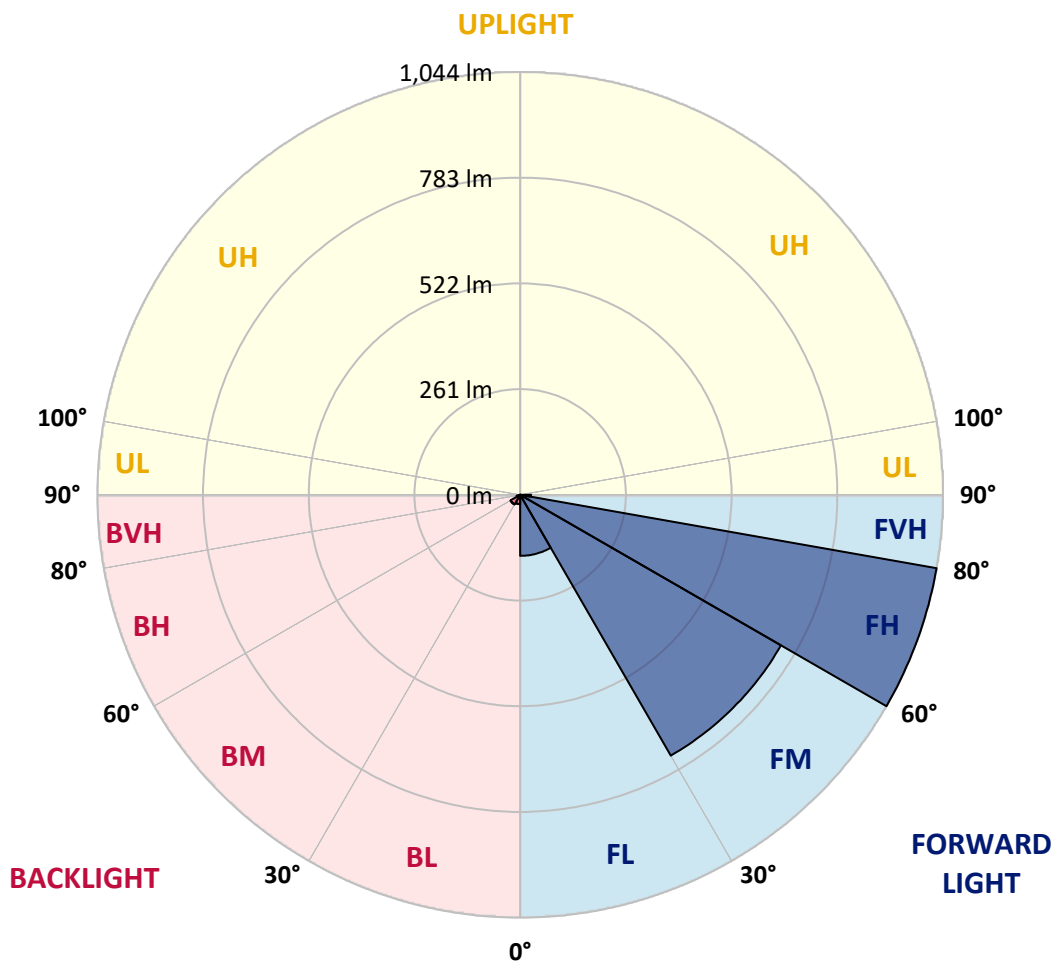
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	150.7	7.4			
FM	(30°-60°)	743.5	36.7			
FH	(60°-80°)	1043.8	51.5			G1/1800
FVH	(80°-90°)	26.9	1.3			G1/100
BL	(0°-30°)	22.9	1.1	B0/110		
BM	(30°-60°)	27.5	1.4	B0/220		
BH	(60°-80°)	8.8	0.4	B0/110		G0/110
BVH	(80°-90°)	1.0	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°	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0
2.5°	204.0	201.7	199.1	199.1	195.7	195.7	193.7	188.5	187.8	184.8	181.8
5°	260.4	258.5	255.1	252.2	249.5	244.8	241.5	235.2	228.3	221.6	215.6
7.5°	315.5	314.5	308.5	307.5	303.2	295.6	289.0	279.7	267.7	258.5	247.5
10°	366.6	364.3	363.0	357.3	351.0	342.7	332.4	321.2	307.2	292.6	277.0
12.5°	407.1	405.8	399.8	397.5	390.8	382.5	369.6	355.0	341.1	322.2	303.9
15°	437.3	434.9	431.0	427.3	419.3	412.1	400.1	384.2	367.3	346.7	324.8
17.5°	462.5	458.2	457.2	451.5	443.2	434.6	421.3	406.7	386.8	366.3	342.4
20°	496.3	490.4	488.4	480.1	470.4	458.5	443.2	425.0	404.1	381.5	357.0
22.5°	536.1	531.8	527.5	520.2	507.9	491.0	468.8	448.9	422.3	397.5	370.9
25°	592.5	588.9	581.9	572.0	556.7	536.5	509.6	480.4	449.2	417.4	386.2
27.5°	647.3	644.0	639.0	631.4	614.1	591.9	558.7	521.5	482.1	443.6	409.1
30°	698.7	695.7	690.8	683.1	667.9	646.0	608.5	568.6	519.6	474.8	433.3
32.5°	754.1	753.1	747.5	736.5	723.3	693.7	652.9	610.1	560.4	508.6	460.2
35°	816.8	809.2	803.9	792.9	770.4	738.9	691.1	644.3	591.9	538.8	484.7
37.5°	869.9	862.6	856.0	842.0	814.5	774.4	720.3	668.9	614.8	560.7	505.6
40°	908.7	905.1	897.1	878.9	848.0	800.2	741.8	685.8	631.4	577.0	522.5
42.5°	937.6	932.0	923.0	904.1	867.6	813.2	750.5	692.7	639.0	586.9	533.5
45°	948.2	943.6	935.3	914.7	875.2	816.8	750.1	690.8	639.3	589.9	540.8
47.5°	941.9	937.2	930.0	910.7	871.9	812.5	744.2	685.1	636.0	590.9	547.4
50°	921.0	918.3	912.7	896.4	861.6	804.2	738.9	682.1	635.3	595.9	556.7
52.5°	919.0	917.3	910.4	894.1	858.6	801.6	738.2	683.8	641.0	602.2	563.4
55°	1123.1	1099.5	1046.7	1002.0	928.3	840.7	771.7	710.7	664.9	627.1	599.8
57.5°	1596.1	1561.0	1491.6	1406.4	1237.2	1070.9	937.9	841.7	794.3	777.0	787.3
60°	1817.8	1811.5	1800.5	1760.0	1673.5	1530.5	1371.2	1199.0	1130.0	1124.0	1144.9
62.5°	1922.9	1919.0	1922.3	1917.3	1890.4	1848.6	1802.8	1728.5	1660.2	1616.1	1522.5
65°	1971.4	1974.0	1992.9	2007.9	2011.2	2022.1	2055.7	2148.2	2215.9	2102.1	1842.3
67.5°	1848.3	1863.9	1907.3	1961.8	2025.5	2087.2	2186.7	2381.8	2520.8	2387.1	2018.2
69°	1530.1	1537.8	1643.9	1746.4	1902.1	2010.9	2155.2	2411.0	2567.2	2416.3	2004.2
70°	1204.7	1211.6	1325.4	1464.8	1727.9	1867.9	2056.6	2361.5	2523.8	2377.5	1932.6
72.5°	543.4	533.5	573.6	648.3	934.3	1156.5	1486.7	1913.3	2082.2	1904.7	1445.9
75°	379.5	375.2	379.5	379.9	424.3	547.4	690.8	1037.1	1282.6	1106.8	690.8
77.5°	294.0	291.0	288.0	284.7	290.0	324.8	338.7	367.9	477.8	451.9	263.4
80°	232.6	229.9	237.2	234.9	234.9	238.9	236.2	225.3	204.7	189.8	169.9
82.5°	108.2	108.8	108.8	118.1	142.3	166.2	173.8	162.9	144.7	123.1	99.2
85°	10.3	11.6	19.6	30.2	60.0	67.7	68.0	56.4	56.4	44.5	35.8
87.5°	0.0	0.3	0.3	0.3	3.0	8.3	7.0	2.0	1.0	1.0	1.7
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0
2.5°	176.5	175.5	171.5	167.5	163.9	159.9	156.3	152.6	148.6	145.6	142.0
5°	206.4	199.1	190.8	182.8	174.8	166.6	157.9	150.3	142.3	135.0	128.1
7.5°	236.6	222.3	211.0	196.7	183.8	170.9	158.9	146.7	135.4	124.8	114.8
10°	262.1	244.8	227.3	209.0	190.4	173.2	156.6	142.0	127.1	114.1	101.9
12.5°	283.0	261.1	239.5	216.7	195.7	173.8	153.3	135.7	118.1	103.5	90.9
15°	301.9	276.7	250.8	224.3	197.7	172.9	150.0	128.1	110.1	93.6	79.3
17.5°	317.2	288.3	259.1	229.3	200.7	171.5	145.6	122.8	101.9	84.6	70.7
20°	330.4	300.3	268.7	235.2	202.7	171.2	142.0	116.1	94.5	76.3	62.7
22.5°	342.7	312.5	278.7	242.9	205.7	170.9	138.7	111.1	88.2	70.0	56.4
25°	356.7	324.8	289.3	250.8	211.0	172.2	136.7	107.2	82.6	64.0	51.4
27.5°	372.3	338.7	301.9	260.8	218.0	174.8	136.0	102.9	77.6	58.4	47.4
30°	394.1	355.3	314.5	270.7	224.3	177.8	135.4	100.2	72.6	54.1	43.5
32.5°	413.4	371.6	328.5	281.0	231.2	180.8	135.0	96.5	68.0	49.8	40.5
35°	433.6	386.5	340.4	291.0	237.2	184.1	134.7	93.9	63.7	45.5	37.5
37.5°	451.2	399.1	349.7	299.6	243.8	187.1	135.0	91.6	59.7	41.8	34.8
40°	466.1	412.1	360.0	307.5	250.8	191.8	135.4	89.3	55.7	38.5	32.5
42.5°	479.4	424.3	370.9	316.5	258.8	197.1	137.4	87.3	52.4	35.5	30.2
45°	489.7	435.6	382.9	329.1	271.7	205.7	141.0	85.9	49.1	32.8	28.2
47.5°	500.3	452.2	403.1	349.0	290.6	219.3	147.3	85.6	46.4	30.8	26.5
50°	514.9	468.8	421.0	369.3	307.9	233.2	154.9	85.9	43.1	28.9	24.9
52.5°	525.5	485.7	444.2	404.4	349.0	275.7	184.5	91.9	41.5	27.2	22.9
55°	588.2	581.3	582.3	588.9	546.1	469.1	308.5	132.7	48.8	30.8	22.6
57.5°	829.4	854.0	868.2	867.9	797.2	661.2	414.4	170.5	54.4	35.8	26.9
60°	1146.6	1128.0	1101.8	1037.1	943.2	754.8	463.5	183.5	47.1	28.5	24.5
62.5°	1426.9	1318.1	1221.6	1116.7	993.7	787.3	473.4	182.5	41.1	21.6	17.3
65°	1601.8	1406.1	1250.1	1118.7	973.8	760.1	447.9	167.5	34.8	17.6	14.3
67.5°	1643.6	1358.6	1138.0	970.4	813.5	591.5	328.8	126.1	27.2	14.6	12.6
69°	1552.4	1207.6	942.9	752.8	591.9	392.5	203.4	79.6	20.9	13.3	11.6
70°	1427.9	1050.4	768.0	604.2	438.3	275.7	142.3	56.1	16.9	12.3	10.6
72.5°	918.7	551.7	377.5	262.8	180.8	109.8	55.7	25.2	12.9	10.3	8.6
75°	356.3	204.0	148.0	112.5	87.9	61.1	33.8	16.3	10.9	8.6	6.6
77.5°	175.5	134.4	109.8	75.3	43.8	27.2	18.2	12.6	8.9	6.3	4.3
80°	138.7	92.2	55.1	34.2	25.9	19.6	13.9	10.3	6.6	4.0	3.0
82.5°	71.0	38.8	28.5	23.2	19.2	15.3	11.3	7.3	4.3	2.6	2.3
85°	22.2	16.3	14.6	14.3	13.3	10.9	8.0	4.6	2.6	1.7	1.7
87.5°	1.7	2.3	3.0	2.3	2.6	2.3	3.0	2.0	1.3	1.3	1.0
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°	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0
2.5°	139.3	135.4	131.7	129.4	125.1	123.4	121.8	121.1	118.1	118.8	116.1
5°	121.8	114.8	109.5	104.2	99.2	95.6	92.6	88.9	85.9	84.6	81.9
7.5°	105.8	96.9	89.9	84.3	78.3	73.7	69.7	67.0	64.4	61.7	60.4
10°	91.9	82.3	74.3	68.7	63.0	59.1	56.1	54.1	52.4	51.4	51.1
12.5°	79.0	69.7	62.4	57.4	53.1	51.1	49.8	48.8	48.4	48.1	48.1
15°	69.0	59.7	54.1	50.4	48.4	47.4	47.1	46.4	45.8	45.5	45.5
17.5°	59.7	52.7	48.8	46.8	45.8	45.1	44.5	43.8	43.1	42.8	42.8
20°	53.4	47.8	45.8	44.5	43.5	42.8	41.8	41.1	40.8	40.5	40.1
22.5°	48.4	44.8	43.5	42.5	41.1	40.1	39.5	38.8	38.2	37.8	37.5
25°	44.8	42.5	41.5	40.1	38.8	37.8	36.8	35.8	35.2	34.8	34.2
27.5°	42.1	40.5	39.2	37.5	36.2	35.2	34.2	33.2	32.5	31.9	31.5
30°	39.8	38.2	36.5	35.2	33.5	32.5	31.2	30.2	29.9	29.2	28.5
32.5°	37.5	35.8	34.2	32.5	30.8	29.5	28.9	27.5	26.9	26.5	25.9
35°	34.8	33.2	31.2	29.9	28.2	26.9	25.9	24.9	24.2	23.6	23.2
37.5°	32.5	30.5	28.5	26.9	25.6	24.2	23.2	22.2	21.6	20.9	20.6
40°	29.9	27.9	25.9	24.2	22.9	21.9	20.9	19.9	19.2	18.9	18.9
42.5°	27.5	25.2	23.2	21.9	20.9	19.6	18.6	17.6	17.3	16.9	17.3
45°	25.2	22.9	21.2	19.9	18.9	17.6	16.6	15.9	15.6	15.9	16.3
47.5°	23.2	20.9	19.2	18.2	17.3	16.3	15.3	14.6	14.6	15.3	15.9
50°	21.2	18.9	17.6	16.9	15.9	14.9	13.6	13.3	13.6	14.3	14.9
52.5°	19.2	16.6	15.6	15.3	14.3	13.3	12.3	11.9	12.3	12.9	12.6
55°	17.3	14.6	14.3	13.9	12.9	11.6	10.6	10.6	10.6	10.3	9.6
57.5°	16.6	12.9	12.6	12.3	11.3	10.0	9.3	8.6	8.3	7.3	7.0
60°	17.3	11.6	11.6	10.9	10.0	8.6	7.6	6.6	6.0	5.3	5.3
62.5°	13.9	10.6	10.3	9.6	8.3	7.0	6.0	5.0	4.6	4.3	4.3
65°	11.3	9.6	8.9	8.0	7.0	5.6	4.6	4.0	3.7	3.7	4.0
67.5°	10.3	8.6	7.6	6.6	5.6	4.3	3.7	3.3	3.3	3.7	3.7
69°	9.6	8.0	7.0	6.0	5.0	4.0	3.3	3.3	3.3	3.3	3.7
70°	8.9	7.6	6.6	5.6	4.3	3.3	3.0	3.0	3.3	3.3	3.7
72.5°	7.0	6.0	5.6	4.6	3.3	3.0	2.6	3.0	3.0	3.3	3.3
75°	5.3	4.3	4.3	3.7	2.6	2.3	2.3	2.6	2.6	3.0	3.0
77.5°	3.7	3.0	3.0	2.6	2.3	2.0	2.0	2.3	2.6	2.6	3.0
80°	2.6	2.3	2.0	2.3	2.0	1.7	2.0	2.3	2.3	2.6	2.6
82.5°	2.0	2.0	2.0	2.0	1.7	1.7	2.0	2.0	2.3	2.6	2.6
85°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.0	2.0	2.3	2.3
87.5°	1.0	1.0	1.0	1.3	1.3	1.7	1.7	1.7	1.7	2.0	2.0
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°	153.0	153.0	153.0	153.0
2.5°	115.5	115.1	113.8	114.1
5°	81.0	79.0	80.3	80.0
7.5°	59.4	59.1	58.7	59.4
10°	50.8	50.8	50.4	50.8
12.5°	47.8	47.8	47.8	47.8
15°	45.5	45.5	45.1	45.1
17.5°	42.8	42.8	42.8	42.5
20°	40.1	39.8	39.8	39.8
22.5°	37.2	36.8	36.8	36.8
25°	34.2	33.8	33.8	33.8
27.5°	31.2	30.8	30.5	30.5
30°	28.2	27.9	27.5	27.5
32.5°	25.2	24.9	24.5	24.5
35°	22.6	22.6	22.2	21.9
37.5°	20.2	20.2	20.2	20.2
40°	18.6	18.9	18.9	18.9
42.5°	17.6	17.9	18.2	18.6
45°	16.9	17.6	17.9	17.9
47.5°	16.6	16.9	17.3	17.3
50°	15.3	14.9	14.9	14.9
52.5°	12.3	11.6	11.3	10.9
55°	8.9	8.6	8.0	8.0
57.5°	6.3	6.3	6.0	6.0
60°	5.0	5.0	4.6	5.0
62.5°	4.3	4.3	4.3	4.3
65°	4.0	4.0	4.0	4.0
67.5°	4.0	4.0	4.0	4.0
69°	3.7	3.7	3.7	3.7
70°	3.7	3.7	3.7	3.7
72.5°	3.3	3.3	3.3	3.3
75°	3.0	3.3	3.3	3.3
77.5°	3.0	3.0	3.0	3.0
80°	2.6	2.6	3.0	3.0
82.5°	2.6	2.6	2.6	2.6
85°	2.3	2.3	2.6	2.6
87.5°	2.0	2.0	2.3	2.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)