

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: P163236

Luminaire Tested: **LDRL-SL2-E02-E-7030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163236
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33726)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL2-E02-E-7030-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 2 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (42) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3248.9 lumens
Efficiency: N/A
Efficacy: 62.4 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 1' x H: 0.1')
IES Classification: Type II - Short - Non-Cutoff
BUG Rating: B0 - U0 - G1

Input Watts (W): 52.1
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

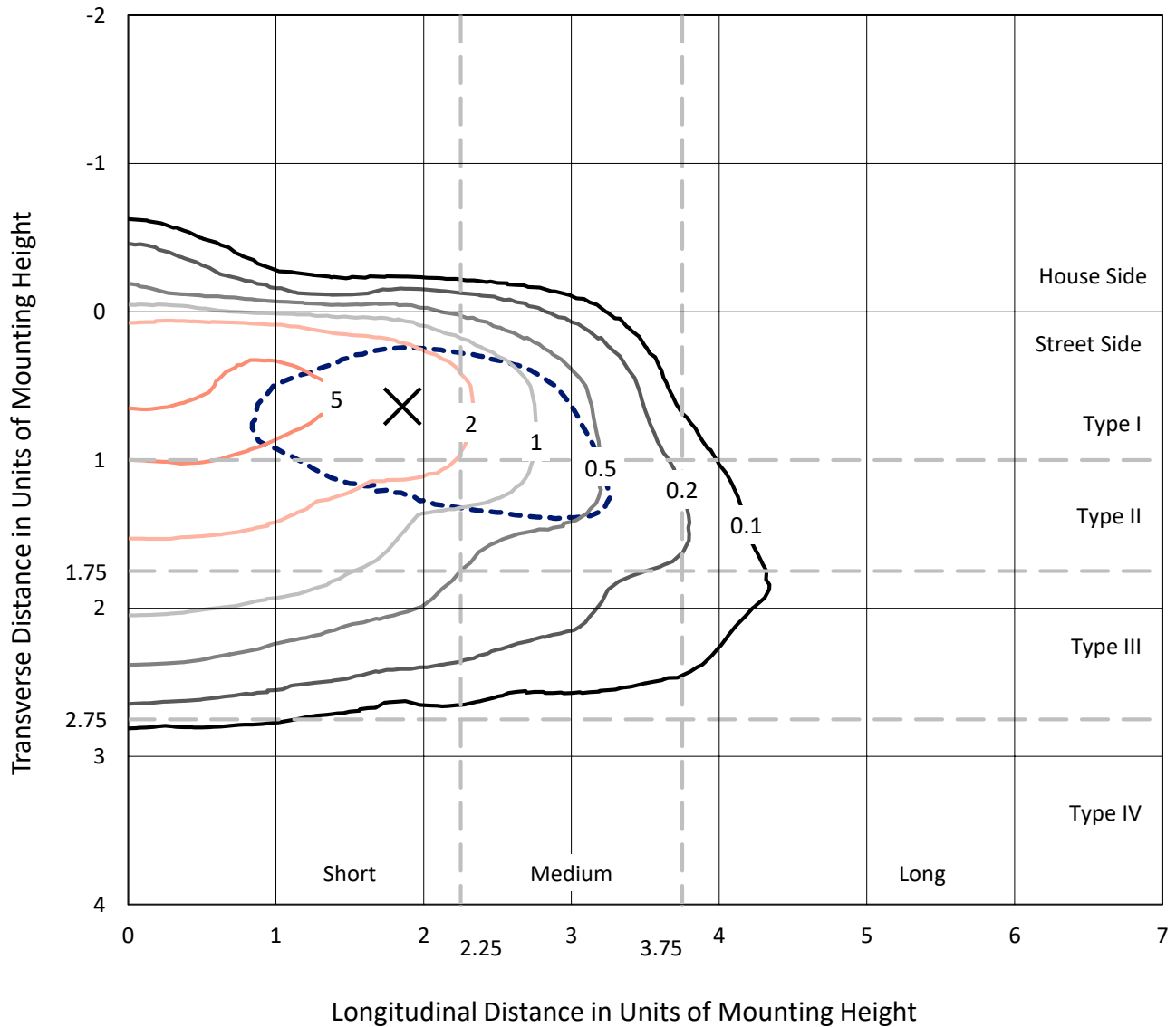


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Iso-Footcandle Lines of Horizontal Illumination

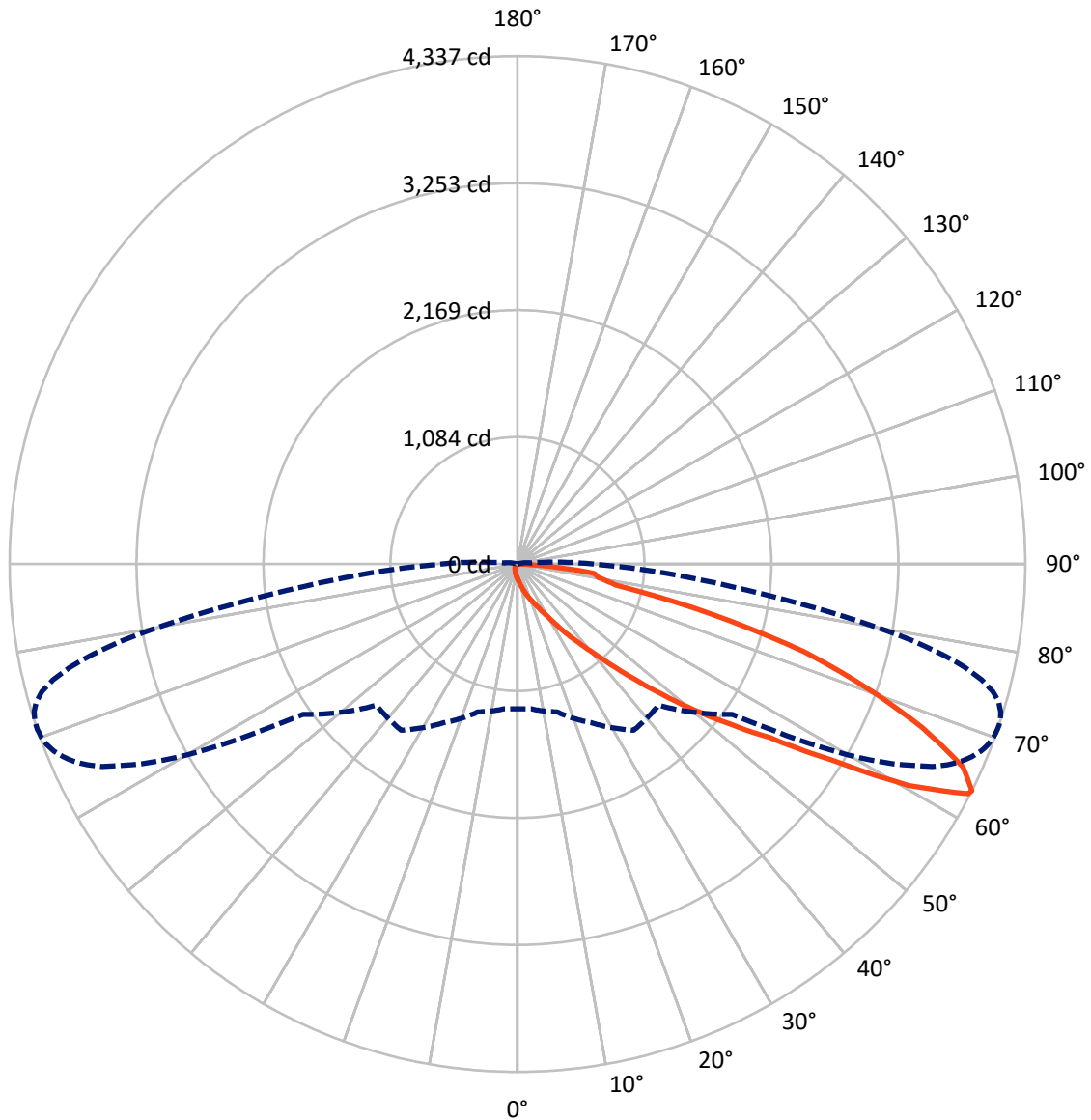
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.8 fc
 Type II - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 71-Deg Lateral - - - Horizontal Cone Through 63-Deg Vertical

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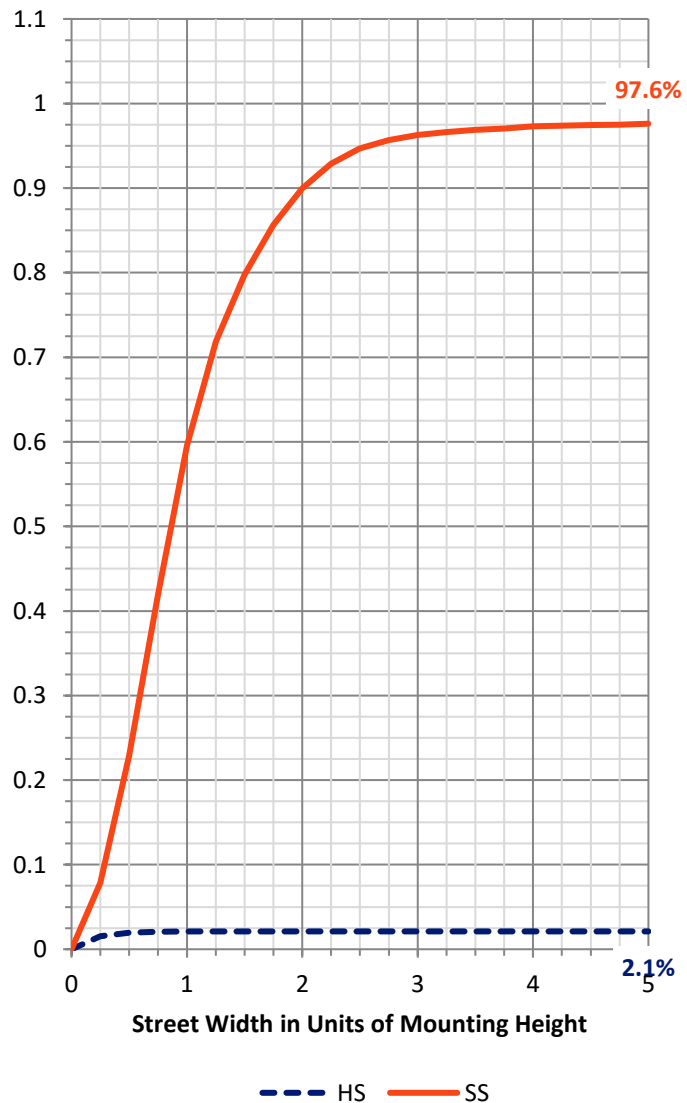
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	69.0	0.0	69.0
	% Fixture	2.1	0.0	2.1
Street Side	Lumens	3179.9	0.0	3179.9
	% Fixture	97.9	0.0	97.9
Total	Lumens	3248.9	0.0	3248.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	13.8	0.4
10°-20°	53.4	1.6
20°-30°	108.5	3.3
30°-40°	265.1	8.2
40°-50°	592.9	18.2
50°-60°	833.6	25.7
60°-70°	980.3	30.2
70°-80°	354.0	10.9
80°-90°	47.3	1.5
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°	3248.9	100.0
0°-180°	3248.9	100.0



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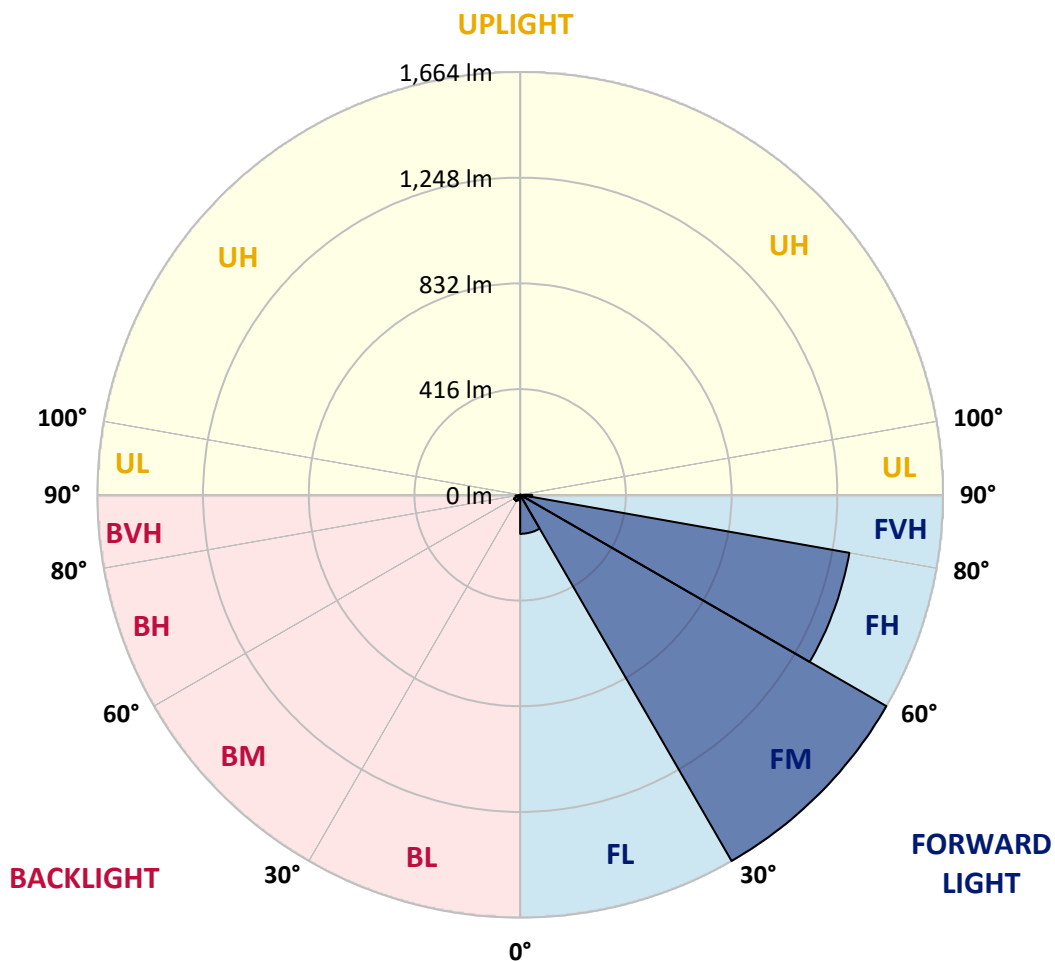
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	153.5	4.7			
FM (30°-60°)	1663.8	51.2			
FH (60°-80°)	1315.3	40.5			G1/1800
FVH (80°-90°)	47.2	1.5			G1/100
BL (0°-30°)	22.2	0.7	B0/110		
BM (30°-60°)	27.8	0.9	B0/220		
BH (60°-80°)	18.9	0.6	B0/110		G0/110
BVH (80°-90°)	0.1	0.0			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 II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	56°	57°	58°	59°
0°	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6
2.5°	163.0	164.8	163.6	160.6	157.1	152.4	148.3	148.3	147.7	145.9	146.5
5°	213.8	214.4	212.0	205.0	198.5	188.4	177.2	176.0	174.8	173.1	172.5
7.5°	263.4	265.8	263.4	255.7	242.7	227.4	209.7	207.9	204.4	204.4	202.0
10°	314.2	314.2	311.9	303.0	291.2	269.3	246.9	243.9	239.8	238.6	235.1
12.5°	350.3	350.3	349.0	344.3	334.9	315.4	288.2	285.3	280.0	278.2	274.0
15°	364.4	364.4	365.0	369.1	369.7	360.9	332.5	330.2	324.9	320.1	318.4
17.5°	373.3	372.7	372.7	378.6	389.2	395.1	376.8	374.5	368.6	366.2	360.3
20°	392.8	391.6	388.0	388.0	398.1	418.8	418.8	418.2	411.7	409.9	407.0
22.5°	421.7	420.5	409.9	401.0	405.7	431.8	456.0	454.8	452.4	450.1	448.3
25°	469.0	464.8	446.5	420.5	416.4	444.1	484.3	487.3	489.0	489.0	490.2
27.5°	540.4	535.1	502.6	454.2	435.9	464.2	515.6	521.5	526.9	528.0	533.3
30°	639.6	630.2	583.6	512.7	470.7	493.8	561.7	568.2	575.8	578.2	586.5
32.5°	802.7	797.4	752.5	646.1	556.4	551.7	626.0	634.3	644.4	648.5	658.6
35°	1050.7	1051.9	1015.3	919.6	795.6	730.6	741.2	748.3	751.9	764.3	769.6
37.5°	1219.1	1222.0	1230.3	1192.5	1103.9	1037.7	954.5	962.1	943.8	945.6	946.2
40°	1311.2	1320.6	1369.1	1405.7	1398.6	1360.2	1293.5	1297.6	1263.3	1255.7	1218.4
42.5°	1372.6	1385.0	1462.4	1575.8	1633.7	1668.5	1653.2	1651.4	1624.8	1614.8	1583.5
45°	1411.0	1422.2	1519.7	1686.8	1820.3	1921.9	1963.8	1968.6	1946.1	1936.1	1910.1
47.5°	1409.2	1422.2	1526.8	1728.2	1924.9	2087.3	2205.4	2211.3	2224.9	2216.0	2217.8
50°	1331.3	1343.7	1448.8	1657.9	1894.1	2162.9	2379.1	2397.9	2419.8	2434.6	2441.6
52.5°	1236.8	1245.6	1338.9	1537.4	1763.0	2131.6	2481.8	2514.3	2546.8	2574.6	2594.0
55°	1201.9	1212.0	1285.2	1450.0	1657.9	2000.5	2529.7	2577.5	2623.6	2669.0	2706.3
57.5°	1220.2	1229.7	1282.2	1408.6	1595.3	1862.2	2543.2	2617.7	2693.3	2767.1	2840.3
60°	1287.6	1297.6	1342.5	1447.0	1578.7	1782.5	2490.1	2613.5	2739.3	2868.1	2989.2
62.5°	1261.0	1265.1	1331.3	1514.4	1696.9	1714.6	2297.0	2469.4	2661.4	2859.8	3055.3
63°	1235.6	1240.3	1307.7	1496.1	1732.9	1704.6	2237.3	2419.2	2621.8	2835.6	3048.2
65°	1120.4	1121.0	1172.4	1321.2	1692.7	1722.3	1971.5	2145.2	2377.9	2634.2	2902.9
67.5°	836.3	832.2	881.8	995.2	1328.9	1722.9	1692.1	1789.6	1951.4	2178.8	2419.8
70°	296.5	290.0	370.3	527.4	828.0	1409.2	1454.1	1460.6	1505.5	1628.4	1779.6
72.5°	96.3	98.1	118.1	193.1	381.6	948.5	1316.5	1296.4	1284.6	1284.0	1304.1
75°	38.4	39.0	47.2	85.6	171.3	457.2	1152.9	1164.1	1168.2	1174.2	1180.7
77.5°	18.3	20.1	26.6	47.8	85.1	226.2	825.1	920.2	974.5	1016.5	1041.9
80°	6.5	7.7	14.8	29.5	39.6	103.9	434.7	524.5	604.2	707.0	795.6
82.5°	0.0	0.0	3.0	20.7	21.8	41.9	178.4	209.1	239.2	310.1	398.1
85°	0.0	0.0	0.0	5.9	6.5	7.1	60.2	72.6	81.5	95.1	109.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.8	3.5	8.8	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):

	60°	61°	62°	64°	65°	66°	67°	68°	69°	70°	71°
0°	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6
2.5°	145.3	144.7	144.7	143.5	142.9	141.8	141.2	139.4	138.8	138.8	138.8
5°	171.9	169.5	168.3	165.4	163.6	163.0	160.1	158.9	157.1	157.7	154.8
7.5°	201.4	197.3	195.5	191.4	190.2	186.0	184.9	181.9	180.1	176.6	175.4
10°	233.9	228.6	225.6	219.1	217.3	214.4	210.8	207.3	204.4	200.8	199.0
12.5°	271.1	266.4	264.0	255.2	251.0	246.9	242.1	237.4	232.7	229.8	225.6
15°	314.8	307.1	304.8	296.5	289.4	284.1	277.6	271.7	268.2	262.2	258.1
17.5°	357.9	350.3	348.5	336.1	328.4	324.9	317.8	310.1	303.6	297.7	291.2
20°	401.0	395.7	391.0	379.2	370.9	365.0	355.5	347.9	342.6	334.3	326.0
22.5°	444.1	438.8	435.3	422.9	415.2	407.0	398.7	390.4	382.7	372.7	363.2
25°	488.5	484.9	483.1	471.9	464.8	457.2	448.9	439.4	430.0	418.8	408.7
27.5°	534.5	535.7	532.2	529.8	522.1	516.8	503.8	497.3	490.2	476.6	464.2
30°	593.0	596.5	595.4	597.1	592.4	588.9	578.8	570.6	562.3	549.3	535.1
32.5°	666.8	671.5	673.9	680.4	678.0	676.9	673.9	662.1	656.2	633.8	627.8
35°	780.8	778.4	788.5	793.8	791.4	790.3	786.7	780.2	773.1	757.2	742.4
37.5°	929.1	931.4	935.0	924.3	917.3	916.6	906.0	899.5	889.5	871.8	854.1
40°	1200.7	1186.0	1169.5	1124.6	1105.1	1093.8	1062.6	1053.7	1036.5	1012.3	994.0
42.5°	1553.9	1539.2	1489.6	1414.6	1374.4	1318.9	1293.5	1262.2	1238.0	1198.4	1177.1
45°	1904.8	1862.2	1856.3	1768.9	1719.3	1646.1	1600.6	1548.0	1493.1	1441.1	1403.3
47.5°	2200.7	2191.2	2162.3	2109.1	2063.1	2001.6	1943.2	1862.2	1805.5	1731.7	1663.8
50°	2437.5	2436.9	2426.3	2395.6	2357.2	2307.6	2256.2	2187.7	2123.3	2032.9	1960.3
52.5°	2614.7	2624.2	2627.7	2618.2	2603.5	2559.8	2533.8	2476.5	2422.2	2345.4	2266.8
55°	2744.7	2779.5	2797.2	2817.3	2813.2	2797.8	2796.6	2759.4	2734.6	2673.8	2618.2
57.5°	2905.3	2962.6	3017.5	3115.0	3118.5	3152.8	3170.5	3188.2	3192.9	3168.7	3150.4
60°	3109.7	3226.6	3330.6	3534.3	3587.5	3671.3	3725.7	3784.7	3834.9	3839.1	3837.9
62.5°	3253.8	3433.9	3601.6	3904.1	4007.4	4104.3	4176.9	4234.2	4269.0	4304.5	4321.0
63°	3257.9	3455.2	3633.5	3945.4	4054.1	4146.2	4215.3	4268.5	4305.1	4326.4	4337.0
65°	3158.1	3397.3	3609.9	3920.6	4022.8	4115.5	4151.5	4186.4	4204.1	4212.3	4181.1
67.5°	2676.7	2910.6	3158.7	3506.0	3593.4	3704.4	3734.0	3751.7	3759.9	3758.1	3731.6
70°	2001.6	2197.7	2473.5	2870.4	2986.2	3094.9	3162.2	3191.2	3200.6	3197.6	3158.1
72.5°	1397.4	1512.6	1740.0	2181.8	2339.5	2478.9	2562.1	2605.2	2614.1	2596.4	2559.8
75°	1173.6	1179.5	1230.9	1472.4	1620.1	1768.9	1862.8	1890.0	1872.3	1818.6	1725.2
77.5°	1047.8	1060.8	1060.8	1096.8	1125.7	1167.1	1176.0	1109.8	1033.0	933.8	853.5
80°	878.9	924.3	956.2	982.8	985.8	977.5	955.6	918.4	859.4	783.8	699.9
82.5°	533.9	623.7	660.3	797.4	864.7	910.2	906.6	857.0	812.1	733.6	662.1
85°	134.7	145.3	157.7	205.0	229.8	280.5	312.4	327.2	332.5	305.4	276.4
87.5°	13.0	8.8	14.8	11.2	15.9	11.8	15.9	14.8	18.3	19.5	21.3
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):

	72°	73°	74°	75°	76°	77°	78°	79°	80°	81°	82°
0°	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6
2.5°	137.6	137.0	136.4	135.8	135.2	134.7	133.5	133.5	132.3	131.7	131.1
5°	153.0	151.8	151.2	150.0	148.3	147.0	145.3	142.9	141.2	140.6	139.4
7.5°	172.5	169.5	168.3	166.6	164.2	160.6	158.3	156.5	153.6	151.8	148.3
10°	194.3	191.4	187.8	184.3	180.7	176.6	173.6	171.3	166.6	164.2	160.1
12.5°	222.1	216.8	212.6	207.9	203.2	198.5	194.9	187.8	183.7	178.4	174.8
15°	250.4	245.7	241.0	235.1	228.0	220.3	216.8	210.3	205.0	196.7	191.9
17.5°	284.7	275.8	268.7	261.7	255.2	248.1	241.0	230.9	223.3	216.2	206.7
20°	318.4	307.7	300.1	290.6	281.1	269.9	261.7	254.6	243.9	234.5	224.4
22.5°	354.4	343.7	331.3	321.9	308.9	300.1	288.8	277.0	266.4	254.0	241.6
25°	398.1	386.9	372.7	360.3	345.5	333.1	319.5	305.9	293.0	278.8	262.8
27.5°	451.8	440.0	424.7	409.9	390.4	375.1	362.1	343.7	327.2	309.5	291.2
30°	519.8	506.8	487.9	466.6	447.1	430.0	411.7	387.4	369.1	347.9	324.2
32.5°	608.3	593.0	567.6	547.5	523.3	500.8	475.5	451.2	425.3	397.5	370.3
35°	720.0	705.8	676.3	646.7	620.2	593.6	561.7	533.9	497.3	463.7	428.8
37.5°	835.8	810.3	783.2	751.3	718.2	686.3	647.3	608.9	567.0	530.4	486.7
40°	968.0	937.3	914.9	880.6	834.0	788.5	752.5	704.6	652.1	603.0	551.7
42.5°	1149.4	1115.1	1074.9	1023.0	989.3	936.1	889.5	832.8	763.7	708.8	646.7
45°	1359.0	1312.4	1273.4	1223.2	1182.4	1116.3	1061.9	986.3	917.3	845.2	769.6
47.5°	1598.3	1540.3	1483.6	1434.0	1369.1	1304.1	1235.0	1154.7	1066.1	986.9	897.2
50°	1872.9	1790.8	1712.2	1648.5	1559.3	1484.2	1409.2	1318.9	1220.8	1129.9	1027.7
52.5°	2178.2	2083.1	1979.2	1881.1	1777.8	1681.5	1591.2	1487.2	1377.9	1266.9	1152.9
55°	2546.8	2475.3	2353.0	2228.4	2090.2	1961.5	1845.1	1716.4	1583.5	1437.6	1317.7
57.5°	3123.8	3089.0	2986.8	2862.2	2682.0	2525.5	2328.2	2170.6	1978.0	1777.2	1622.4
60°	3905.8	3862.7	3805.4	3704.4	3561.5	3348.9	3131.5	2886.4	2593.4	2315.3	2051.2
62.5°	4322.8	4307.4	4260.8	4191.1	4057.6	3889.9	3670.8	3401.4	3070.7	2732.8	2396.2
63°	4335.2	4315.7	4275.5	4204.7	4087.1	3924.7	3709.7	3448.1	3124.4	2780.1	2436.3
65°	4167.5	4159.8	4119.0	4041.6	3961.3	3837.3	3670.8	3445.7	3174.0	2848.6	2506.6
67.5°	3696.1	3673.1	3610.5	3586.9	3530.8	3444.5	3317.5	3162.8	2968.5	2712.8	2417.4
70°	3126.2	3091.9	3013.4	2971.5	2902.9	2848.6	2771.2	2660.8	2540.9	2362.5	2142.2
72.5°	2522.0	2451.1	2379.1	2269.8	2174.1	2077.3	1991.6	1913.6	1781.9	1709.9	1542.7
75°	1637.8	1509.0	1385.6	1220.2	1071.4	939.7	811.5	746.5	611.3	556.4	477.8
77.5°	777.3	705.2	608.3	533.3	437.6	357.3	291.8	219.1	171.9	134.7	102.8
80°	627.3	566.4	507.9	440.0	368.0	293.6	225.0	168.3	119.3	82.7	58.5
82.5°	559.3	493.2	421.1	374.5	325.4	266.4	218.5	178.4	131.7	96.3	65.5
85°	217.3	183.1	141.2	115.2	89.8	73.8	66.7	46.1	36.0	28.4	21.8
87.5°	18.9	15.3	12.4	8.3	8.8	4.7	5.3	3.5	3.0	3.0	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):

	83°	84°	85°	86°	87°	88°	89°	90°	95°	105°	115°
0°	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6	124.6
2.5°	130.5	130.0	129.3	128.2	128.2	127.0	126.4	125.8	122.9	116.4	111.0
5°	137.0	135.8	134.7	132.9	131.7	130.0	128.7	127.0	120.5	108.1	97.4
7.5°	146.5	144.1	142.3	138.8	137.0	134.7	132.9	130.0	119.3	100.4	85.6
10°	157.7	153.6	150.6	146.5	142.9	140.0	137.0	132.9	118.1	92.1	75.0
12.5°	171.3	166.6	160.6	155.9	151.2	147.0	142.9	137.6	116.4	85.1	66.7
15°	184.9	177.8	173.6	167.1	160.6	154.8	148.8	144.1	116.9	77.4	59.7
17.5°	200.2	193.1	184.3	177.2	170.1	162.4	155.3	145.9	114.0	71.5	54.3
20°	215.0	205.0	196.7	187.8	177.8	168.3	159.5	151.2	111.6	65.5	49.6
22.5°	230.9	219.1	208.5	197.3	184.9	174.2	163.6	153.0	107.5	60.2	45.5
25°	250.4	236.9	221.5	207.9	194.9	181.9	168.3	155.3	103.4	55.5	42.5
27.5°	274.0	256.3	241.0	223.8	205.5	189.0	174.2	160.1	99.2	52.0	39.6
30°	304.2	283.5	261.7	239.8	220.3	201.4	180.7	163.0	95.1	48.4	36.6
32.5°	344.3	318.4	291.8	266.4	240.4	216.2	194.3	171.3	92.7	45.5	33.6
35°	397.5	363.8	331.3	299.4	268.2	238.6	210.3	184.3	92.7	41.9	30.1
37.5°	447.7	408.7	367.4	327.8	290.6	256.3	222.7	191.4	88.0	39.0	27.2
40°	502.1	455.4	407.0	360.3	315.4	272.9	234.5	198.5	83.9	35.4	24.2
42.5°	585.3	526.2	463.1	408.7	355.0	302.4	254.6	212.0	78.5	31.9	21.3
45°	694.6	619.6	545.2	479.0	410.5	346.1	289.4	236.9	77.4	28.9	18.3
47.5°	811.5	722.9	635.5	551.0	470.7	395.7	327.8	264.6	77.4	26.0	15.9
50°	927.9	816.8	723.5	625.5	535.1	446.5	365.6	293.6	78.0	23.6	13.0
52.5°	1033.0	914.3	809.7	696.3	596.5	493.8	405.7	321.9	76.8	20.7	10.6
55°	1178.9	1039.5	918.4	793.2	676.3	560.5	460.7	364.4	77.4	18.3	8.8
57.5°	1447.6	1284.0	1138.1	974.0	839.3	689.8	568.8	451.8	84.5	15.3	6.5
60°	1833.3	1620.7	1415.7	1215.5	1044.2	866.4	709.3	571.7	99.2	12.4	4.7
62.5°	2092.6	1814.4	1569.9	1349.0	1149.9	963.9	792.6	636.1	109.3	10.0	3.0
63°	2119.2	1831.5	1585.8	1357.9	1154.7	968.6	796.1	640.8	109.9	9.5	3.0
65°	2169.4	1861.1	1594.7	1359.6	1149.9	962.1	793.8	640.2	111.0	7.7	2.4
67.5°	2112.1	1815.6	1543.3	1308.8	1108.6	923.7	764.3	616.6	110.4	5.3	1.8
70°	1888.8	1643.1	1403.9	1185.4	1003.5	836.3	695.8	562.3	101.6	3.5	1.2
72.5°	1386.8	1219.7	1034.2	876.5	756.0	627.8	535.7	422.3	78.5	2.4	0.6
75°	411.1	374.5	314.8	277.6	245.1	202.6	180.1	140.6	40.2	1.2	0.0
77.5°	82.1	74.4	66.7	60.8	57.3	49.0	46.7	38.4	16.5	0.6	0.0
80°	43.1	35.4	30.1	26.6	23.0	18.9	15.9	13.0	3.0	0.0	0.0
82.5°	41.4	27.8	20.1	16.5	14.2	11.2	8.8	6.5	1.8	0.0	0.0
85°	15.3	11.8	8.8	7.1	5.9	5.3	4.1	3.5	0.0	0.0	0.0
87.5°	2.4	1.8	1.8	1.2	1.2	0.6	0.6	0.6	0.0	0.0	0.0
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):

	125°	135°	145°	155°	165°	175°	180°
0°	124.6	124.6	124.6	124.6	124.6	124.6	124.6
2.5°	105.7	101.0	98.6	95.7	95.7	95.1	96.3
5°	88.0	81.5	76.8	73.3	73.8	72.0	72.6
7.5°	74.4	67.9	63.8	61.4	60.8	60.2	60.2
10°	64.4	58.5	54.9	53.2	52.6	52.6	52.6
12.5°	57.3	51.4	48.4	47.2	47.2	46.7	46.7
15°	51.4	46.7	43.7	42.5	42.5	41.9	42.5
17.5°	46.7	41.9	39.6	38.4	38.4	37.8	37.8
20°	42.5	38.4	36.0	34.3	34.3	33.6	34.3
22.5°	39.0	34.9	31.9	30.7	30.1	29.5	30.1
25°	35.4	31.3	28.4	26.6	26.0	26.0	25.4
27.5°	32.5	28.4	24.8	23.0	22.4	22.4	21.8
30°	29.5	24.8	21.3	19.5	18.9	18.9	18.9
32.5°	26.6	21.3	18.3	16.5	15.9	15.9	15.9
35°	23.6	18.3	15.3	13.6	13.0	13.0	13.0
37.5°	20.1	15.3	11.8	10.6	10.0	9.5	9.5
40°	17.1	11.8	8.8	7.7	6.5	6.5	6.5
42.5°	14.2	9.5	6.5	4.7	4.1	3.5	4.1
45°	11.8	7.1	4.1	2.4	1.8	1.8	1.8
47.5°	9.5	4.7	1.8	0.6	0.6	0.6	0.6
50°	7.1	3.0	0.6	0.0	0.0	0.6	0.6
52.5°	5.3	1.8	0.0	0.0	0.0	0.0	0.0
55°	3.0	0.6	0.0	0.0	0.0	0.0	0.0
57.5°	1.8	0.0	0.0	0.0	0.0	0.0	0.0
60°	1.2	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.6	0.0	0.0	0.0	0.0	0.0	0.0
63°	0.6	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.6	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)