

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: P145424

Luminaire Tested: **LDRL-SL4-F01-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145424
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33703)
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-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (7) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2173 lumens
Efficiency: N/A
Efficacy: 83.9 lumens/watt
Luminous Opening: Rectangular (W 0.17' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - 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

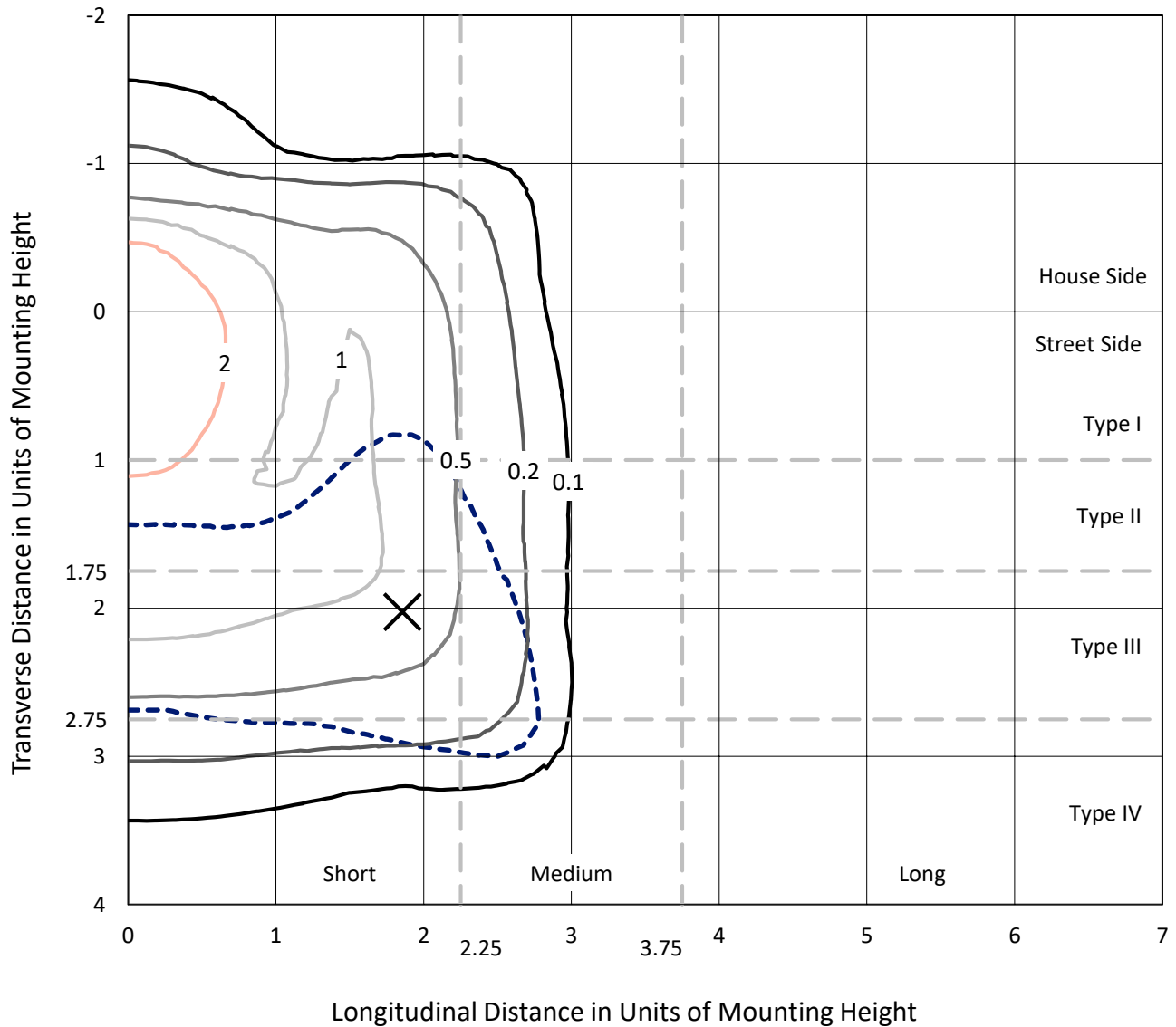


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Iso-Footcandle Lines of Horizontal Illumination

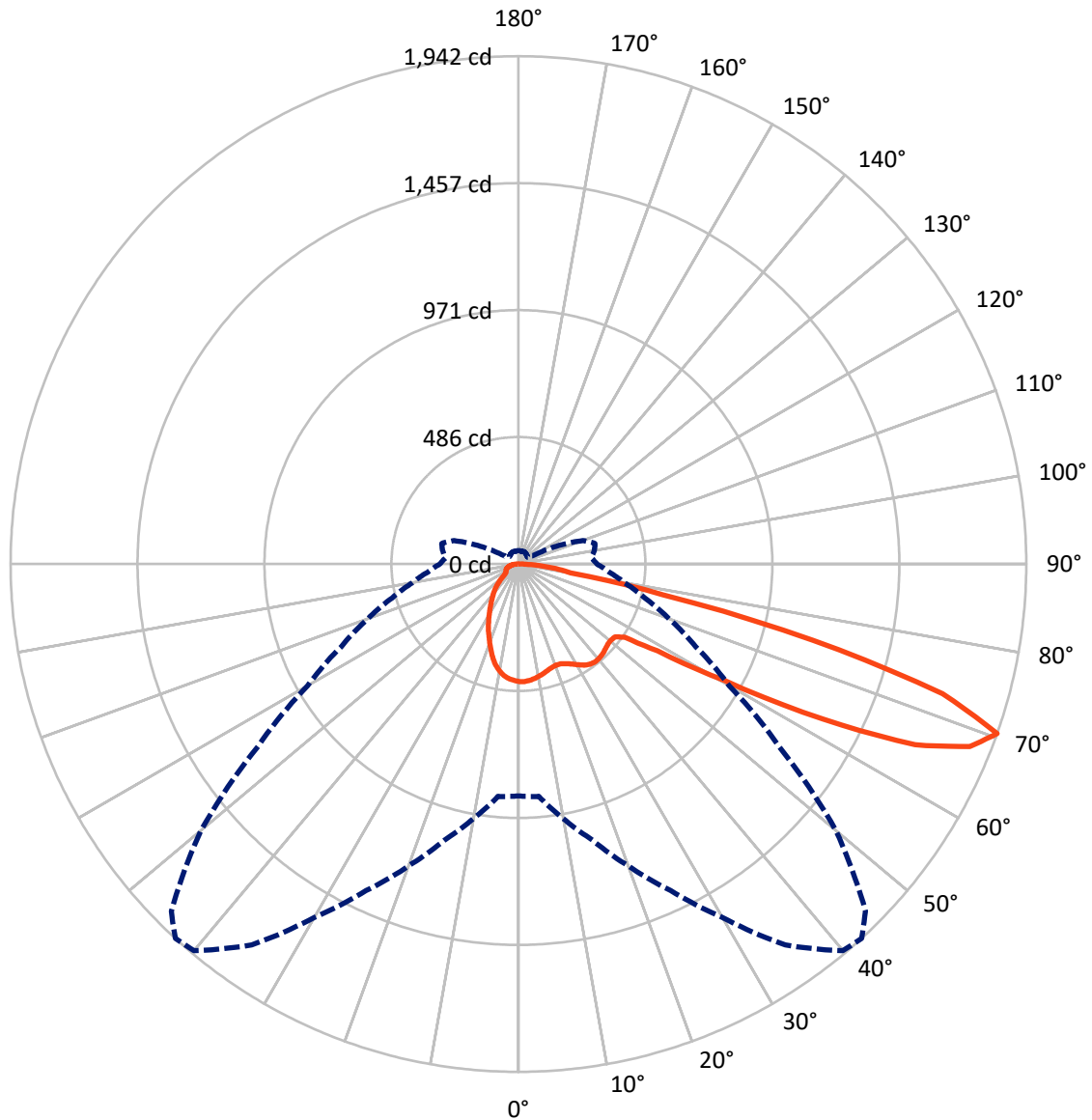
× Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	469.4	0.0	469.4
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	1703.6	0.0	1703.6
	% Fixture	78.4	0.0	78.4
Total	Lumens	2173.0	0.0	2173.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.8	1.9
10°-20°	112.6	5.2
20°-30°	164.3	7.6
30°-40°	209.5	9.6
40°-50°	244.6	11.3
50°-60°	374.0	17.2
60°-70°	678.0	31.2
70°-80°	301.5	13.9
80°-90°	46.7	2.1
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°	2173.0	100.0
0°-180°	2173.0	100.0



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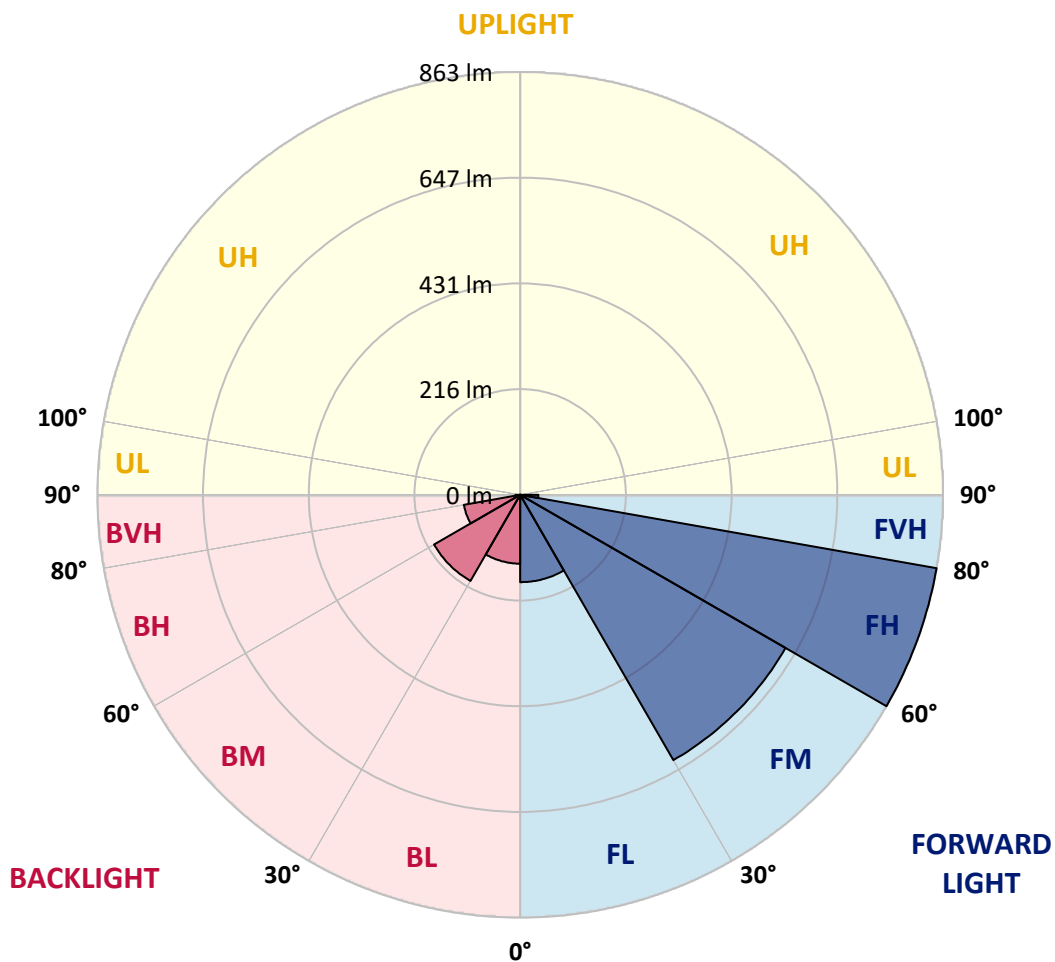
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	178.2	8.2			
FM	(30°-60°)	625.2	28.8			
FH	(60°-80°)	862.9	39.7			G1/1800
FVH	(80°-90°)	37.3	1.7			G1/100
BL	(0°-30°)	140.5	6.5	B1/500		
BM	(30°-60°)	202.9	9.3	B0/220		
BH	(60°-80°)	116.6	5.4	B1/500		G1/500
BVH	(80°-90°)	9.4	0.4			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	449.4	449.4	449.4	449.4	449.4	449.4	449.4	449.4	449.4	449.4	449.4
2.5°	451.5	451.0	451.3	451.6	451.6	451.8	450.4	450.6	450.0	450.1	450.3
5°	449.8	449.4	449.7	449.7	449.7	449.5	447.7	447.6	446.8	446.8	446.5
7.5°	446.7	445.0	445.9	446.1	445.8	445.0	444.0	442.9	442.4	442.4	441.4
10°	441.8	440.0	440.5	440.8	440.6	439.1	438.7	437.6	436.4	436.0	434.8
12.5°	435.7	434.5	435.1	434.9	434.9	433.5	432.8	431.3	429.8	429.0	427.5
15°	431.7	430.2	430.8	430.8	430.2	428.9	427.8	425.1	422.5	421.6	419.7
17.5°	434.1	432.6	433.2	432.8	431.7	428.9	426.2	421.8	417.7	415.3	412.7
20°	443.8	442.3	442.7	442.4	440.9	436.3	431.3	423.7	416.2	412.6	408.7
22.5°	459.2	458.0	458.7	458.3	455.9	449.8	442.4	431.6	420.3	414.8	409.3
25°	482.0	481.7	482.9	481.5	478.0	469.0	458.3	443.6	428.9	422.1	414.2
27.5°	509.4	506.8	508.6	507.4	505.0	493.6	479.1	460.5	441.7	432.8	423.4
30°	534.1	531.9	535.2	534.6	531.0	519.2	501.0	479.2	458.0	446.7	436.0
32.5°	562.8	559.9	562.5	562.5	557.1	541.2	520.4	495.5	473.2	461.1	448.3
35°	592.8	589.8	592.2	591.4	581.8	560.8	534.7	507.7	483.2	470.8	457.7
37.5°	620.7	620.2	620.8	615.9	602.4	575.6	544.4	514.2	488.1	475.2	461.4
40°	648.6	647.5	645.0	636.2	616.6	584.3	549.4	516.5	488.4	474.9	461.0
42.5°	666.1	664.1	659.7	647.8	623.3	586.5	547.9	513.0	484.8	470.9	457.4
45°	672.1	670.1	664.9	651.5	623.4	583.1	542.0	506.1	478.0	465.4	451.6
47.5°	667.1	665.9	661.1	647.7	618.6	577.0	534.6	499.1	471.5	459.2	446.4
50°	658.7	657.9	653.7	641.3	614.1	573.2	531.1	495.8	469.7	458.3	446.2
52.5°	679.8	677.5	670.0	655.4	623.6	580.0	536.5	500.8	474.0	462.3	450.0
55°	939.3	922.6	885.2	815.1	716.9	640.7	576.7	533.5	504.6	493.3	481.5
57.5°	1235.3	1217.9	1202.3	1148.8	1032.2	888.4	759.0	683.3	631.4	626.4	621.7
60°	1349.3	1354.9	1353.6	1333.7	1273.9	1205.6	1097.4	1007.9	908.9	904.8	910.7
62.5°	1427.9	1432.6	1433.2	1427.2	1407.7	1384.9	1362.3	1333.7	1314.8	1306.7	1254.0
65°	1460.3	1467.1	1482.0	1493.2	1496.4	1504.2	1524.7	1602.7	1667.7	1667.2	1605.6
67.5°	1336.5	1344.7	1401.2	1456.7	1503.3	1557.3	1640.4	1767.2	1865.1	1862.1	1811.5
70°	887.0	892.1	988.2	1092.7	1228.3	1378.1	1559.7	1778.4	1930.1	1942.0	1876.8
72.5°	544.1	555.8	587.2	629.6	702.0	840.9	1110.8	1484.5	1707.0	1695.9	1644.0
75°	367.3	367.9	367.0	371.6	375.6	403.7	512.4	816.3	1156.3	1162.4	1140.0
77.5°	251.1	254.4	256.2	255.0	259.1	257.9	264.2	279.7	443.2	565.6	519.8
80°	219.4	220.8	222.7	219.9	212.3	208.1	214.0	208.4	196.3	202.8	194.2
82.5°	138.9	143.0	143.4	153.4	168.1	168.7	176.3	170.7	155.3	145.2	132.9
85°	99.8	101.3	104.1	104.7	99.5	95.2	97.9	93.2	84.0	78.6	69.5
87.5°	58.2	59.7	62.4	60.8	55.6	49.3	44.5	38.3	30.3	28.4	25.0
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	449.4	449.4	449.4	449.4	449.4	449.4	449.4	449.4	449.4	449.4	449.4
2.5°	450.4	449.7	449.1	448.8	449.4	448.8	448.2	447.9	447.3	447.4	446.7
5°	446.2	445.2	444.3	443.5	444.1	443.0	442.1	441.5	440.8	440.6	439.9
7.5°	440.3	438.7	437.5	436.1	434.6	433.7	432.6	431.6	429.9	429.8	429.5
10°	432.6	431.3	428.9	426.8	424.6	422.4	420.1	418.5	416.5	415.8	414.7
12.5°	425.0	422.2	419.4	416.1	413.5	409.9	406.9	403.7	400.8	399.0	397.1
15°	415.9	413.0	409.0	405.8	402.2	398.1	394.2	389.5	384.8	382.0	379.3
17.5°	408.1	404.4	401.1	396.6	393.0	388.3	382.4	377.4	371.9	367.2	362.2
20°	402.0	398.0	394.0	390.0	385.6	380.3	373.8	366.7	359.7	353.0	345.6
22.5°	399.6	393.1	388.8	385.0	380.5	374.4	367.2	358.4	349.7	341.3	332.7
25°	401.7	392.1	385.3	381.1	377.0	370.8	362.7	352.7	342.5	331.8	321.5
27.5°	407.5	395.2	385.6	379.0	374.3	368.3	359.2	348.8	337.2	325.1	314.1
30°	415.8	400.5	388.5	379.0	372.0	365.1	355.3	343.5	331.3	318.6	306.3
32.5°	424.8	406.4	391.9	379.4	368.7	360.0	349.7	338.2	325.3	311.9	298.6
35°	431.6	410.6	393.4	377.8	364.0	353.0	342.0	330.9	318.2	304.6	291.3
37.5°	434.5	412.3	393.1	374.3	357.5	345.5	334.0	322.9	310.6	297.8	285.6
40°	434.6	412.3	391.3	369.6	350.8	337.6	325.6	315.2	303.7	292.7	281.8
42.5°	431.7	410.2	388.0	365.2	345.8	331.0	318.6	307.9	298.7	288.9	279.7
45°	426.6	406.0	385.0	362.8	344.0	329.3	316.1	306.0	297.7	288.9	280.9
47.5°	422.7	403.5	385.1	366.3	348.3	333.3	318.9	308.2	301.1	294.2	288.5
50°	423.4	404.4	386.9	369.0	351.4	336.1	322.3	313.1	308.8	306.6	305.2
52.5°	427.4	408.1	394.8	382.9	377.1	367.8	360.1	353.2	354.2	348.8	341.9
55°	467.8	461.3	476.5	487.5	493.0	502.5	516.2	503.1	501.3	484.5	434.8
57.5°	628.1	643.5	666.8	683.4	685.1	682.2	670.9	660.0	642.4	617.2	547.6
60°	897.0	893.3	871.6	842.5	819.9	790.2	760.3	735.1	706.8	668.2	594.0
62.5°	1179.7	1092.5	1015.2	949.3	893.3	843.7	798.6	760.8	721.9	666.4	587.4
65°	1408.0	1240.3	1104.0	998.0	914.7	844.6	786.4	734.2	682.2	618.0	541.4
67.5°	1571.2	1305.2	1099.5	950.3	833.6	737.1	652.4	592.9	539.6	489.0	454.5
70°	1584.1	1215.4	930.1	747.7	613.0	499.6	411.7	346.8	300.4	279.4	294.4
72.5°	1353.7	899.2	618.4	457.7	363.3	282.3	227.0	181.4	144.0	125.6	128.2
75°	797.3	431.7	278.5	207.5	169.5	135.4	117.2	98.9	87.3	70.0	55.9
77.5°	303.6	187.7	140.5	116.7	83.2	59.9	47.2	40.7	37.4	36.9	35.0
80°	174.9	137.7	96.4	63.0	46.1	39.1	33.5	28.7	26.7	26.2	27.0
82.5°	110.5	85.8	52.9	40.6	33.6	29.0	24.1	21.0	19.3	18.7	19.8
85°	57.2	43.0	32.3	27.7	25.8	23.5	19.3	16.1	16.0	16.7	19.3
87.5°	21.1	18.4	14.5	12.5	13.4	12.5	9.0	7.8	7.1	9.3	13.6
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	449.4	449.4	449.4	449.4	449.4	449.4	449.4	449.4	449.4	449.4	449.4
2.5°	446.7	446.4	446.5	446.2	446.2	446.7	446.1	445.6	446.4	446.4	446.8
5°	439.7	440.0	440.0	439.9	440.2	440.9	440.8	440.8	442.0	442.4	443.0
7.5°	428.7	429.2	429.3	429.8	429.9	431.0	431.7	432.6	434.5	434.9	436.3
10°	413.8	413.5	414.5	414.4	415.8	416.7	417.3	419.2	421.9	423.4	424.8
12.5°	396.1	396.1	396.8	396.9	398.1	399.3	400.1	402.5	404.7	406.7	409.7
15°	377.4	376.8	375.5	375.3	375.8	377.0	378.7	380.5	383.9	386.8	389.4
17.5°	357.8	356.0	354.4	352.3	352.1	352.0	352.9	354.2	359.7	362.5	366.1
20°	340.5	336.6	332.7	328.3	325.7	324.5	325.0	326.8	331.9	335.7	339.4
22.5°	325.0	319.1	312.9	306.0	301.7	299.2	299.5	300.2	304.0	306.3	308.2
25°	311.7	303.6	295.0	286.1	280.2	276.3	276.1	276.1	274.5	274.8	273.7
27.5°	302.7	291.3	280.3	269.9	262.2	258.3	253.0	249.3	246.0	241.4	239.5
30°	293.9	282.3	269.8	258.3	249.1	241.4	231.6	223.5	217.0	210.8	205.5
32.5°	286.1	274.0	262.1	249.6	236.9	223.6	210.8	201.5	192.3	182.8	176.4
35°	279.1	267.8	255.9	241.7	223.9	206.6	192.1	179.5	168.6	157.1	147.9
37.5°	275.2	265.0	252.6	233.3	211.0	191.2	175.1	160.9	146.4	132.7	121.4
40°	273.2	264.2	249.1	224.7	199.4	178.2	160.3	143.3	126.2	110.1	98.3
42.5°	272.9	264.2	244.0	215.9	189.4	166.8	146.7	126.2	105.6	89.9	79.5
45°	275.7	263.9	238.6	208.1	180.5	156.5	132.4	108.3	87.0	73.3	67.6
47.5°	283.5	265.0	234.3	201.5	172.1	145.2	116.1	88.4	70.3	64.1	63.9
50°	296.2	269.8	233.4	196.6	163.8	131.0	97.0	70.7	62.0	61.7	63.3
52.5°	316.2	278.8	235.7	193.3	153.8	112.6	76.8	61.1	59.4	61.1	63.2
55°	360.4	295.0	238.7	187.4	137.7	89.3	63.2	57.9	58.7	60.6	62.6
57.5°	440.8	328.4	241.9	174.2	111.6	68.6	56.9	56.7	58.1	59.7	61.5
60°	491.8	369.8	249.6	154.6	84.3	56.7	54.4	55.9	57.6	58.8	60.3
62.5°	493.4	380.6	253.6	133.6	62.7	51.9	52.3	55.2	57.2	57.6	58.4
65°	461.6	360.1	235.2	108.7	52.0	49.2	50.8	53.4	55.3	55.6	56.2
67.5°	403.2	317.6	199.4	82.0	47.4	47.0	48.9	50.8	52.2	53.4	54.3
70°	303.7	262.1	160.3	63.6	44.5	44.2	46.0	47.7	48.9	50.4	51.9
72.5°	154.0	181.4	121.5	52.0	40.6	40.9	42.8	44.3	45.2	46.6	48.1
75°	52.5	79.2	76.9	42.1	36.2	37.4	38.3	40.0	41.3	42.2	43.0
77.5°	32.9	34.4	39.7	33.9	32.0	32.3	33.8	35.3	36.8	37.4	37.7
80°	27.4	27.6	27.7	27.1	27.3	28.2	29.1	30.8	32.3	32.6	32.7
82.5°	21.7	23.2	23.1	22.9	23.7	24.6	25.2	25.8	26.4	26.7	27.1
85°	19.2	18.8	19.0	19.5	18.8	18.2	18.1	18.1	19.0	20.1	20.5
87.5°	17.5	14.9	11.2	10.6	10.6	10.3	9.7	9.7	10.6	11.5	11.9
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):

	160°	165°	170°	175°	180°
0°	449.4	449.4	449.4	449.4	449.4
2.5°	446.7	446.8	446.7	446.7	447.4
5°	443.3	444.0	443.6	444.1	444.6
7.5°	436.6	438.1	438.4	439.6	439.1
10°	426.8	427.8	429.3	430.5	430.1
12.5°	411.2	413.8	416.1	417.4	417.1
15°	391.5	395.1	398.1	399.2	398.0
17.5°	370.4	372.6	376.2	377.0	378.2
20°	343.7	343.5	346.7	346.7	346.1
22.5°	308.8	311.1	311.1	309.0	307.9
25°	273.2	274.0	271.7	272.2	269.3
27.5°	237.5	235.5	233.7	234.5	232.4
30°	203.4	199.2	197.4	197.7	195.4
32.5°	170.7	165.7	163.9	161.5	159.5
35°	141.0	133.2	128.5	127.3	128.6
37.5°	111.9	106.3	100.7	96.7	97.1
40°	88.5	82.8	79.2	77.5	77.2
42.5°	73.1	69.8	69.1	69.2	69.2
45°	66.4	66.5	67.1	67.7	67.9
47.5°	65.0	65.9	67.0	67.7	67.9
50°	64.8	65.7	66.5	67.4	67.7
52.5°	64.7	65.3	65.7	66.2	66.7
55°	64.1	64.4	64.2	64.5	65.0
57.5°	62.6	62.7	62.4	62.6	63.5
60°	61.2	61.4	60.8	61.5	61.7
62.5°	59.6	59.4	59.1	59.6	59.6
65°	57.2	56.2	56.5	57.0	57.2
67.5°	54.3	53.4	53.4	53.7	54.1
70°	50.7	50.2	50.2	50.8	51.4
72.5°	46.6	46.9	47.8	48.7	49.6
75°	43.3	44.0	44.9	47.2	48.6
77.5°	39.1	39.2	40.0	42.2	44.6
80°	33.2	33.0	33.2	33.5	33.9
82.5°	26.2	25.9	25.0	25.3	24.7
85°	19.3	18.8	17.8	17.0	16.9
87.5°	11.2	11.2	10.7	10.1	9.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)