

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: P146841

Luminaire Tested: **LDRL-T4-E01-E-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146841
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33696)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-T4-E01-E-7050
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (21) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3015.3 lumens
Efficiency: N/A
Efficacy: 122.1 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

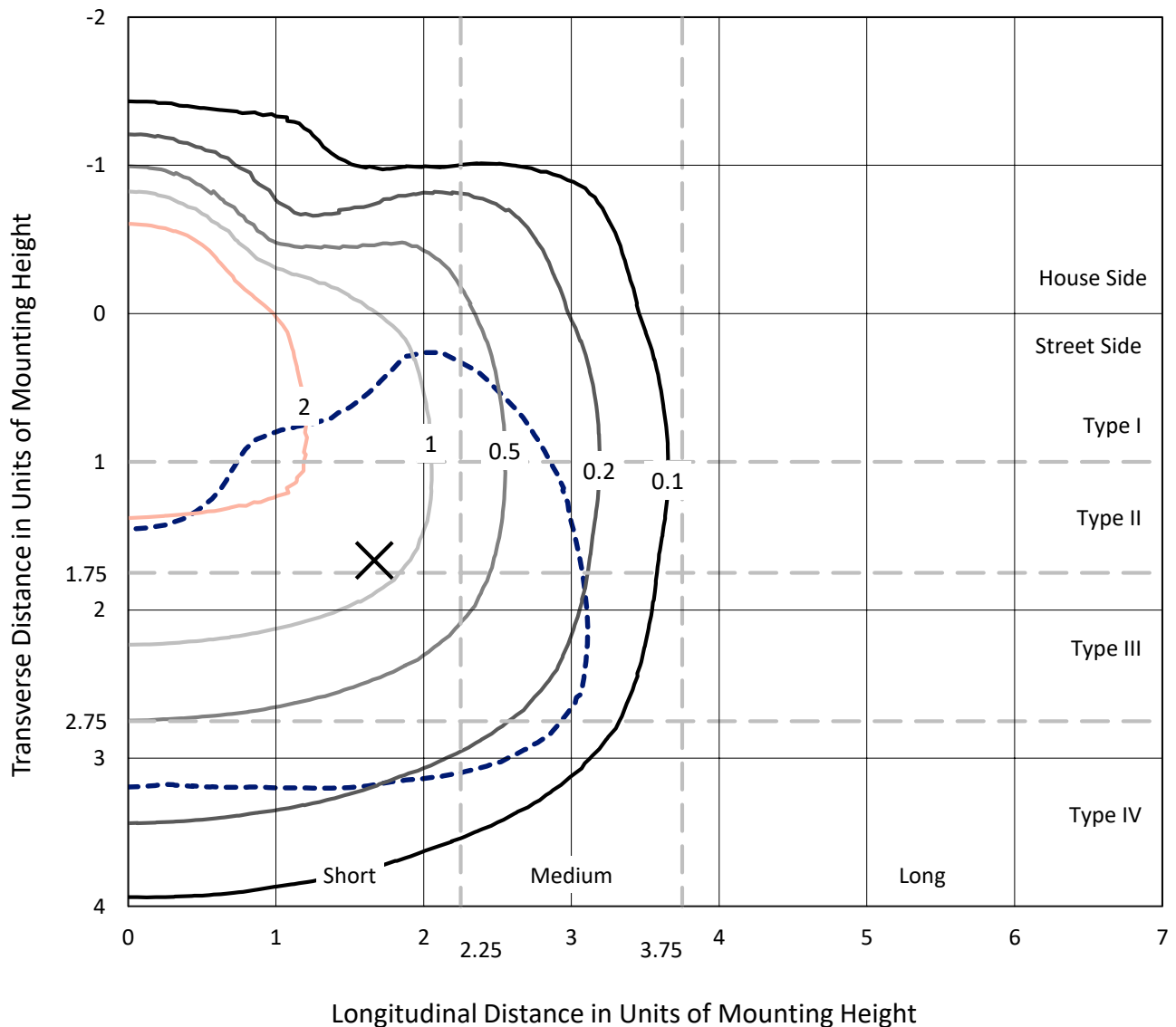
Input Watts (W): 24.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

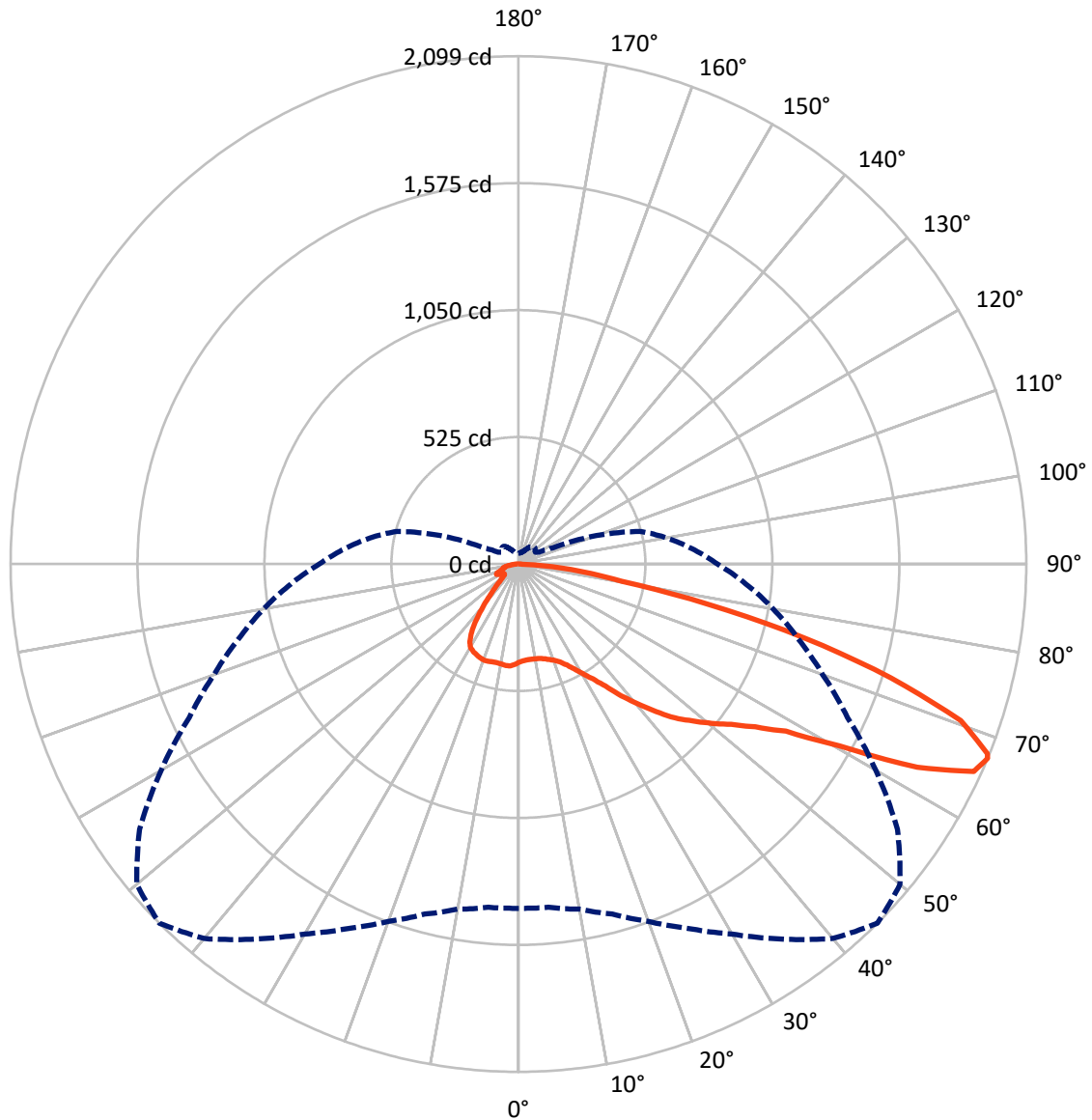
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.1 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	611.0	0.0	611.0
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	2404.4	0.0	2404.4
	% Fixture	79.7	0.0	79.7
Total	Lumens	3015.3	0.0	3015.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.1	1.3
10°-20°	117.5	3.9
20°-30°	199.7	6.6
30°-40°	300.1	10.0
40°-50°	390.2	12.9
50°-60°	535.7	17.8
60°-70°	845.1	28.0
70°-80°	510.6	16.9
80°-90°	77.4	2.6
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°-90°	3015.3	100.0
0°-180°	3015.3	100.0



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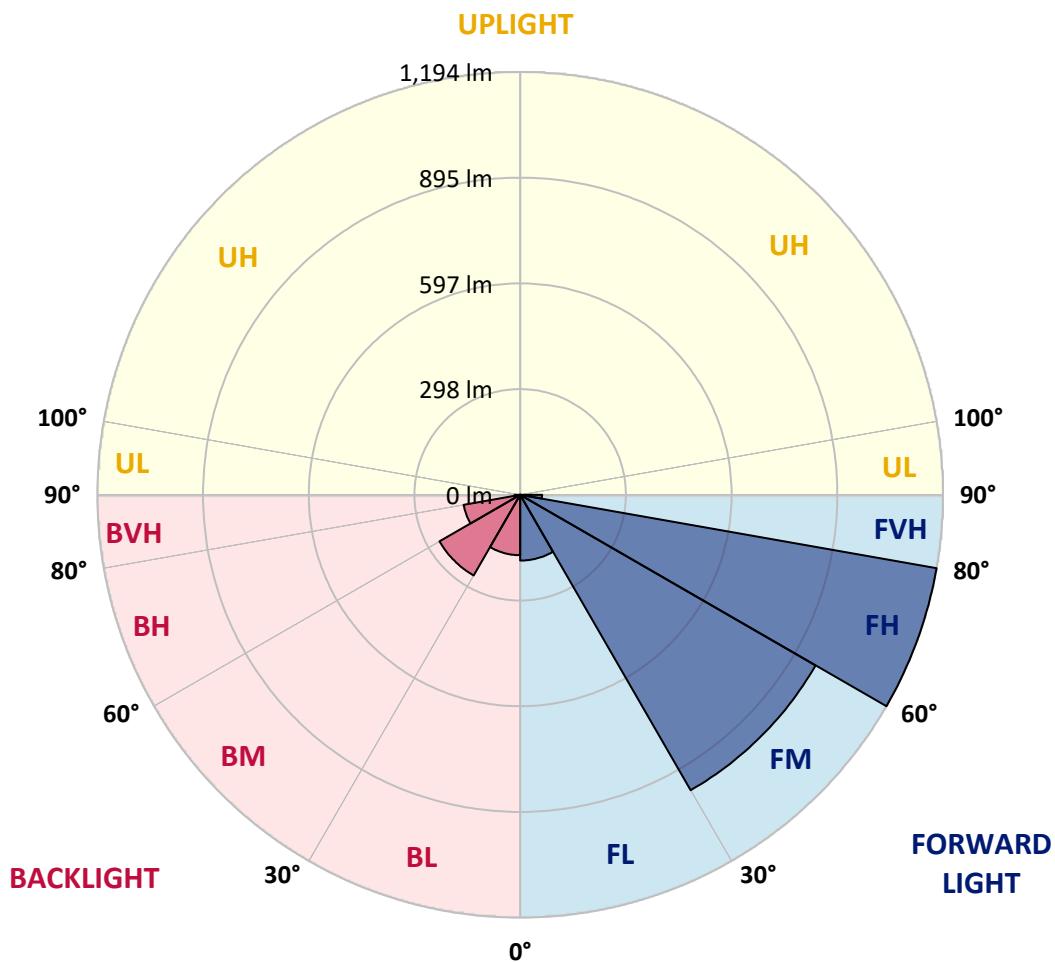
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	185.7	6.2			
FM	(30°-60°)	963.1	31.9			
FH	(60°-80°)	1193.8	39.6			G1/1800
FVH	(80°-90°)	61.8	2.0			G1/100
BL	(0°-30°)	170.6	5.7	B1/500		
BM	(30°-60°)	262.9	8.7	B1/1000		
BH	(60°-80°)	161.9	5.4	B1/500		G1/500
BVH	(80°-90°)	15.6	0.5			G1/100
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°	45°	50°
0°	405.9	405.9	405.9	405.9	405.9	405.9	405.9	405.9	405.9	405.9	405.9
2.5°	396.9	397.7	397.1	397.1	397.3	397.5	397.9	398.7	398.9	400.2	400.4
5°	388.9	389.1	389.1	389.3	390.5	391.6	392.6	394.0	395.3	397.5	398.9
7.5°	386.0	386.8	386.6	387.0	388.3	389.3	390.5	392.6	395.7	397.5	399.6
10°	390.7	391.4	390.7	390.9	391.2	392.2	392.6	394.0	396.5	398.1	400.0
12.5°	401.6	401.6	401.0	400.6	400.0	400.2	399.4	399.2	400.4	400.6	400.8
15°	416.0	417.6	415.6	413.9	413.1	412.3	409.6	408.6	408.4	406.5	404.7
17.5°	430.6	431.0	429.7	427.9	426.7	424.8	422.6	420.5	418.0	415.2	411.5
20°	446.8	447.0	445.3	442.7	441.2	439.0	436.1	432.6	429.5	425.0	420.9
22.5°	469.3	469.1	465.9	463.6	461.5	458.9	454.8	450.0	445.1	439.8	434.0
25°	495.2	495.2	492.9	489.2	488.2	484.3	479.8	474.3	469.1	461.5	454.6
27.5°	524.8	525.0	520.9	518.8	516.5	512.4	509.4	505.0	498.1	490.5	483.3
30°	559.8	558.8	555.5	551.2	550.4	547.1	542.8	539.7	531.1	525.8	517.8
32.5°	593.1	594.7	593.9	589.0	589.8	586.5	582.8	580.6	571.5	566.4	559.0
35°	642.8	644.2	645.4	643.6	644.6	642.8	639.7	633.7	626.3	619.6	609.3
37.5°	681.3	682.8	683.6	688.1	694.7	701.0	703.9	700.8	701.2	691.0	677.2
40°	712.9	716.4	721.4	730.0	743.1	755.2	761.8	766.9	769.6	759.9	742.1
42.5°	744.5	748.2	755.0	768.8	786.8	804.3	818.0	833.8	836.7	834.2	819.0
45°	777.6	781.9	790.3	805.9	827.0	849.8	872.0	894.4	905.6	907.5	889.0
47.5°	817.4	823.6	831.4	849.0	869.5	895.2	922.9	951.6	969.3	969.3	947.9
50°	867.1	874.0	880.6	898.3	918.8	945.2	977.3	1009.3	1033.3	1034.7	1008.9
52.5°	936.6	937.7	941.6	957.8	975.6	1005.2	1035.5	1072.7	1100.4	1101.6	1071.9
55°	1021.2	1021.2	1025.7	1039.2	1055.9	1080.3	1111.7	1152.9	1182.1	1188.4	1150.3
57.5°	1132.4	1136.5	1138.8	1154.6	1165.9	1191.7	1218.0	1262.9	1300.1	1304.2	1265.4
60°	1313.4	1305.6	1318.1	1332.1	1358.6	1377.4	1422.2	1467.3	1514.7	1526.0	1484.4
62.5°	1491.8	1500.2	1515.6	1540.8	1586.2	1628.4	1692.5	1761.0	1834.7	1849.9	1818.1
65°	1502.8	1508.0	1529.3	1572.8	1634.8	1710.1	1798.4	1901.6	2011.4	2068.2	2014.9
67°	1423.2	1424.6	1448.9	1498.3	1572.6	1661.9	1766.3	1892.3	2021.2	2099.4	2059.6
67.5°	1398.0	1400.6	1424.4	1474.9	1550.0	1641.4	1747.9	1877.4	2009.3	2091.0	2055.1
70°	1249.8	1249.8	1275.4	1326.3	1396.7	1485.8	1597.2	1728.0	1871.4	1940.2	1909.6
72.5°	1063.9	1057.1	1086.0	1124.6	1182.1	1259.9	1349.5	1452.8	1560.7	1610.8	1598.7
75°	773.3	786.0	801.0	829.5	879.4	940.7	993.3	1085.4	1170.2	1225.6	1211.0
77.5°	421.9	426.9	468.3	485.3	529.1	574.6	632.3	696.9	763.6	798.5	784.4
80°	250.8	260.4	285.1	305.4	329.0	363.7	405.5	419.7	432.8	432.0	406.3
82.5°	158.4	170.1	196.8	214.3	226.6	246.7	269.5	287.3	291.2	271.9	242.2
85°	25.7	42.5	111.0	130.5	138.3	149.2	166.0	173.6	162.1	141.6	146.7
87.5°	10.1	12.1	33.9	42.9	45.4	23.8	41.2	48.4	24.6	12.5	28.3
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°	405.9	405.9	405.9	405.9	405.9	405.9	405.9	405.9	405.9	405.9	405.9
2.5°	401.6	402.6	403.7	404.9	405.3	406.3	408.2	408.0	409.4	410.0	411.1
5°	400.8	403.1	404.7	407.0	407.8	410.0	412.5	413.3	415.2	416.6	417.8
7.5°	402.4	404.9	407.0	409.6	411.5	413.3	415.2	417.4	419.1	420.1	420.9
10°	403.1	405.7	408.2	410.4	412.5	413.9	416.0	417.8	419.5	420.1	420.3
12.5°	403.3	405.1	407.6	410.0	411.9	413.7	415.2	417.2	418.4	418.7	418.2
15°	404.9	405.1	406.7	409.6	411.5	413.3	414.3	415.4	416.2	415.6	415.0
17.5°	409.8	408.4	408.4	409.8	410.9	411.7	411.9	411.7	410.9	409.6	408.6
20°	417.8	415.0	412.7	411.9	410.2	408.2	405.5	403.1	400.0	398.5	398.3
22.5°	430.3	426.0	421.9	417.8	412.5	406.5	400.4	395.1	390.7	388.5	388.7
25°	451.7	445.3	440.6	433.4	424.8	416.4	408.4	401.2	396.1	392.0	392.8
27.5°	480.4	473.2	469.1	460.9	451.1	440.4	431.0	421.1	413.7	408.6	409.6
30°	514.1	512.0	505.3	497.0	487.8	475.7	461.5	446.8	433.4	425.0	423.4
32.5°	554.7	552.5	545.1	538.1	526.2	512.8	494.4	471.0	450.0	434.0	427.1
35°	604.8	599.2	590.2	583.4	570.1	552.9	529.1	497.5	465.6	441.6	424.2
37.5°	667.2	653.4	638.4	620.8	601.1	580.2	552.7	515.7	476.3	442.3	411.3
40°	726.7	704.5	679.7	651.8	627.8	602.5	574.0	531.7	483.5	437.9	391.8
42.5°	793.0	758.5	724.8	686.5	654.9	624.9	592.3	543.0	484.9	426.2	366.5
45°	856.8	812.5	767.3	719.9	679.7	646.4	609.3	552.7	484.5	413.9	341.5
47.5°	913.6	860.7	804.9	751.5	704.7	668.2	627.6	565.8	490.1	410.4	324.9
50°	966.8	905.6	840.2	780.9	730.0	692.6	650.8	586.5	507.1	418.4	322.4
52.5°	1021.6	955.1	880.2	816.4	763.2	719.9	677.6	613.0	530.9	434.9	327.9
55°	1093.0	1016.7	936.8	866.0	805.1	758.5	709.7	645.0	556.6	453.9	338.4
57.5°	1199.3	1110.0	1019.3	943.2	872.8	814.7	761.2	687.1	599.0	482.7	361.4
60°	1390.2	1291.3	1186.2	1086.6	1005.6	937.7	869.5	777.6	677.4	547.9	414.1
62.5°	1701.9	1565.0	1419.7	1288.8	1177.4	1085.4	989.4	879.0	762.2	627.2	494.0
65°	1889.3	1700.5	1515.6	1363.7	1231.9	1114.1	998.0	879.4	766.3	648.3	529.9
67°	1912.5	1705.4	1500.8	1339.1	1197.9	1069.6	943.6	822.3	721.1	622.2	520.0
67.5°	1905.5	1695.5	1486.8	1323.5	1180.8	1056.7	932.7	808.6	710.1	611.1	512.6
70°	1768.0	1562.6	1356.1	1197.3	1060.6	933.6	816.4	692.0	615.9	545.1	459.9
72.5°	1467.3	1307.1	1134.1	1001.7	883.7	773.7	670.7	566.6	505.5	455.4	395.5
75°	1088.1	941.1	794.8	715.2	623.7	535.6	456.0	379.0	355.4	343.5	308.2
77.5°	671.9	539.9	429.7	357.7	284.4	222.9	177.3	144.3	150.4	175.1	186.3
80°	334.5	247.1	191.3	152.1	122.9	99.3	72.9	53.4	63.8	75.7	85.8
82.5°	201.3	159.0	125.8	106.5	86.6	66.9	47.4	36.1	40.0	53.8	59.1
85°	125.0	100.1	80.0	66.9	55.4	41.0	26.9	26.7	28.3	35.7	40.8
87.5°	36.7	24.8	19.7	20.5	22.8	18.9	14.2	12.1	15.0	20.5	23.0
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°	405.9	405.9	405.9	405.9	405.9	405.9	405.9	405.9	405.9	405.9	405.9
2.5°	411.3	412.7	413.3	413.5	413.7	415.0	415.0	416.2	416.6	416.6	417.0
5°	419.1	420.5	421.1	421.3	421.7	422.3	422.1	423.0	423.4	423.2	423.2
7.5°	421.9	422.3	422.3	423.0	423.6	423.0	422.6	423.0	422.8	423.0	423.0
10°	420.9	420.5	420.5	420.1	420.7	419.5	419.5	419.9	419.7	420.1	420.7
12.5°	418.4	418.2	417.6	417.4	418.2	417.4	417.6	418.2	418.7	419.5	420.5
15°	415.0	414.3	414.3	415.2	417.2	417.8	418.7	419.7	419.9	420.3	420.7
17.5°	409.0	410.0	412.5	415.4	419.3	420.7	421.1	420.5	418.4	416.8	415.2
20°	400.8	405.3	411.7	417.8	422.6	422.3	419.7	415.8	410.9	407.4	405.1
22.5°	393.8	402.6	412.5	419.9	423.0	419.1	412.9	407.0	401.2	396.1	391.6
25°	398.7	407.2	415.6	420.1	419.9	413.1	404.9	398.3	390.5	383.4	375.8
27.5°	414.8	419.9	422.3	420.9	416.6	407.6	398.5	389.3	379.2	370.6	361.8
30°	425.6	425.6	423.2	417.4	409.8	399.8	388.7	376.8	364.9	354.8	344.8
32.5°	422.1	414.1	407.0	399.2	390.5	379.7	366.9	354.0	340.5	328.8	320.1
35°	407.0	389.7	374.7	363.7	354.6	341.7	326.9	312.1	301.1	293.1	288.1
37.5°	379.9	352.4	330.6	317.1	303.1	289.8	272.7	266.0	256.1	251.2	249.3
40°	347.0	306.8	279.5	262.1	247.3	230.7	219.2	214.9	211.2	210.1	209.3
42.5°	309.3	259.0	226.6	208.5	190.7	178.5	173.4	170.7	170.1	170.1	171.2
45°	270.1	210.4	173.0	158.4	143.7	137.3	136.1	134.8	135.0	134.4	134.8
47.5°	239.7	168.9	130.5	117.2	109.6	107.5	106.1	105.7	105.7	104.7	103.4
50°	223.9	141.2	102.4	91.9	87.6	86.2	86.2	85.4	83.7	82.7	80.0
52.5°	219.8	126.8	88.7	79.6	75.9	74.7	73.5	72.2	69.8	67.5	64.4
55°	223.1	122.3	84.3	75.9	71.8	70.4	69.4	67.3	63.8	60.5	57.1
57.5°	236.8	125.2	86.0	77.0	73.3	72.2	71.2	68.1	63.8	59.1	55.2
60°	274.4	138.7	93.0	82.5	79.4	79.6	78.2	74.3	68.1	61.4	55.6
62.5°	322.8	157.6	102.0	90.3	89.9	91.9	91.9	85.2	75.1	64.8	57.1
65°	350.5	163.6	103.2	91.3	94.8	100.8	100.4	91.3	77.6	64.8	56.4
67°	343.5	157.2	98.1	85.4	89.5	96.2	95.4	86.8	73.9	62.2	54.8
67.5°	338.0	155.1	96.9	83.9	88.0	93.6	93.6	85.0	72.2	61.4	54.2
70°	297.6	137.1	90.7	78.4	78.4	79.8	78.8	72.6	64.0	56.4	51.7
72.5°	248.1	119.8	85.8	74.5	70.6	69.8	68.3	64.0	58.5	53.2	49.0
75°	192.3	106.1	81.9	70.4	65.3	63.4	62.0	58.7	54.4	49.9	46.4
77.5°	134.6	90.9	76.8	66.9	61.4	59.9	57.7	54.0	50.5	46.6	43.3
80°	83.5	75.1	66.9	60.3	54.6	52.5	49.7	46.4	43.5	41.2	38.8
82.5°	59.5	55.2	49.9	46.4	40.4	34.3	36.7	36.9	35.1	33.7	33.0
85°	39.8	35.9	33.2	30.2	26.7	24.0	24.6	26.5	26.7	26.1	26.1
87.5°	21.8	18.5	17.9	18.5	16.0	15.2	15.4	17.0	17.2	17.2	17.4
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):

	165°	170°	175°	180°
0°	405.9	405.9	405.9	405.9
2.5°	417.2	417.8	417.6	418.0
5°	423.6	424.0	423.8	424.0
7.5°	422.6	423.4	423.8	423.2
10°	420.9	422.1	423.0	423.0
12.5°	421.3	423.4	424.6	424.6
15°	420.9	422.6	423.0	423.0
17.5°	414.5	414.5	414.8	413.9
20°	403.5	402.2	401.8	400.4
22.5°	387.7	384.8	382.9	381.9
25°	369.6	365.1	362.2	360.6
27.5°	354.6	350.7	347.8	346.2
30°	338.0	333.5	331.8	330.6
32.5°	314.0	309.7	308.4	307.4
35°	282.8	281.4	278.1	275.8
37.5°	246.7	244.8	243.6	242.8
40°	208.9	209.1	208.1	206.2
42.5°	171.2	173.2	171.2	170.7
45°	134.4	136.7	136.7	137.3
47.5°	103.6	103.2	104.0	104.3
50°	78.4	77.2	76.8	76.1
52.5°	62.2	60.7	59.9	58.9
55°	54.8	53.2	52.3	52.1
57.5°	52.3	50.3	49.0	48.8
60°	51.7	48.8	47.2	46.8
62.5°	51.7	48.2	46.4	45.8
65°	51.1	47.6	46.0	45.4
67°	50.3	47.2	45.6	45.1
67.5°	49.9	47.0	45.6	44.9
70°	48.8	46.4	44.7	44.1
72.5°	46.6	44.5	42.9	42.5
75°	44.1	42.3	41.2	40.8
77.5°	41.2	39.6	38.4	37.4
80°	36.9	35.1	33.2	32.8
82.5°	31.4	29.3	27.9	27.7
85°	25.2	23.6	22.0	22.0
87.5°	17.6	16.6	15.6	14.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)