

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: P163824

Luminaire Tested: **LDRL-SL4-F04-E-7060-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163824  
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-F04-E-7060-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD  
Light Source: (28) 5700K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6687.6 lumens  
Efficiency: N/A  
Efficacy: 65.4 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.1')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B0 - U0 - G2

Input Watts (W): 102.2  
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

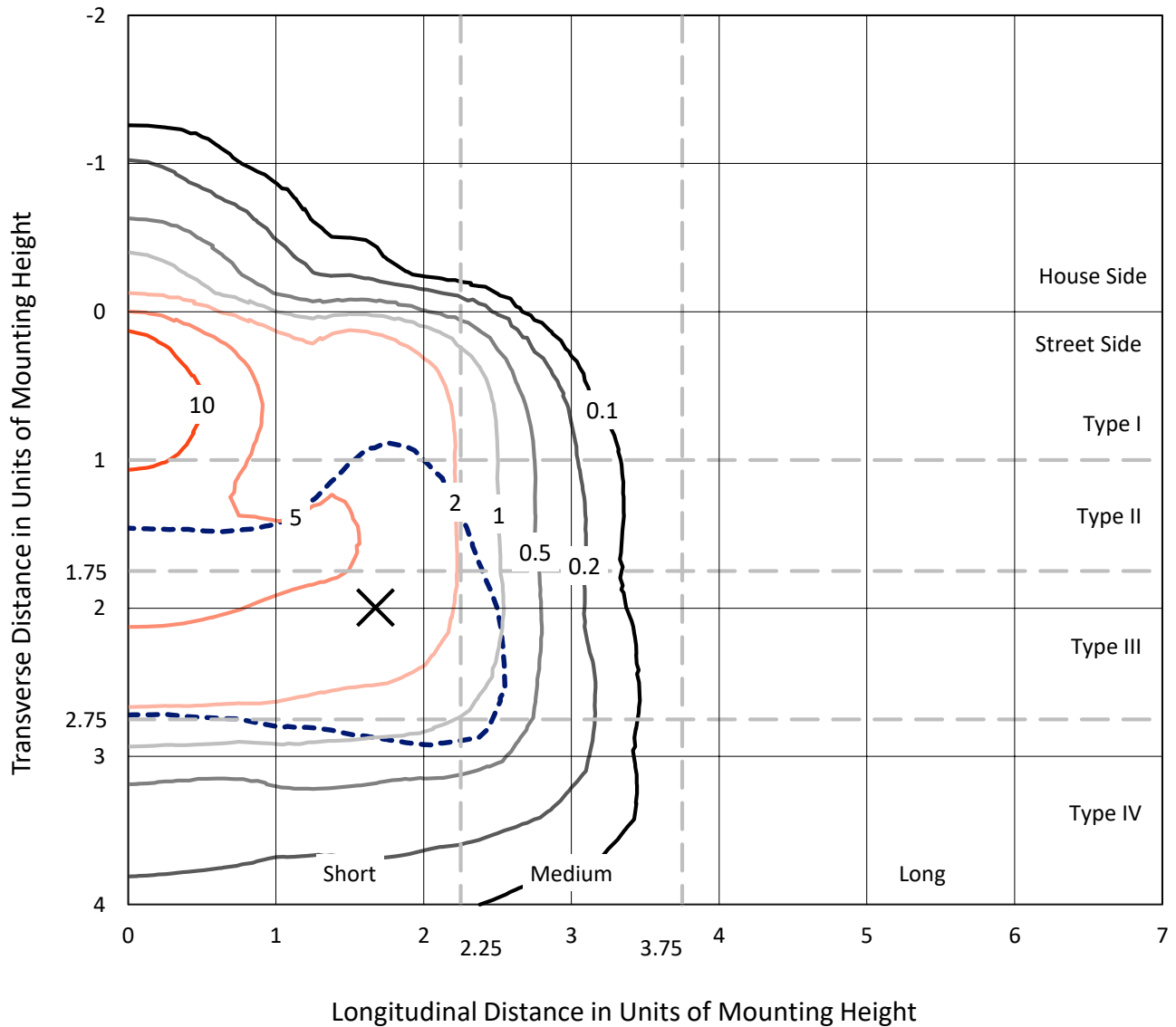


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### Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

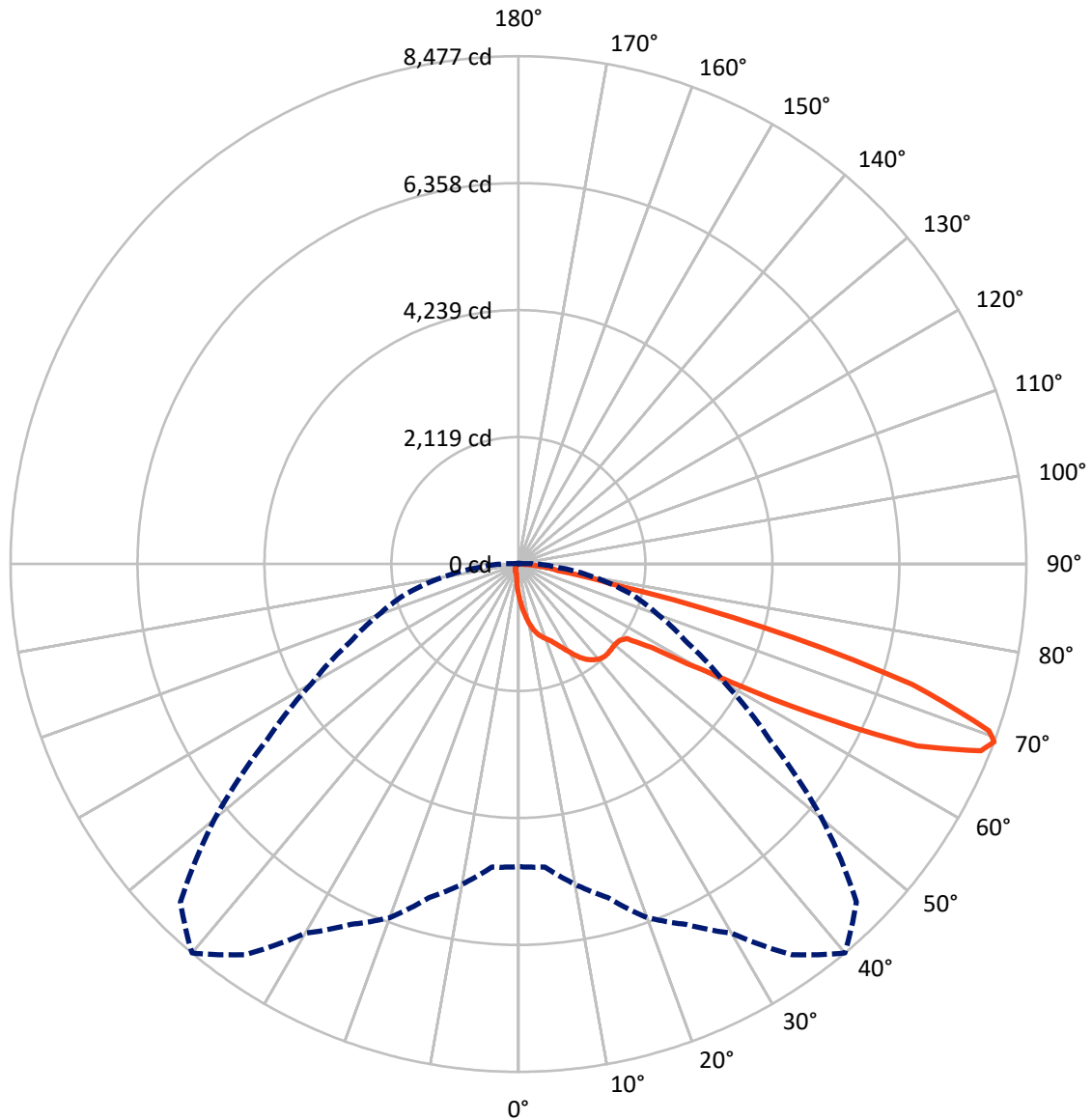


Based on 10 foot mounting height. Maximum calculated value = 15 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



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

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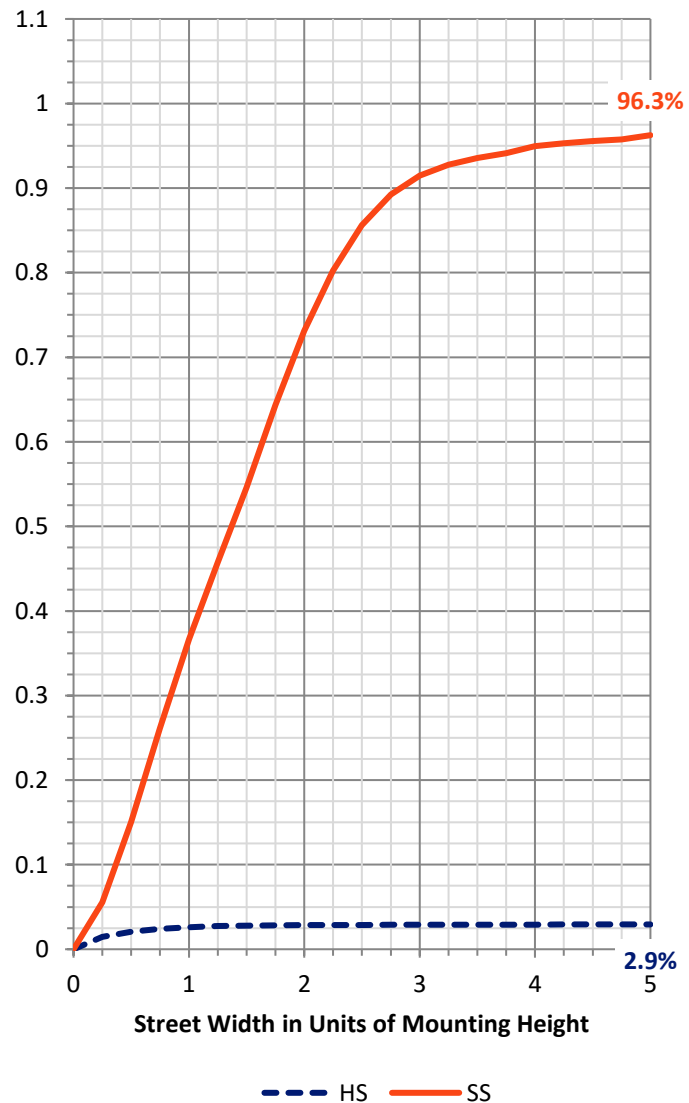
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	199.1	0.0	199.1
	% Fixture	3.0	0.0	3.0
<b>Street Side</b>	Lumens	6488.5	0.0	6488.5
	% Fixture	97.0	0.0	97.0
<b>Total</b>	Lumens	6687.6	0.0	6687.6
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.9	0.8
10°-20°	179.0	2.7
20°-30°	342.5	5.1
30°-40°	569.7	8.5
40°-50°	770.9	11.5
50°-60°	1205.5	18.0
60°-70°	2478.6	37.1
70°-80°	997.3	14.9
80°-90°	92.3	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°	6687.6	100.0
0°-180°	6687.6	100.0



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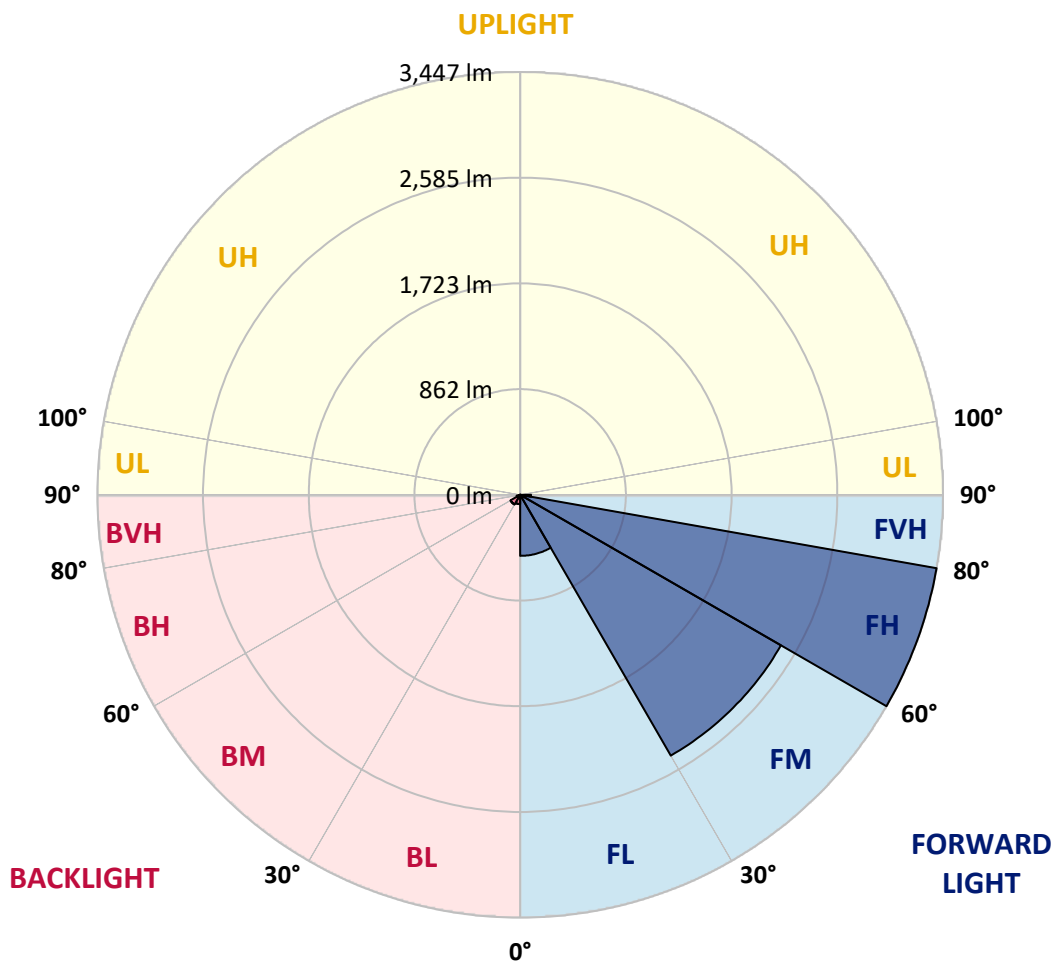
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	497.7	7.4			
FM (30°-60°)	2455.1	36.7			
FH (60°-80°)	3446.8	51.5			G2/5000
FVH (80°-90°)	88.8	1.3			G1/100
BL (0°-30°)	75.7	1.1	B0/110		
BM (30°-60°)	90.9	1.4	B0/220		
BH (60°-80°)	29.0	0.4	B0/110		G0/110
BVH (80°-90°)	3.4	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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1
2.5°	673.7	666.1	657.3	657.3	646.4	646.4	639.8	622.3	620.1	610.2	600.3
5°	860.0	853.4	842.5	832.6	823.8	808.5	797.5	776.7	753.8	731.8	712.1
7.5°	1041.8	1038.6	1018.9	1015.5	1001.3	976.1	954.2	923.5	884.1	853.4	817.3
10°	1210.6	1202.9	1198.5	1179.9	1159.1	1131.7	1097.7	1060.5	1014.5	966.3	914.8
12.5°	1344.2	1339.9	1320.2	1312.4	1290.5	1263.2	1220.4	1172.2	1126.2	1063.8	1003.5
15°	1443.9	1436.2	1423.1	1411.0	1384.7	1360.7	1321.2	1268.6	1212.7	1144.8	1072.5
17.5°	1527.2	1512.9	1509.6	1491.1	1463.6	1435.1	1391.3	1343.1	1277.4	1209.5	1130.6
20°	1638.9	1619.2	1612.6	1585.3	1553.5	1514.0	1463.6	1403.4	1334.4	1259.8	1178.8
22.5°	1770.4	1756.2	1741.9	1717.8	1677.3	1621.4	1548.0	1482.2	1394.6	1312.4	1224.8
25°	1956.6	1944.6	1921.6	1888.7	1838.3	1771.5	1682.8	1586.3	1483.3	1378.2	1275.2
27.5°	2137.4	2126.4	2110.0	2084.8	2027.8	1954.4	1844.9	1722.2	1591.8	1464.8	1350.8
30°	2307.2	2297.3	2280.9	2255.7	2205.3	2133.0	2009.2	1877.7	1715.6	1567.7	1430.7
32.5°	2490.1	2486.9	2468.2	2432.1	2388.3	2290.8	2156.0	2014.7	1850.4	1679.4	1519.5
35°	2697.2	2672.0	2654.5	2618.3	2543.9	2439.8	2282.0	2127.5	1954.4	1779.1	1600.6
37.5°	2872.5	2848.4	2826.5	2780.5	2689.6	2557.0	2378.4	2208.6	2030.1	1851.4	1669.6
40°	3000.7	2988.6	2962.3	2902.1	2800.2	2642.5	2449.6	2264.5	2084.8	1905.2	1725.5
42.5°	3096.0	3077.4	3047.8	2985.4	2864.8	2685.2	2478.1	2287.5	2110.0	1938.0	1761.6
45°	3131.1	3115.7	3088.3	3020.4	2890.0	2697.2	2477.0	2280.9	2111.1	1947.9	1785.7
47.5°	3110.3	3094.9	3070.8	3007.3	2879.1	2683.0	2457.3	2262.3	2100.1	1951.2	1807.7
50°	3041.2	3032.5	3013.8	2960.2	2845.1	2655.6	2439.8	2252.4	2098.0	1967.6	1838.3
52.5°	3034.6	3029.1	3006.2	2952.5	2835.3	2646.8	2437.5	2257.9	2116.6	1988.4	1860.2
55°	3708.4	3630.6	3456.4	3308.5	3065.3	2776.1	2548.2	2346.7	2195.5	2070.6	1980.7
57.5°	5270.6	5154.5	4925.6	4644.0	4085.3	3536.4	3097.1	2779.4	2622.7	2565.8	2599.7
60°	6002.4	5981.6	5945.5	5811.8	5525.9	5053.7	4527.9	3959.3	3731.4	3711.7	3780.7
62.5°	6349.7	6336.6	6347.6	6331.1	6242.4	6104.4	5953.2	5707.7	5482.1	5336.4	5027.4
65°	6509.7	6518.5	6580.9	6630.2	6641.1	6677.3	6788.0	7093.6	7317.1	6941.3	6083.6
67.5°	6103.3	6154.7	6298.2	6478.0	6688.2	6892.0	7220.7	7864.9	8323.9	7882.4	6664.2
69°	5052.6	5077.8	5428.4	5766.9	6280.8	6640.1	7116.7	7961.3	8477.3	7978.8	6618.2
70°	3977.9	4000.9	4376.7	4836.8	5705.6	6167.9	6791.2	7798.0	8333.8	7850.6	6381.5
72.5°	1794.5	1761.6	1894.2	2140.7	3085.0	3819.0	4909.1	6318.0	6875.6	6289.5	4774.4
75°	1253.3	1239.0	1253.3	1254.4	1401.2	1807.7	2280.9	3424.6	4235.4	3654.7	2280.9
77.5°	970.7	960.8	951.0	940.0	957.5	1072.5	1118.5	1215.0	1577.6	1492.1	869.8
80°	768.0	759.2	783.3	775.7	775.7	788.8	780.1	743.9	676.0	626.6	560.9
82.5°	357.1	359.4	359.4	390.0	470.0	548.8	574.0	537.9	477.7	406.5	327.6
85°	34.0	38.4	64.6	99.7	198.3	223.5	224.6	186.2	186.2	146.8	118.3
87.5°	0.0	1.1	1.1	1.1	9.8	27.4	23.0	6.6	3.3	3.3	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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1
2.5°	582.9	579.5	566.4	553.2	541.2	528.0	516.0	504.0	490.8	480.9	468.9
5°	681.5	657.3	630.0	603.7	577.4	550.0	521.5	496.3	470.0	445.9	422.9
7.5°	781.1	734.0	696.8	649.7	606.9	564.2	524.8	484.3	447.0	411.9	379.1
10°	865.5	808.5	750.4	690.2	628.9	571.9	517.1	468.9	419.6	376.8	336.3
12.5°	934.5	862.2	791.0	715.4	646.4	574.0	506.1	448.1	390.0	341.8	300.2
15°	997.0	913.7	828.2	740.6	652.9	570.8	495.2	422.9	363.7	308.9	261.8
17.5°	1047.3	952.0	855.6	757.0	662.8	566.4	480.9	405.4	336.3	279.3	233.3
20°	1091.2	991.5	887.4	776.7	669.4	565.3	468.9	383.4	312.2	252.0	207.0
22.5°	1131.7	1032.0	920.3	801.9	679.2	564.2	458.0	367.0	291.4	231.1	186.2
25°	1177.7	1072.5	955.3	828.2	696.8	568.6	451.4	353.9	272.8	211.4	169.8
27.5°	1229.2	1118.5	997.0	861.1	719.7	577.4	449.2	339.6	256.4	192.8	156.7
30°	1301.5	1173.3	1038.6	894.0	740.6	587.2	447.0	330.8	239.9	178.6	143.5
32.5°	1365.0	1227.0	1084.6	927.9	763.6	597.1	445.9	318.8	224.6	164.3	133.6
35°	1431.9	1276.3	1124.0	960.8	783.3	608.0	444.8	310.0	210.3	150.1	123.8
37.5°	1489.9	1317.9	1154.7	989.2	805.2	617.9	445.9	302.4	197.2	138.0	115.0
40°	1539.2	1360.7	1188.7	1015.5	828.2	633.2	447.0	294.7	184.1	127.1	107.3
42.5°	1583.1	1401.2	1224.8	1045.2	854.5	650.8	453.6	288.1	173.1	117.2	99.7
45°	1617.0	1438.5	1264.2	1086.8	897.2	679.2	465.6	283.7	162.2	108.4	93.1
47.5°	1652.1	1493.2	1331.1	1152.5	959.7	724.1	486.4	282.7	153.4	101.9	87.6
50°	1700.3	1548.0	1390.2	1219.3	1016.7	770.2	511.6	283.7	142.4	95.3	82.1
52.5°	1735.4	1603.9	1466.9	1335.5	1152.5	910.4	609.1	303.5	137.0	89.9	75.6
55°	1942.4	1919.4	1922.7	1944.6	1803.3	1549.1	1018.9	438.2	161.0	101.9	74.5
57.5°	2738.8	2819.9	2867.0	2866.0	2632.6	2183.4	1368.3	563.1	179.6	118.3	88.7
60°	3786.2	3724.8	3638.3	3424.6	3114.6	2492.4	1530.5	605.8	155.6	94.2	81.0
62.5°	4711.9	4352.6	4033.8	3687.6	3281.2	2599.7	1563.4	602.6	135.9	71.2	57.0
65°	5289.3	4642.9	4128.0	3694.1	3215.4	2509.9	1479.0	553.2	115.0	58.1	47.1
67.5°	5427.3	4486.2	3757.7	3204.5	2686.2	1953.4	1085.7	416.3	89.9	48.2	41.6
69°	5126.0	3987.8	3113.5	2485.8	1954.4	1296.0	671.6	262.9	69.0	43.8	38.4
70°	4715.2	3468.5	2536.1	1995.0	1447.2	910.4	470.0	185.1	55.8	40.5	35.0
72.5°	3033.5	1821.9	1246.7	867.7	597.1	362.6	184.1	83.3	42.7	34.0	28.5
75°	1176.6	673.7	488.6	371.4	290.3	201.6	111.7	53.7	36.1	28.5	21.9
77.5°	579.5	443.7	362.6	248.7	144.6	89.9	60.2	41.6	29.5	20.8	14.2
80°	458.0	304.5	181.9	112.8	85.5	64.6	46.0	34.0	21.9	13.1	9.8
82.5°	234.5	128.1	94.2	76.7	63.6	50.4	37.3	24.1	14.2	8.7	7.7
85°	73.4	53.7	48.2	47.1	43.8	36.1	26.3	15.3	8.7	5.5	5.5
87.5°	5.5	7.7	9.8	7.7	8.7	7.7	9.8	6.6	4.4	4.4	3.3
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1
2.5°	460.1	447.0	434.9	427.3	413.0	407.5	402.1	399.9	390.0	392.2	383.4
5°	402.1	379.1	361.5	344.0	327.6	315.5	305.6	293.6	283.7	279.3	270.6
7.5°	349.5	319.9	296.9	278.2	258.5	243.2	230.1	221.3	212.5	203.8	199.4
10°	303.5	271.7	245.4	226.7	208.2	195.0	185.1	178.6	173.1	169.8	168.7
12.5°	260.8	230.1	205.9	189.5	175.3	168.7	164.3	161.0	159.9	158.8	158.8
15°	227.9	197.2	178.6	166.5	159.9	156.7	155.6	153.4	151.2	150.1	150.1
17.5°	197.2	174.2	161.0	154.4	151.2	149.0	146.8	144.6	142.4	141.3	141.3
20°	176.4	157.8	151.2	146.8	143.5	141.3	138.0	135.9	134.7	133.6	132.6
22.5°	159.9	147.9	143.5	140.2	135.9	132.6	130.4	128.1	126.0	124.9	123.8
25°	147.9	140.2	137.0	132.6	128.1	124.9	121.6	118.3	116.2	115.0	112.8
27.5°	139.1	133.6	129.3	123.8	119.4	116.2	112.8	109.6	107.3	105.2	104.1
30°	131.5	126.0	120.5	116.2	110.7	107.3	103.0	99.7	98.6	96.4	94.2
32.5°	123.8	118.3	112.8	107.3	101.9	97.5	95.3	90.9	88.7	87.6	85.5
35°	115.0	109.6	103.0	98.6	93.1	88.7	85.5	82.1	80.0	77.8	76.7
37.5°	107.3	100.8	94.2	88.7	84.4	80.0	76.7	73.4	71.2	69.0	67.9
40°	98.6	92.0	85.5	80.0	75.6	72.3	69.0	65.7	63.6	62.4	62.4
42.5°	90.9	83.3	76.7	72.3	69.0	64.6	61.3	58.1	57.0	55.8	57.0
45°	83.3	75.6	70.1	65.7	62.4	58.1	54.8	52.6	51.5	52.6	53.7
47.5°	76.7	69.0	63.6	60.2	57.0	53.7	50.4	48.2	48.2	50.4	52.6
50°	70.1	62.4	58.1	55.8	52.6	49.3	44.9	43.8	44.9	47.1	49.3
52.5°	63.6	54.8	51.5	50.4	47.1	43.8	40.5	39.4	40.5	42.7	41.6
55°	57.0	48.2	47.1	46.0	42.7	38.4	35.0	35.0	35.0	34.0	31.8
57.5°	54.8	42.7	41.6	40.5	37.3	32.9	30.7	28.5	27.4	24.1	23.0
60°	57.0	38.4	38.4	36.1	32.9	28.5	25.2	21.9	19.7	17.6	17.6
62.5°	46.0	35.0	34.0	31.8	27.4	23.0	19.7	16.4	15.3	14.2	14.2
65°	37.3	31.8	29.5	26.3	23.0	18.6	15.3	13.1	12.1	12.1	13.1
67.5°	34.0	28.5	25.2	21.9	18.6	14.2	12.1	11.0	11.0	12.1	12.1
69°	31.8	26.3	23.0	19.7	16.4	13.1	11.0	11.0	11.0	11.0	12.1
70°	29.5	25.2	21.9	18.6	14.2	11.0	9.8	9.8	11.0	11.0	12.1
72.5°	23.0	19.7	18.6	15.3	11.0	9.8	8.7	9.8	9.8	11.0	11.0
75°	17.6	14.2	14.2	12.1	8.7	7.7	7.7	8.7	8.7	9.8	9.8
77.5°	12.1	9.8	9.8	8.7	7.7	6.6	6.6	7.7	8.7	8.7	9.8
80°	8.7	7.7	6.6	7.7	6.6	5.5	6.6	7.7	7.7	8.7	8.7
82.5°	6.6	6.6	6.6	6.6	5.5	5.5	6.6	6.6	7.7	8.7	8.7
85°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	6.6	6.6	7.7	7.7
87.5°	3.3	3.3	3.3	4.4	4.4	5.5	5.5	5.5	5.5	6.6	6.6
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):**

	165°	170°	175°	180°
0°	505.1	505.1	505.1	505.1
2.5°	381.3	380.2	375.8	376.8
5°	267.3	260.8	265.1	264.0
7.5°	196.1	195.0	193.9	196.1
10°	167.6	167.6	166.5	167.6
12.5°	157.8	157.8	157.8	157.8
15°	150.1	150.1	149.0	149.0
17.5°	141.3	141.3	141.3	140.2
20°	132.6	131.5	131.5	131.5
22.5°	122.7	121.6	121.6	121.6
25°	112.8	111.7	111.7	111.7
27.5°	103.0	101.9	100.8	100.8
30°	93.1	92.0	90.9	90.9
32.5°	83.3	82.1	81.0	81.0
35°	74.5	74.5	73.4	72.3
37.5°	66.8	66.8	66.8	66.8
40°	61.3	62.4	62.4	62.4
42.5°	58.1	59.2	60.2	61.3
45°	55.8	58.1	59.2	59.2
47.5°	54.8	55.8	57.0	57.0
50°	50.4	49.3	49.3	49.3
52.5°	40.5	38.4	37.3	36.1
55°	29.5	28.5	26.3	26.3
57.5°	20.8	20.8	19.7	19.7
60°	16.4	16.4	15.3	16.4
62.5°	14.2	14.2	14.2	14.2
65°	13.1	13.1	13.1	13.1
67.5°	13.1	13.1	13.1	13.1
69°	12.1	12.1	12.1	12.1
70°	12.1	12.1	12.1	12.1
72.5°	11.0	11.0	11.0	11.0
75°	9.8	11.0	11.0	11.0
77.5°	9.8	9.8	9.8	9.8
80°	8.7	8.7	9.8	9.8
82.5°	8.7	8.7	8.7	8.7
85°	7.7	7.7	8.7	8.7
87.5°	6.6	6.6	7.7	7.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)