

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: P163535

Luminaire Tested: **LDRL-SL3-E04-E-8030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163535
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33727)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL3-E04-E-8030-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (84) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5677.6 lumens
Efficiency: N/A
Efficacy: 58.4 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.1')
IES Classification: Type III - Short - Non-Cutoff
BUG Rating: B0 - U0 - G2

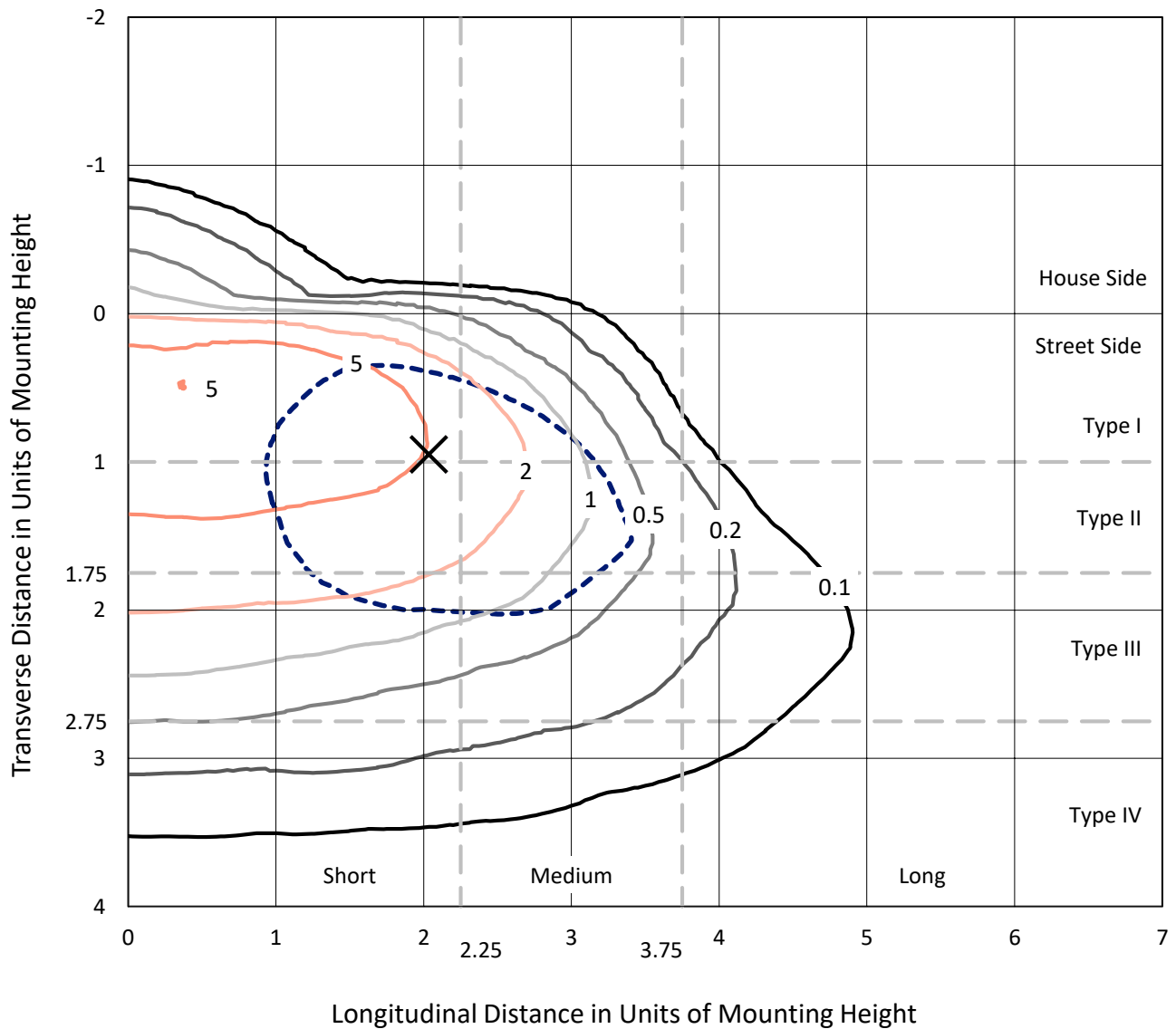
Input Watts (W): 97.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

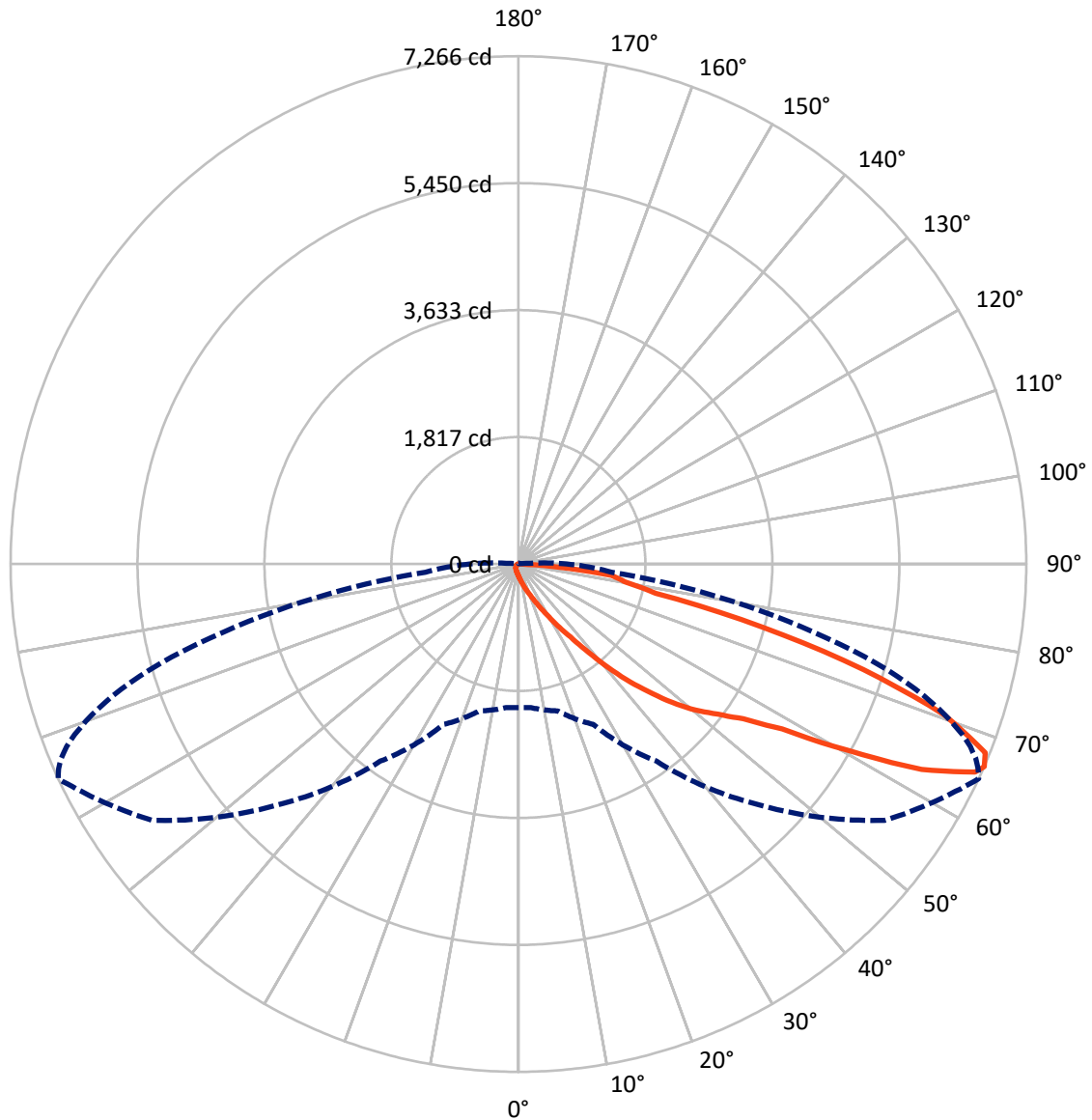
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.4 fc
 Type III - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral - - - Horizontal Cone Through 66-Deg Vertical

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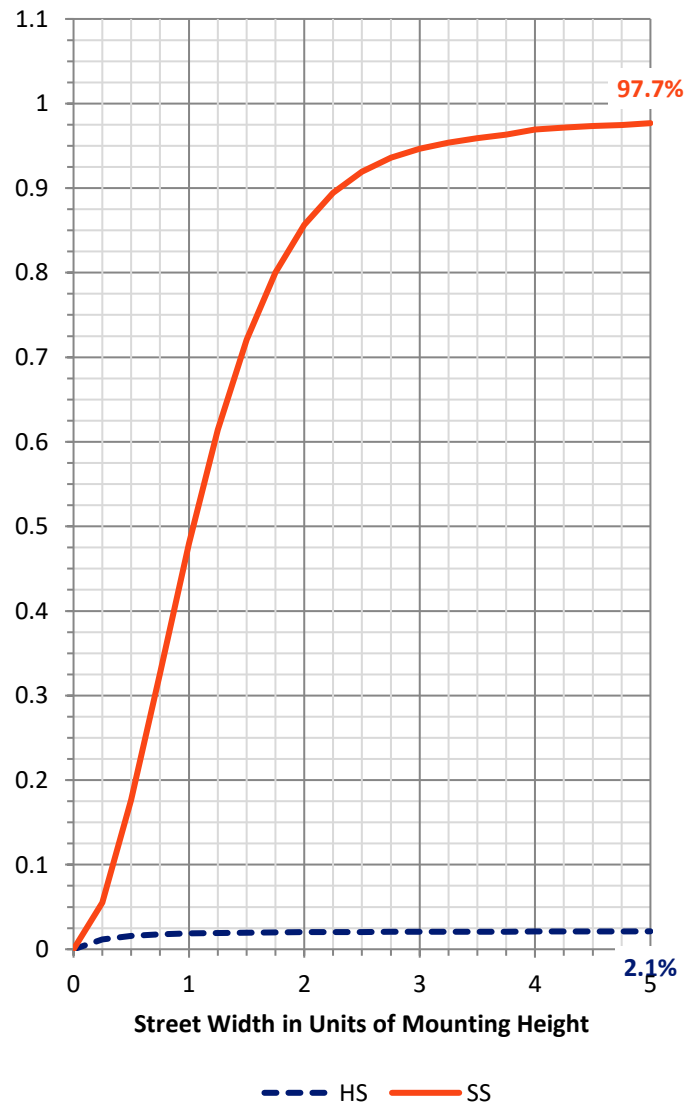
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	123.0	0.0	123.0
	% Fixture	2.2	0.0	2.2
Street Side	Lumens	5554.6	0.0	5554.6
	% Fixture	97.8	0.0	97.8
Total	Lumens	5677.6	0.0	5677.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	19.2	0.3
10°-20°	81.3	1.4
20°-30°	175.4	3.1
30°-40°	374.7	6.6
40°-50°	828.6	14.6
50°-60°	1404.2	24.7
60°-70°	1873.8	33.0
70°-80°	825.4	14.5
80°-90°	95.1	1.7
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°	5677.6	100.0
0°-180°	5677.6	100.0



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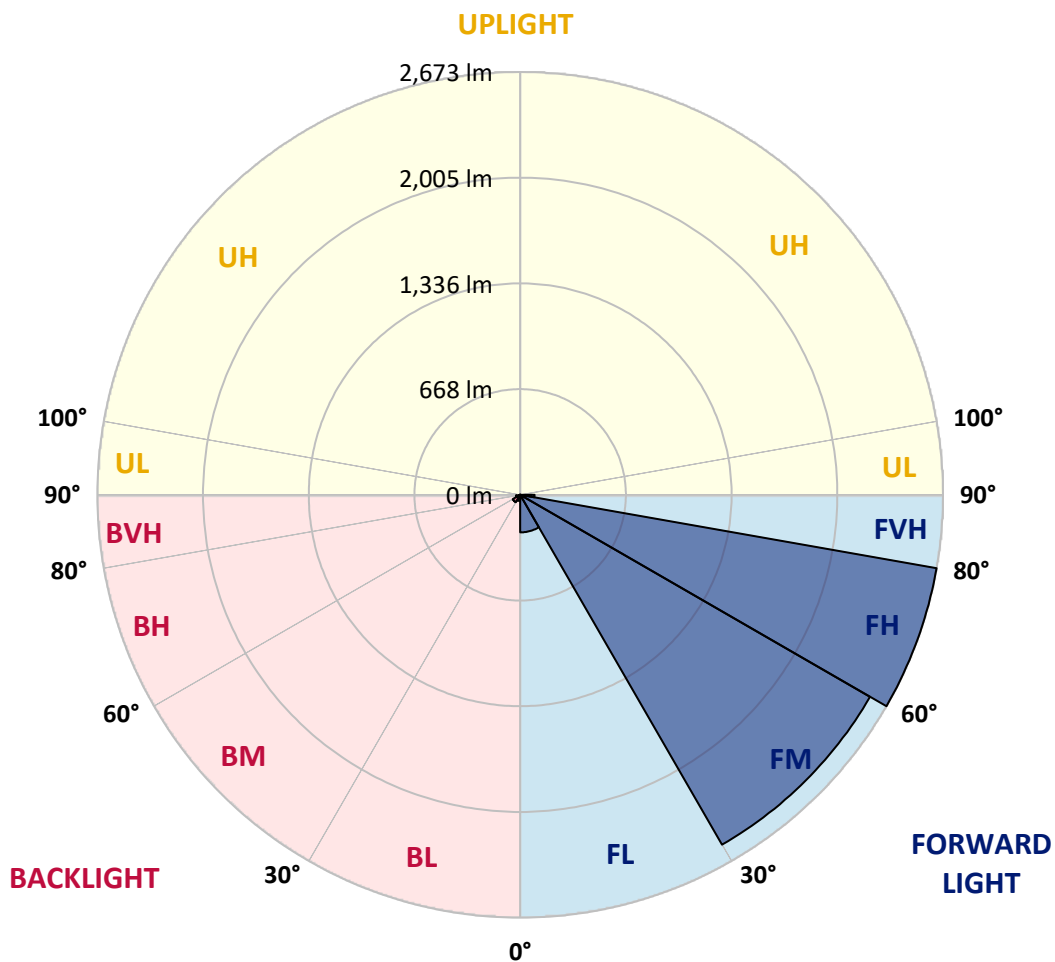
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	237.2	4.2			
FM	(30°-60°)	2553.4	45.0			
FH	(60°-80°)	2672.8	47.1			G2/5000
FVH	(80°-90°)	91.3	1.6			G1/100
BL	(0°-30°)	38.8	0.7	B0/110		
BM	(30°-60°)	54.0	1.0	B0/220		
BH	(60°-80°)	26.4	0.5	B0/110		G0/110
BVH	(80°-90°)	3.8	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-G2

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	171.4	171.4	171.4	171.4	171.4	171.4	171.4	171.4	171.4	171.4	171.4
2.5°	216.1	215.0	210.7	210.7	204.1	199.7	194.3	188.9	188.9	187.8	186.6
5°	286.0	279.5	278.3	266.4	256.5	242.3	229.2	211.7	209.6	207.4	206.3
7.5°	363.5	362.4	352.6	338.4	318.8	292.6	266.4	237.9	233.6	231.4	227.1
10°	463.9	458.5	445.4	421.3	391.9	356.9	314.4	269.6	264.1	259.8	257.6
12.5°	559.9	550.1	542.5	511.9	474.8	423.5	372.2	307.8	303.4	298.0	289.3
15°	649.5	640.8	627.7	601.5	559.9	495.6	435.5	356.9	346.0	338.4	331.9
17.5°	719.4	713.9	698.6	669.1	624.4	567.6	495.6	407.1	398.4	388.6	376.6
20°	785.9	778.3	754.3	713.9	665.9	622.2	566.5	472.6	460.6	448.6	435.5
22.5°	849.3	841.6	802.3	735.7	684.4	665.9	646.2	546.8	528.3	518.5	505.4
25°	937.6	921.3	860.1	754.3	685.5	699.7	733.5	642.9	625.4	611.3	590.5
27.5°	1056.6	1034.8	938.7	781.5	689.8	736.8	833.9	759.7	741.2	724.8	701.9
30°	1190.9	1176.7	1062.1	847.0	721.5	791.4	946.4	908.2	886.3	866.7	839.4
32.5°	1326.2	1306.6	1193.1	971.5	806.7	897.3	1087.2	1080.6	1052.3	1033.7	1004.2
35°	1445.2	1435.4	1351.3	1175.6	1001.0	1082.8	1274.9	1282.6	1257.5	1237.8	1205.1
37.5°	1526.0	1526.0	1509.6	1395.0	1309.9	1371.0	1551.1	1552.2	1527.1	1482.3	1466.0
40°	1567.5	1579.5	1638.4	1660.2	1655.9	1734.5	1913.5	1893.8	1873.1	1850.2	1795.6
42.5°	1652.6	1663.5	1789.1	1939.7	2037.9	2141.6	2264.9	2258.4	2233.3	2191.8	2141.6
45°	1796.7	1810.9	1960.4	2199.4	2401.4	2548.8	2627.4	2596.8	2571.7	2532.4	2506.2
47.5°	1980.1	2007.3	2176.6	2472.4	2715.8	2959.2	3041.1	2960.3	2938.4	2907.9	2865.3
50°	2175.5	2201.7	2381.7	2720.1	2995.2	3285.6	3422.0	3285.6	3253.9	3244.1	3196.1
52.5°	2344.7	2366.5	2540.0	2911.2	3209.2	3549.7	3748.4	3568.3	3545.4	3512.6	3477.6
55°	2445.1	2462.6	2625.1	3002.9	3354.4	3787.7	4063.9	3905.6	3871.8	3858.7	3808.4
57.5°	2478.9	2496.4	2642.6	3014.9	3432.9	4004.9	4447.0	4452.4	4412.0	4365.1	4349.9
60°	2478.9	2498.6	2621.9	2985.4	3509.3	4236.3	4957.8	5413.0	5325.7	5316.9	5261.3
62.5°	2376.3	2394.8	2519.3	2894.8	3611.9	4548.5	5669.5	6472.9	6447.8	6391.0	6299.3
65°	2153.7	2164.5	2286.8	2663.4	3572.6	4835.6	6286.2	7178.0	7137.7	7026.3	6908.4
66°	2053.2	2062.0	2176.6	2531.3	3443.8	4874.9	6395.4	7266.4	7199.9	7106.0	6972.9
67.5°	1908.0	1923.3	2004.1	2285.7	3134.9	4738.4	6326.6	7204.2	7146.4	7032.9	6899.7
70°	1273.8	1262.9	1547.8	1754.2	2388.3	3860.8	5676.1	6468.5	6469.6	6416.2	6362.7
72.5°	604.7	611.3	694.2	1079.6	1563.1	2579.3	4517.9	5163.1	5237.3	5141.2	5074.6
75°	434.4	444.3	494.4	660.4	932.2	1547.8	2928.6	3610.9	3613.0	3442.7	3291.0
77.5°	126.6	132.1	185.5	407.1	698.6	1044.6	1682.1	2007.3	1960.4	1838.1	1723.6
80°	52.4	52.4	54.6	129.9	280.5	709.5	1176.7	1545.7	1540.2	1493.3	1425.5
82.5°	19.6	20.7	26.2	53.5	66.6	174.7	784.8	1341.5	1338.2	1271.7	1223.7
85°	2.2	2.2	6.5	22.9	25.1	32.7	157.2	591.6	588.4	591.6	518.5
87.5°	0.0	0.0	1.1	2.2	3.2	4.4	6.5	22.9	25.1	24.0	21.8
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):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	171.4	171.4	171.4	171.4	171.4	171.4	171.4	171.4	171.4	171.4	171.4
2.5°	186.6	184.5	184.5	183.4	183.4	183.4	182.3	181.2	181.2	180.1	179.0
5°	204.1	202.0	200.9	198.6	197.6	196.5	194.3	193.2	191.0	189.9	188.9
7.5°	224.8	220.5	219.4	216.1	212.8	210.7	208.5	205.2	203.0	198.6	197.6
10°	251.0	245.6	241.2	236.9	233.6	228.1	224.8	220.5	216.1	212.8	209.6
12.5°	284.9	277.2	270.7	266.4	258.7	252.1	245.6	242.3	233.6	229.2	223.8
15°	322.0	313.3	305.7	296.9	291.4	280.5	271.8	262.0	257.6	250.0	241.2
17.5°	370.0	355.8	343.8	335.1	324.2	313.3	303.4	293.6	280.5	271.8	260.9
20°	421.3	409.3	393.0	377.7	364.6	351.5	337.3	324.2	312.2	298.0	284.9
22.5°	486.8	469.4	449.7	434.4	417.0	402.8	383.1	365.7	346.0	327.5	312.2
25°	569.8	546.8	528.3	506.5	485.7	463.9	439.9	418.1	393.0	375.5	349.3
27.5°	672.4	650.5	625.4	597.1	576.3	543.6	511.9	484.7	455.1	427.9	398.4
30°	803.4	771.7	745.5	718.3	676.7	645.1	608.0	570.9	530.5	503.2	458.5
32.5°	960.6	926.7	887.4	848.1	810.0	765.2	719.4	673.5	628.7	578.5	532.7
35°	1152.7	1112.3	1067.5	1024.9	966.0	918.0	860.1	796.9	746.6	688.8	630.9
37.5°	1407.0	1340.4	1301.1	1256.4	1176.7	1111.2	1046.8	983.5	895.1	833.9	752.1
40°	1725.7	1686.4	1622.0	1550.0	1477.9	1391.7	1304.4	1220.3	1117.7	1032.6	937.6
42.5°	2100.1	2042.3	1976.8	1873.1	1800.0	1698.4	1599.1	1487.8	1362.3	1253.1	1141.8
45°	2451.6	2382.8	2332.7	2228.9	2152.5	2032.5	1912.4	1794.5	1649.4	1508.5	1379.7
47.5°	2831.5	2774.7	2691.8	2607.7	2530.2	2394.8	2264.9	2122.0	1969.1	1802.2	1635.1
50°	3165.5	3120.7	3064.0	2962.5	2876.3	2762.7	2609.9	2453.8	2260.6	2094.7	1904.8
52.5°	3449.3	3414.4	3334.7	3262.7	3185.2	3078.2	2941.7	2792.2	2583.7	2401.4	2185.3
55°	3784.4	3759.3	3689.5	3644.7	3575.9	3473.3	3345.6	3207.0	2986.5	2787.8	2543.3
57.5°	4333.5	4313.8	4252.7	4234.1	4166.5	4076.9	3919.8	3771.3	3513.7	3267.0	2987.6
60°	5242.7	5203.4	5113.9	5068.1	4925.1	4805.0	4600.9	4396.8	4085.7	3771.3	3435.1
62.5°	6216.4	6106.1	5935.8	5789.6	5586.5	5378.0	5105.2	4793.0	4428.4	4055.1	3668.7
65°	6741.4	6553.7	6338.6	6106.1	5843.1	5536.3	5192.5	4818.1	4426.2	4032.2	3624.0
66°	6801.4	6589.7	6361.5	6102.9	5810.3	5483.9	5134.6	4741.7	4334.5	3950.4	3542.1
67.5°	6726.1	6504.5	6263.3	5976.3	5659.7	5321.3	4954.6	4546.3	4154.5	3764.7	3367.5
70°	6198.9	5978.4	5763.4	5461.0	5123.8	4783.2	4436.1	3979.8	3608.6	3250.6	2897.0
72.5°	4950.2	4800.6	4587.8	4329.1	4000.5	3601.0	3311.8	2903.5	2581.5	2234.4	1960.4
75°	3093.5	2882.8	2619.7	2290.1	2039.0	1714.9	1545.7	1235.6	1052.3	891.8	736.8
77.5°	1581.6	1423.4	1238.9	1053.4	875.5	698.6	540.3	382.0	257.6	179.0	133.1
80°	1306.6	1166.9	1014.1	844.9	687.7	533.7	384.3	262.0	167.0	109.2	85.1
82.5°	1079.6	961.7	825.2	668.0	531.6	419.2	291.4	189.9	117.9	76.4	60.0
85°	459.5	417.0	322.0	255.4	192.1	141.9	99.3	66.6	46.9	38.2	34.9
87.5°	19.6	21.8	20.7	16.3	12.0	12.0	10.9	8.7	8.7	8.7	8.7
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):

	80°	81°	82°	83°	84°	85°	95°	105°	115°	125°	135°
0°	171.4	171.4	171.4	171.4	171.4	171.4	171.4	171.4	171.4	171.4	171.4
2.5°	179.0	177.9	176.8	176.8	175.8	174.7	168.1	162.7	156.1	151.7	147.3
5°	186.6	185.5	183.4	182.3	180.1	179.0	164.8	152.8	143.0	135.4	129.9
7.5°	194.3	193.2	189.9	186.6	185.5	183.4	160.4	145.2	132.1	123.4	117.9
10°	204.1	200.9	197.6	193.2	189.9	186.6	156.1	136.5	122.3	114.6	109.2
12.5°	218.3	212.8	207.4	202.0	197.6	192.1	153.9	128.8	114.6	105.9	100.4
15°	234.7	227.1	220.5	214.0	206.3	200.9	149.6	122.3	108.0	99.3	92.8
17.5°	250.0	241.2	231.4	221.6	214.0	206.3	145.2	115.7	101.5	92.8	86.2
20°	271.8	258.7	246.7	234.7	223.8	214.0	138.6	109.2	96.1	86.2	79.7
22.5°	295.8	280.5	265.2	248.9	234.7	221.6	133.1	103.7	90.6	80.8	73.1
25°	326.4	307.8	287.1	266.4	250.0	232.5	127.7	98.2	85.1	75.3	67.7
27.5°	368.9	342.7	319.8	293.6	268.5	248.9	123.4	93.9	79.7	69.9	62.2
30°	426.8	388.6	352.6	324.2	294.7	266.4	119.0	88.4	75.3	64.4	55.6
32.5°	491.2	446.4	405.0	362.4	325.3	292.6	114.6	84.1	69.9	58.9	51.3
35°	570.9	514.1	458.5	409.3	364.6	320.9	110.3	79.7	65.5	53.5	45.8
37.5°	685.5	614.6	541.4	478.1	420.2	362.4	107.0	75.3	60.0	48.0	40.4
40°	842.7	751.0	661.5	575.3	499.9	427.9	102.6	71.0	55.6	43.7	36.0
42.5°	1013.0	901.7	783.8	686.6	582.9	492.3	98.2	66.6	51.3	39.3	31.7
45°	1224.7	1086.1	943.1	811.0	684.4	567.6	93.9	62.2	45.8	34.9	27.3
47.5°	1456.1	1279.3	1117.7	951.8	801.2	661.5	88.4	58.9	41.5	30.6	24.0
50°	1694.1	1507.4	1303.3	1114.5	935.5	755.3	83.0	53.5	37.1	27.3	19.6
52.5°	1950.6	1730.1	1521.6	1286.9	1078.5	878.7	77.5	49.1	33.8	24.0	16.3
55°	2277.0	2030.3	1785.7	1522.7	1271.7	1021.7	72.0	43.7	29.4	20.7	13.1
57.5°	2687.4	2394.8	2094.7	1797.8	1493.3	1209.4	67.7	38.2	25.1	17.5	10.9
60°	3074.9	2733.2	2369.7	2028.1	1684.3	1353.5	61.1	33.8	21.8	14.2	10.9
62.5°	3275.8	2886.0	2494.2	2117.6	1750.8	1404.8	54.6	28.4	18.6	12.0	9.8
65°	3226.6	2829.3	2449.5	2069.6	1710.5	1372.1	48.0	25.1	16.3	10.9	9.8
66°	3155.6	2762.7	2380.7	2019.4	1676.6	1337.2	44.8	24.0	15.3	10.9	8.7
67.5°	3000.7	2620.8	2256.2	1920.0	1583.9	1270.6	40.4	21.8	14.2	9.8	8.7
70°	2563.0	2218.0	1926.6	1627.5	1353.5	1070.8	32.7	18.6	12.0	8.7	8.7
72.5°	1696.3	1461.6	1267.3	1090.4	911.4	707.3	27.3	15.3	9.8	8.7	7.6
75°	639.7	578.5	496.7	446.4	389.7	341.6	21.8	9.8	7.6	7.6	7.6
77.5°	113.5	104.8	92.8	85.1	78.6	72.0	17.5	6.5	6.5	7.6	7.6
80°	76.4	71.0	64.4	58.9	54.6	49.1	12.0	5.5	6.5	6.5	7.6
82.5°	54.6	51.3	48.0	43.7	40.4	36.0	7.6	5.5	6.5	6.5	6.5
85°	32.7	30.6	28.4	26.2	22.9	21.8	5.5	5.5	5.5	6.5	6.5
87.5°	8.7	7.6	8.7	8.7	6.5	7.6	4.4	4.4	4.4	5.5	5.5
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):

	145°	155°	165°	175°	180°
0°	171.4	171.4	171.4	171.4	171.4
2.5°	145.2	145.2	143.0	146.2	146.2
5°	125.5	125.5	124.4	125.5	125.5
7.5°	114.6	113.5	113.5	113.5	114.6
10°	104.8	103.7	103.7	103.7	103.7
12.5°	96.1	94.9	93.9	94.9	94.9
15°	88.4	86.2	86.2	86.2	86.2
17.5°	81.8	79.7	78.6	78.6	78.6
20°	75.3	72.0	72.0	72.0	72.0
22.5°	68.7	65.5	65.5	65.5	65.5
25°	62.2	58.9	58.9	58.9	58.9
27.5°	56.8	53.5	53.5	53.5	53.5
30°	50.2	48.0	48.0	49.1	48.0
32.5°	45.8	42.5	42.5	43.7	43.7
35°	40.4	38.2	38.2	38.2	38.2
37.5°	34.9	32.7	32.7	32.7	32.7
40°	30.6	28.4	27.3	28.4	28.4
42.5°	26.2	24.0	22.9	22.9	22.9
45°	22.9	19.6	18.6	19.6	19.6
47.5°	18.6	16.3	16.3	17.5	17.5
50°	14.2	14.2	15.3	17.5	17.5
52.5°	13.1	13.1	15.3	17.5	17.5
55°	12.0	13.1	15.3	16.3	17.5
57.5°	10.9	13.1	15.3	16.3	16.3
60°	10.9	12.0	14.2	16.3	16.3
62.5°	9.8	10.9	13.1	15.3	15.3
65°	9.8	10.9	13.1	15.3	15.3
66°	9.8	10.9	13.1	15.3	15.3
67.5°	9.8	10.9	13.1	15.3	15.3
70°	9.8	10.9	13.1	14.2	14.2
72.5°	8.7	9.8	12.0	14.2	14.2
75°	8.7	9.8	12.0	14.2	14.2
77.5°	8.7	9.8	12.0	14.2	14.2
80°	8.7	9.8	12.0	13.1	14.2
82.5°	7.6	9.8	10.9	13.1	13.1
85°	7.6	8.7	10.9	12.0	13.1
87.5°	6.5	7.6	8.7	10.9	10.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)