

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: P163801

Luminaire Tested: **LDRL-SL4-F02-E-7030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163801
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-F02-E-7030-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (14) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2976.4 lumens
Efficiency: N/A
Efficacy: 54.1 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 1' x H: 0.1')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B0 - U0 - G1

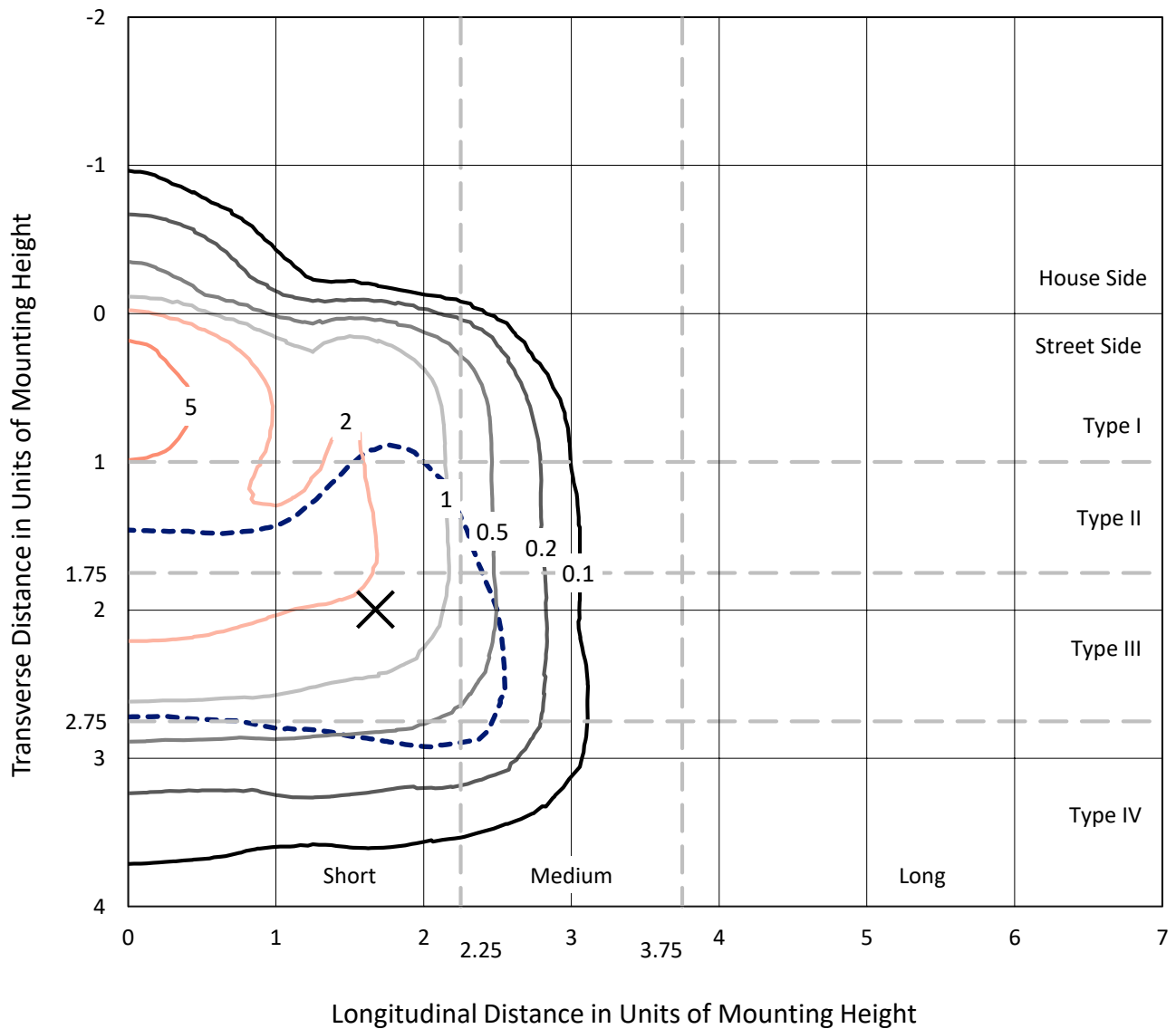
Input Watts (W): 55
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

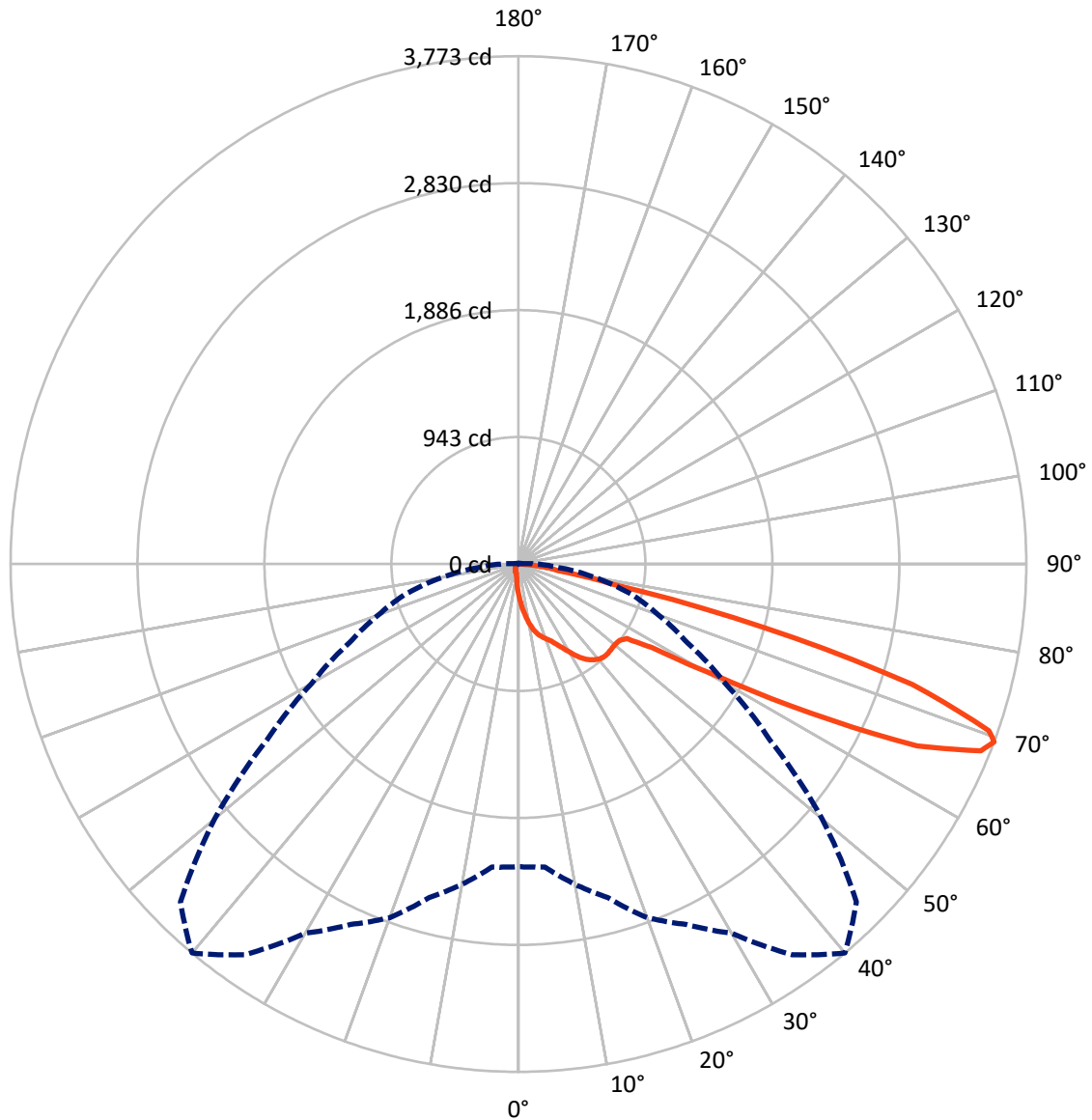


Based on 10 foot mounting height. Maximum calculated value = 6.7 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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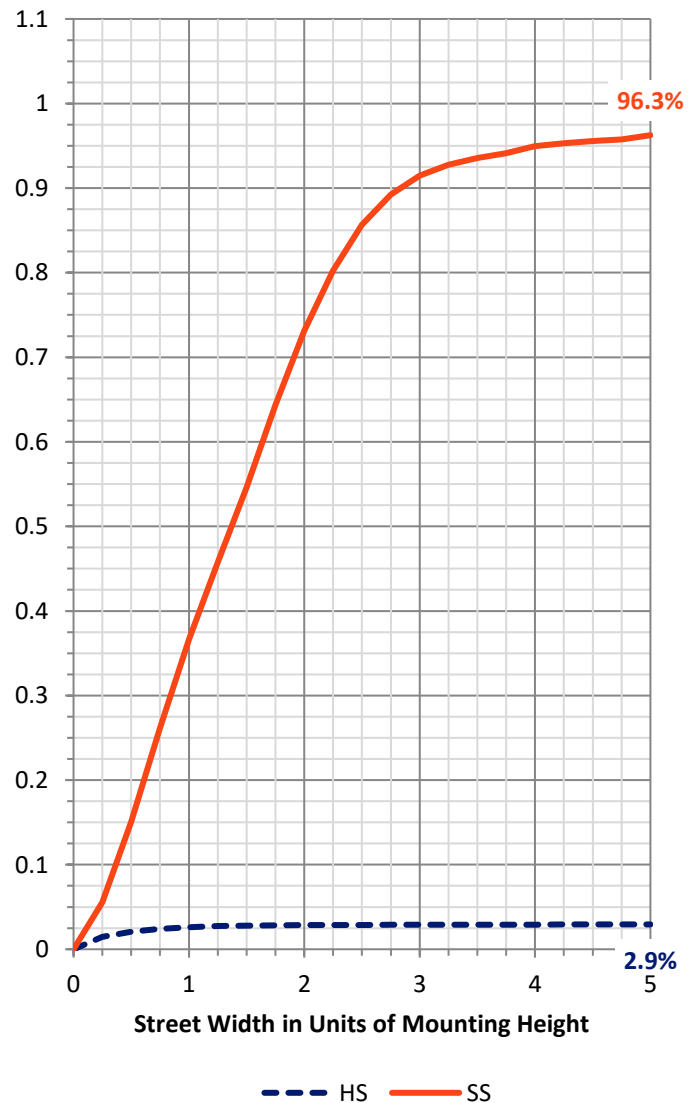
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	88.6	0.0	88.6
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	2887.7	0.0	2887.7
	% Fixture	97.0	0.0	97.0
Total	Lumens	2976.4	0.0	2976.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.1	0.8
10°-20°	79.7	2.7
20°-30°	152.5	5.1
30°-40°	253.5	8.5
40°-50°	343.1	11.5
50°-60°	536.5	18.0
60°-70°	1103.1	37.1
70°-80°	443.9	14.9
80°-90°	41.0	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°	2976.4	100.0
0°-180°	2976.4	100.0



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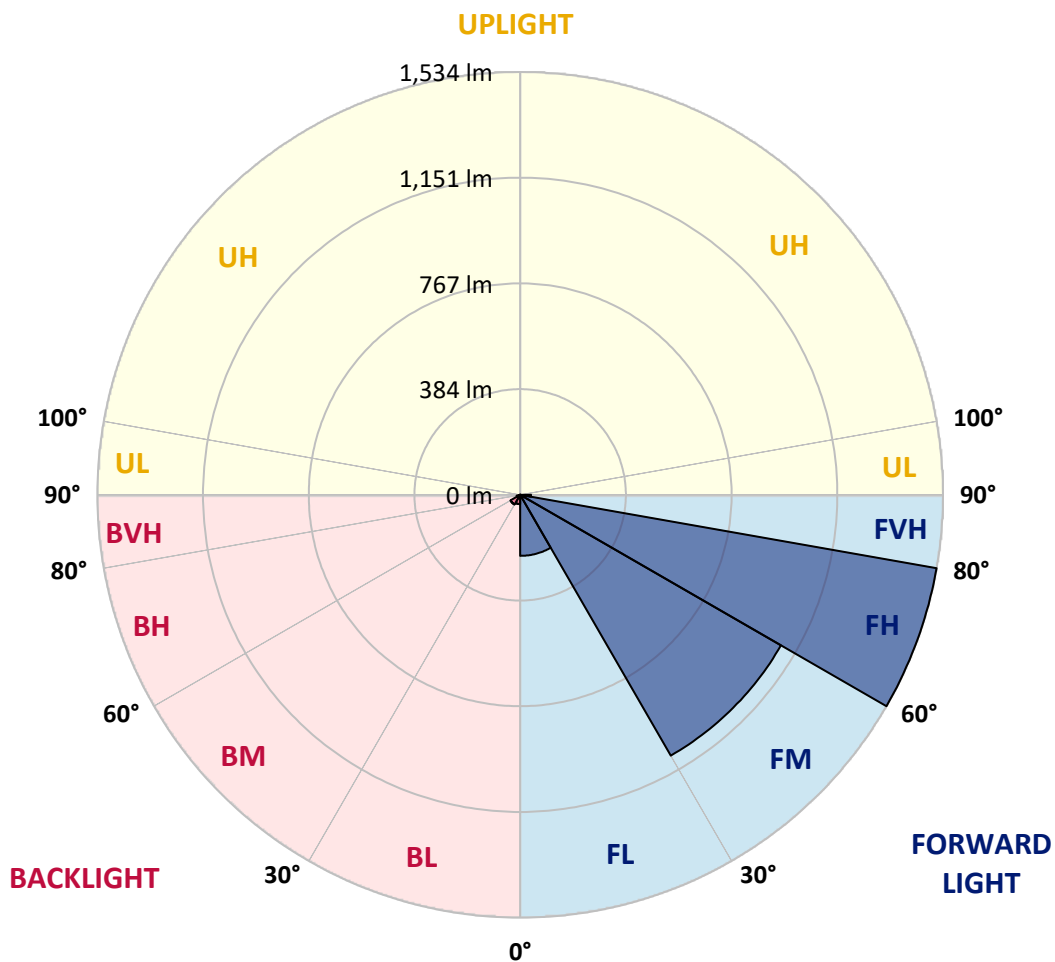
CATALOG NUMBER: LDRL-SL4-F02-E-7030-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	221.5	7.4			
FM (30°-60°)	1092.7	36.7			
FH (60°-80°)	1534.0	51.5			G1/1800
FVH (80°-90°)	39.5	1.3			G1/100
BL (0°-30°)	33.7	1.1	B0/110		
BM (30°-60°)	40.5	1.4	B0/220		
BH (60°-80°)	12.9	0.4	B0/110		G0/110
BVH (80°-90°)	1.5	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°	224.8	224.8	224.8	224.8	224.8	224.8	224.8	224.8	224.8	224.8	224.8
2.5°	299.8	296.4	292.5	292.5	287.7	287.7	284.7	277.0	276.0	271.6	267.2
5°	382.8	379.8	374.9	370.6	366.7	359.8	354.9	345.7	335.5	325.7	316.9
7.5°	463.7	462.2	453.5	452.0	445.6	434.4	424.7	411.0	393.5	379.8	363.7
10°	538.8	535.4	533.4	525.1	515.9	503.7	488.6	472.0	451.5	430.0	407.1
12.5°	598.2	596.3	587.5	584.1	574.4	562.2	543.1	521.7	501.2	473.4	446.6
15°	642.6	639.2	633.4	628.0	616.3	605.6	588.0	564.6	539.7	509.5	477.3
17.5°	679.7	673.3	671.9	663.6	651.4	638.7	619.2	597.8	568.5	538.3	503.2
20°	729.4	720.6	717.7	705.5	691.4	673.8	651.4	624.6	593.9	560.7	524.6
22.5°	787.9	781.6	775.3	764.5	746.5	721.6	688.9	659.7	620.7	584.1	545.1
25°	870.8	865.5	855.2	840.6	818.1	788.4	748.9	706.0	660.2	613.4	567.5
27.5°	951.3	946.4	939.1	927.9	902.5	869.8	821.1	766.5	708.5	651.9	601.2
30°	1026.8	1022.4	1015.1	1003.9	981.5	949.3	894.2	835.7	763.6	697.7	636.8
32.5°	1108.2	1106.8	1098.5	1082.4	1062.9	1019.5	959.6	896.6	823.5	747.4	676.3
35°	1200.4	1189.2	1181.4	1165.3	1132.2	1085.8	1015.6	946.9	869.8	791.8	712.3
37.5°	1278.4	1267.7	1258.0	1237.5	1197.0	1138.0	1058.5	983.0	903.5	824.0	743.1
40°	1335.5	1330.1	1318.4	1291.6	1246.3	1176.0	1090.2	1007.8	927.9	847.9	767.9
42.5°	1377.9	1369.6	1356.4	1328.7	1275.0	1195.0	1102.9	1018.1	939.1	862.5	784.0
45°	1393.5	1386.7	1374.5	1344.2	1286.2	1200.4	1102.4	1015.1	939.6	866.9	794.7
47.5°	1384.2	1377.4	1366.7	1338.4	1281.4	1194.1	1093.6	1006.9	934.7	868.4	804.5
50°	1353.5	1349.6	1341.3	1317.4	1266.2	1181.9	1085.8	1002.4	933.7	875.7	818.1
52.5°	1350.6	1348.1	1337.9	1314.0	1261.9	1178.0	1084.8	1004.9	942.0	884.9	827.9
55°	1650.5	1615.8	1538.3	1472.5	1364.2	1235.5	1134.1	1044.4	977.1	921.5	881.5
57.5°	2345.7	2294.0	2192.2	2066.8	1818.2	1573.9	1378.4	1237.0	1167.3	1141.9	1157.0
60°	2671.4	2662.2	2646.1	2586.6	2459.3	2249.2	2015.2	1762.1	1660.7	1651.9	1682.6
62.5°	2826.0	2820.1	2825.0	2817.7	2778.2	2716.8	2649.5	2540.3	2439.8	2375.0	2237.5
65°	2897.2	2901.1	2928.9	2950.8	2955.7	2971.8	3021.0	3157.1	3256.5	3089.3	2707.5
67.5°	2716.3	2739.2	2803.1	2883.1	2976.6	3067.3	3213.6	3500.3	3704.6	3508.1	2965.9
69°	2248.7	2259.9	2415.9	2566.6	2795.3	2955.2	3167.3	3543.2	3772.9	3551.0	2945.5
70°	1770.4	1780.6	1947.9	2152.7	2539.3	2745.0	3022.5	3470.6	3709.0	3494.0	2840.1
72.5°	798.7	784.0	843.0	952.7	1373.0	1699.7	2184.8	2811.9	3060.0	2799.2	2124.9
75°	557.8	551.4	557.8	558.3	623.6	804.5	1015.1	1524.2	1885.0	1626.5	1015.1
77.5°	432.0	427.6	423.2	418.3	426.2	477.3	497.8	540.7	702.1	664.1	387.1
80°	341.8	337.9	348.6	345.2	345.2	351.1	347.2	331.1	300.8	278.9	249.6
82.5°	158.9	159.9	159.9	173.6	209.2	244.3	255.5	239.4	212.6	180.9	145.8
85°	15.1	17.1	28.8	44.4	88.2	99.5	99.9	82.9	82.9	65.3	52.7
87.5°	0.0	0.5	0.5	0.5	4.4	12.2	10.2	2.9	1.4	1.4	2.4
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	224.8	224.8	224.8	224.8	224.8	224.8	224.8	224.8	224.8	224.8	224.8
2.5°	259.4	257.9	252.1	246.2	240.9	235.0	229.6	224.3	218.4	214.0	208.7
5°	303.3	292.5	280.4	268.7	257.0	244.8	232.1	220.9	209.2	198.5	188.2
7.5°	347.7	326.7	310.1	289.1	270.1	251.1	233.6	215.5	198.9	183.3	168.7
10°	385.2	359.8	334.0	307.2	279.9	254.5	230.1	208.7	186.7	167.7	149.7
12.5°	415.9	383.7	352.0	318.4	287.7	255.5	225.3	199.4	173.6	152.1	133.6
15°	443.7	406.6	368.6	329.6	290.6	254.0	220.4	188.2	161.9	137.5	116.5
17.5°	466.1	423.7	380.8	336.9	295.0	252.1	214.0	180.4	149.7	124.3	103.8
20°	485.6	441.3	394.9	345.7	297.9	251.6	208.7	170.6	138.9	112.1	92.1
22.5°	503.7	459.3	409.6	356.9	302.3	251.1	203.8	163.3	129.7	102.9	82.9
25°	524.1	477.3	425.2	368.6	310.1	253.0	200.9	157.5	121.4	94.1	75.6
27.5°	547.1	497.8	443.7	383.2	320.3	257.0	199.9	151.2	114.1	85.8	69.7
30°	579.2	522.2	462.2	397.9	329.6	261.3	198.9	147.2	106.8	79.5	63.9
32.5°	607.5	546.1	482.7	413.0	339.8	265.7	198.5	141.9	99.9	73.1	59.5
35°	637.3	568.0	500.3	427.6	348.6	270.6	198.0	138.0	93.6	66.8	55.1
37.5°	663.1	586.5	513.9	440.3	358.4	275.0	198.5	134.6	87.8	61.4	51.2
40°	685.0	605.6	529.0	452.0	368.6	281.8	198.9	131.2	81.9	56.5	47.8
42.5°	704.6	623.6	545.1	465.2	380.3	289.6	201.9	128.2	77.0	52.2	44.4
45°	719.7	640.2	562.7	483.7	399.3	302.3	207.2	126.3	72.2	48.3	41.4
47.5°	735.3	664.6	592.4	512.9	427.1	322.3	216.5	125.8	68.3	45.3	39.0
50°	756.7	688.9	618.7	542.7	452.5	342.8	227.7	126.3	63.4	42.4	36.6
52.5°	772.3	713.8	652.9	594.4	512.9	405.2	271.1	135.1	61.0	40.0	33.6
55°	864.5	854.2	855.7	865.5	802.6	689.4	453.5	195.0	71.7	45.3	33.1
57.5°	1218.9	1255.0	1276.0	1275.5	1171.6	971.7	609.0	250.6	80.0	52.7	39.5
60°	1685.1	1657.8	1619.2	1524.2	1386.2	1109.2	681.2	269.6	69.2	41.9	36.1
62.5°	2097.1	1937.2	1795.3	1641.2	1460.3	1157.0	695.8	268.2	60.5	31.7	25.4
65°	2354.0	2066.4	1837.2	1644.1	1431.0	1117.0	658.2	246.2	51.2	25.8	21.0
67.5°	2415.5	1996.6	1672.4	1426.2	1195.5	869.4	483.2	185.3	40.0	21.4	18.5
69°	2281.4	1774.8	1385.7	1106.3	869.8	576.8	298.9	117.0	30.7	19.5	17.1
70°	2098.5	1543.7	1128.7	887.9	644.1	405.2	209.2	82.4	24.9	18.0	15.6
72.5°	1350.1	810.8	554.8	386.2	265.7	161.4	81.9	37.1	19.0	15.1	12.7
75°	523.7	299.8	217.5	165.3	129.2	89.7	49.7	23.9	16.1	12.7	9.7
77.5°	257.9	197.5	161.4	110.7	64.4	40.0	26.8	18.5	13.1	9.3	6.3
80°	203.8	135.5	80.9	50.2	38.0	28.8	20.5	15.1	9.7	5.9	4.4
82.5°	104.4	57.0	41.9	34.1	28.3	22.4	16.6	10.7	6.3	3.9	3.4
85°	32.7	23.9	21.4	21.0	19.5	16.1	11.7	6.8	3.9	2.4	2.4
87.5°	2.4	3.4	4.4	3.4	3.9	3.4	4.4	2.9	2.0	2.0	1.4
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	224.8	224.8	224.8	224.8	224.8	224.8	224.8	224.8	224.8	224.8	224.8
2.5°	204.8	198.9	193.6	190.2	183.8	181.4	178.9	178.0	173.6	174.6	170.6
5°	178.9	168.7	160.9	153.1	145.8	140.4	136.0	130.7	126.3	124.3	120.4
7.5°	155.5	142.4	132.1	123.8	115.1	108.2	102.4	98.5	94.6	90.7	88.7
10°	135.1	120.9	109.2	100.9	92.7	86.8	82.4	79.5	77.0	75.6	75.1
12.5°	116.1	102.4	91.7	84.4	78.0	75.1	73.1	71.7	71.2	70.7	70.7
15°	101.4	87.8	79.5	74.1	71.2	69.7	69.2	68.3	67.3	66.8	66.8
17.5°	87.8	77.5	71.7	68.7	67.3	66.3	65.3	64.4	63.4	62.9	62.9
20°	78.5	70.2	67.3	65.3	63.9	62.9	61.4	60.5	60.0	59.5	59.0
22.5°	71.2	65.8	63.9	62.4	60.5	59.0	58.0	57.0	56.1	55.6	55.1
25°	65.8	62.4	61.0	59.0	57.0	55.6	54.1	52.7	51.7	51.2	50.2
27.5°	61.9	59.5	57.5	55.1	53.1	51.7	50.2	48.8	47.8	46.8	46.3
30°	58.5	56.1	53.6	51.7	49.3	47.8	45.8	44.4	43.9	42.9	41.9
32.5°	55.1	52.7	50.2	47.8	45.3	43.4	42.4	40.5	39.5	39.0	38.0
35°	51.2	48.8	45.8	43.9	41.4	39.5	38.0	36.6	35.6	34.6	34.1
37.5°	47.8	44.8	41.9	39.5	37.5	35.6	34.1	32.7	31.7	30.7	30.2
40°	43.9	41.0	38.0	35.6	33.6	32.2	30.7	29.3	28.3	27.8	27.8
42.5°	40.5	37.1	34.1	32.2	30.7	28.8	27.3	25.8	25.4	24.9	25.4
45°	37.1	33.6	31.2	29.3	27.8	25.8	24.4	23.4	22.9	23.4	23.9
47.5°	34.1	30.7	28.3	26.8	25.4	23.9	22.4	21.4	21.4	22.4	23.4
50°	31.2	27.8	25.8	24.9	23.4	21.9	20.0	19.5	20.0	21.0	21.9
52.5°	28.3	24.4	22.9	22.4	21.0	19.5	18.0	17.6	18.0	19.0	18.5
55°	25.4	21.4	21.0	20.5	19.0	17.1	15.6	15.6	15.6	15.1	14.1
57.5°	24.4	19.0	18.5	18.0	16.6	14.6	13.7	12.7	12.2	10.7	10.2
60°	25.4	17.1	17.1	16.1	14.6	12.7	11.2	9.7	8.8	7.8	7.8
62.5°	20.5	15.6	15.1	14.1	12.2	10.2	8.8	7.3	6.8	6.3	6.3
65°	16.6	14.1	13.1	11.7	10.2	8.3	6.8	5.9	5.4	5.4	5.9
67.5°	15.1	12.7	11.2	9.7	8.3	6.3	5.4	4.9	4.9	5.4	5.4
69°	14.1	11.7	10.2	8.8	7.3	5.9	4.9	4.9	4.9	4.9	5.4
70°	13.1	11.2	9.7	8.3	6.3	4.9	4.4	4.4	4.9	4.9	5.4
72.5°	10.2	8.8	8.3	6.8	4.9	4.4	3.9	4.4	4.4	4.9	4.9
75°	7.8	6.3	6.3	5.4	3.9	3.4	3.4	3.9	3.9	4.4	4.4
77.5°	5.4	4.4	4.4	3.9	3.4	2.9	2.9	3.4	3.9	3.9	4.4
80°	3.9	3.4	2.9	3.4	2.9	2.4	2.9	3.4	3.4	3.9	3.9
82.5°	2.9	2.9	2.9	2.9	2.4	2.4	2.9	2.9	3.4	3.9	3.9
85°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.9	2.9	3.4	3.4
87.5°	1.4	1.4	1.4	2.0	2.0	2.4	2.4	2.4	2.4	2.9	2.9
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):

	165°	170°	175°	180°
0°	224.8	224.8	224.8	224.8
2.5°	169.7	169.2	167.2	167.7
5°	119.0	116.1	118.0	117.5
7.5°	87.3	86.8	86.3	87.3
10°	74.6	74.6	74.1	74.6
12.5°	70.2	70.2	70.2	70.2
15°	66.8	66.8	66.3	66.3
17.5°	62.9	62.9	62.9	62.4
20°	59.0	58.5	58.5	58.5
22.5°	54.6	54.1	54.1	54.1
25°	50.2	49.7	49.7	49.7
27.5°	45.8	45.3	44.8	44.8
30°	41.4	41.0	40.5	40.5
32.5°	37.1	36.6	36.1	36.1
35°	33.1	33.1	32.7	32.2
37.5°	29.7	29.7	29.7	29.7
40°	27.3	27.8	27.8	27.8
42.5°	25.8	26.3	26.8	27.3
45°	24.9	25.8	26.3	26.3
47.5°	24.4	24.9	25.4	25.4
50°	22.4	21.9	21.9	21.9
52.5°	18.0	17.1	16.6	16.1
55°	13.1	12.7	11.7	11.7
57.5°	9.3	9.3	8.8	8.8
60°	7.3	7.3	6.8	7.3
62.5°	6.3	6.3	6.3	6.3
65°	5.9	5.9	5.9	5.9
67.5°	5.9	5.9	5.9	5.9
69°	5.4	5.4	5.4	5.4
70°	5.4	5.4	5.4	5.4
72.5°	4.9	4.9	4.9	4.9
75°	4.4	4.9	4.9	4.9
77.5°	4.4	4.4	4.4	4.4
80°	3.9	3.9	4.4	4.4
82.5°	3.9	3.9	3.9	3.9
85°	3.4	3.4	3.9	3.9
87.5°	2.9	2.9	3.4	3.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)