

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: P146858

Luminaire Tested: **LDRL-T4-E03-E-8030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146858  
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-E03-E-8030  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (63) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7440.5 lumens  
Efficiency: N/A  
Efficacy: 98.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

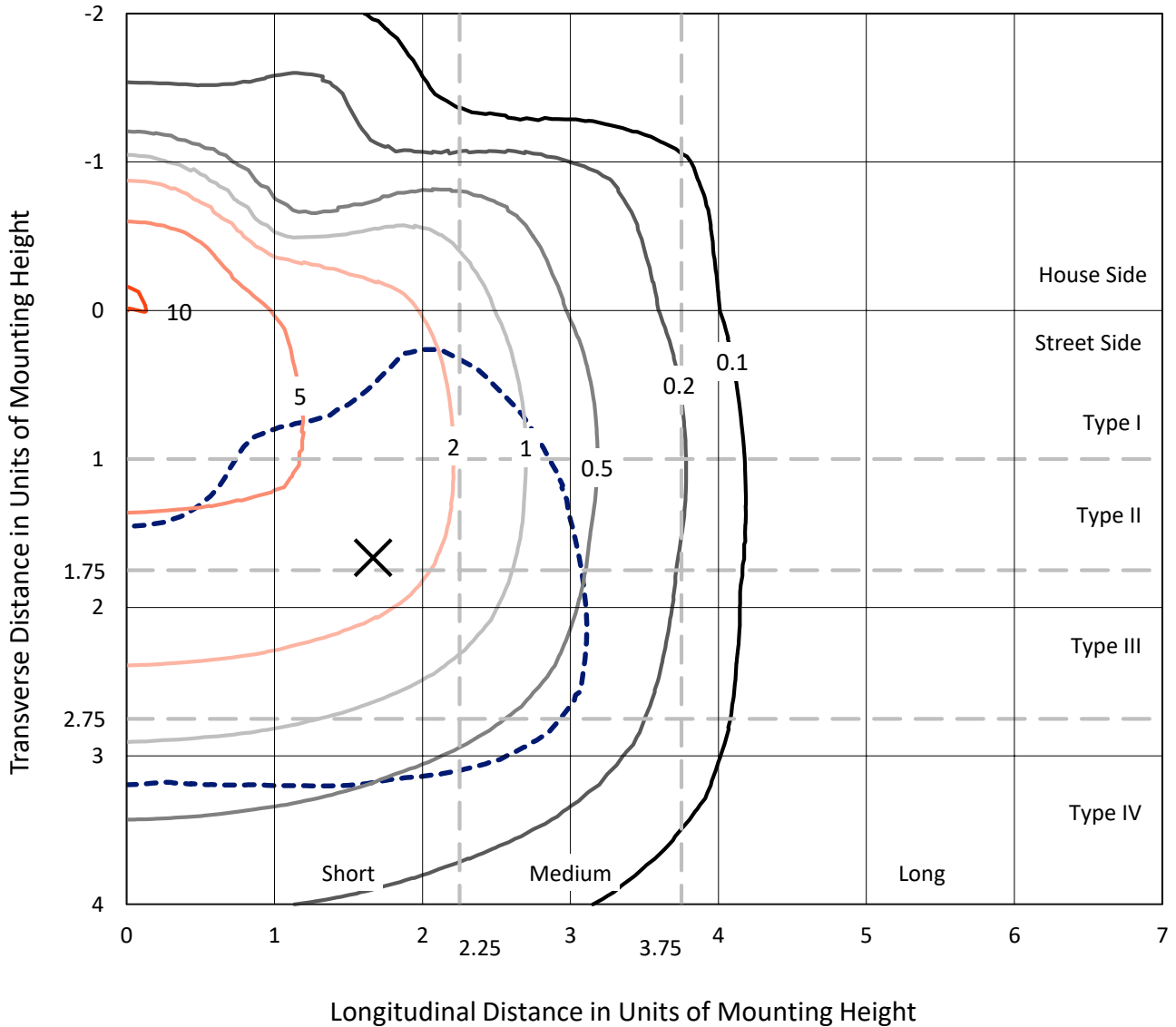
Input Watts (W): 75.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

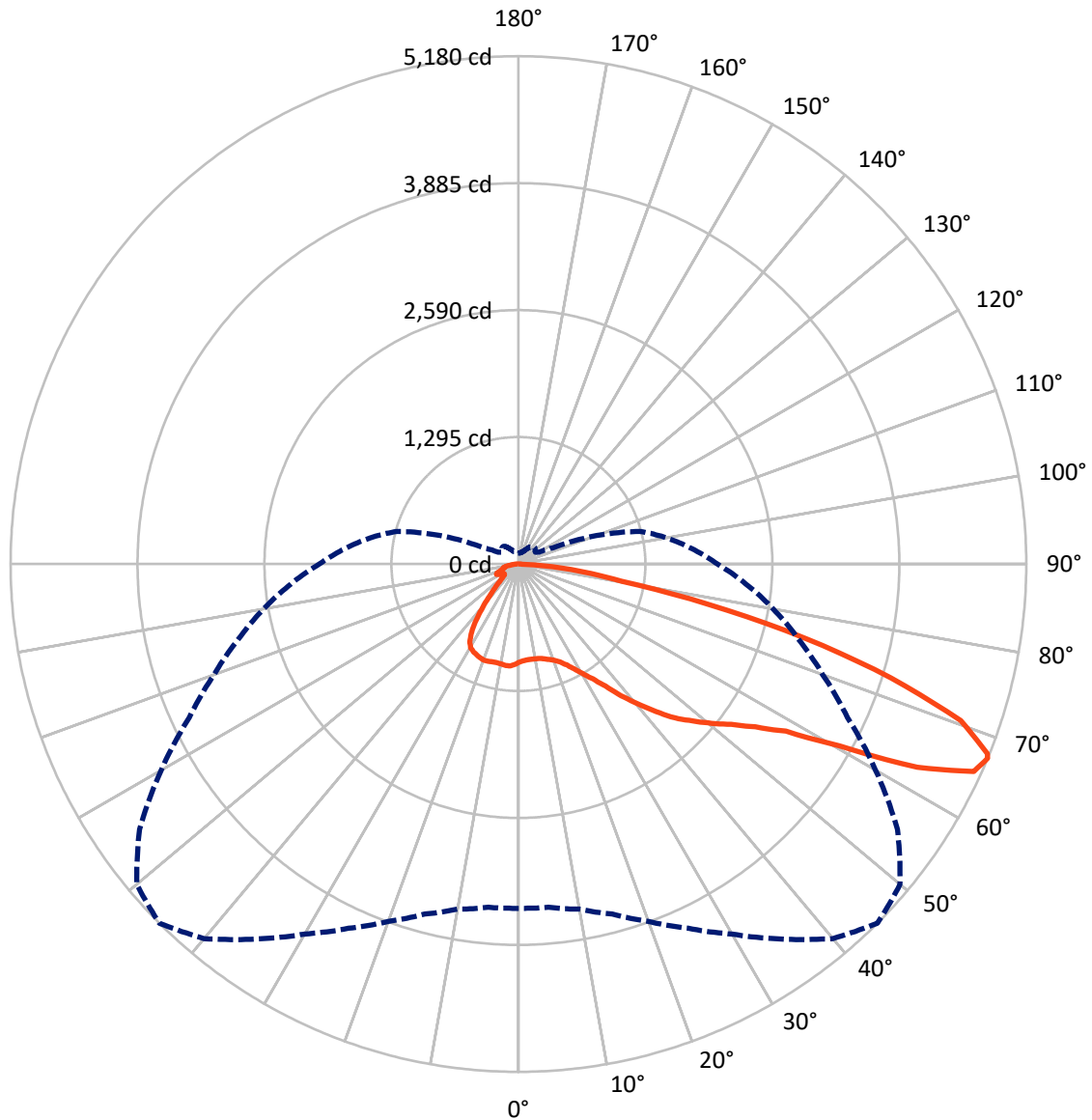
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.2 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
<b>House Side</b>	Lumens	1507.6	0.0	1507.6
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	5932.9	0.0	5932.9
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	7440.5	0.0	7440.5
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.5	1.3
10°-20°	289.9	3.9
20°-30°	492.7	6.6
30°-40°	740.5	10.0
40°-50°	962.8	12.9
50°-60°	1321.9	17.8
60°-70°	2085.3	28.0
70°-80°	1260.0	16.9
80°-90°	190.9	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°	7440.5	100.0
0°-180°	7440.5	100.0

**Coefficient of Utilization**



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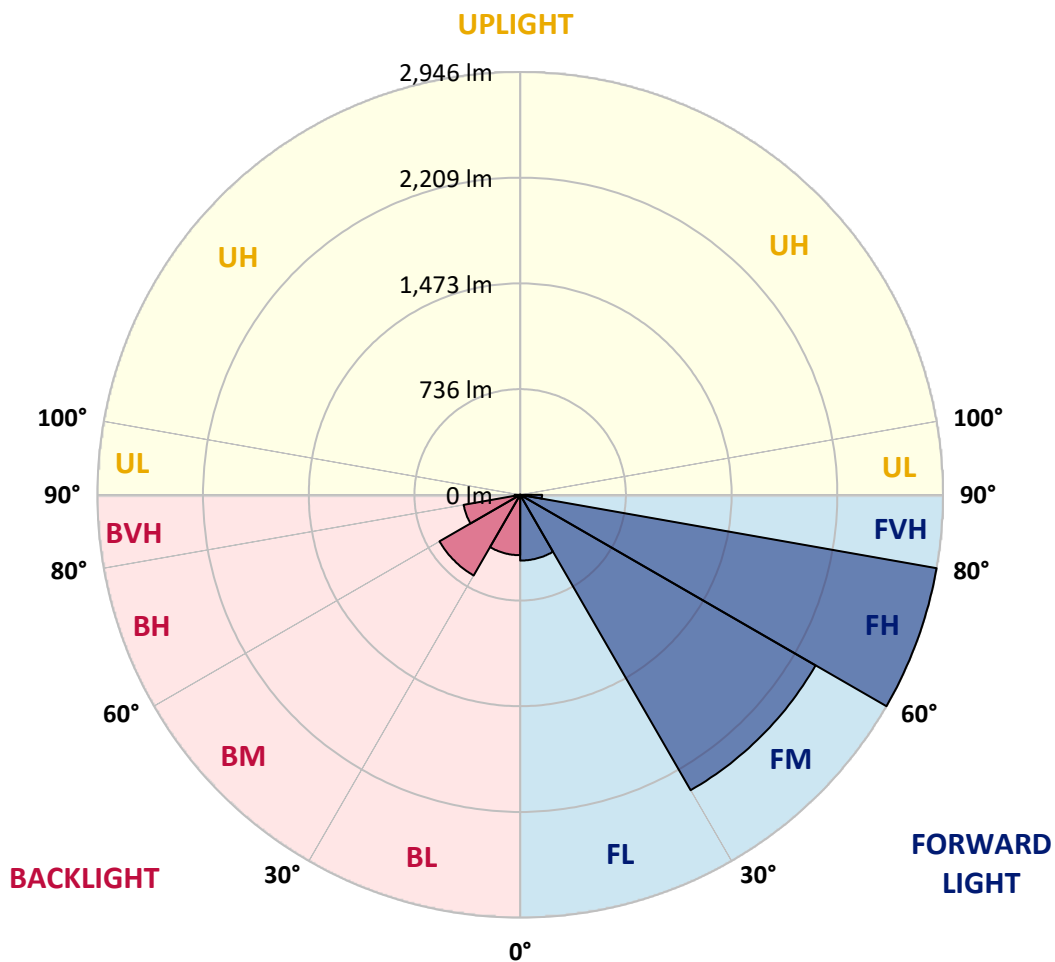
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	458.2	6.2			
FM	(30°-60°)	2376.4	31.9			
FH	(60°-80°)	2945.8	39.6			G2/5000
FVH	(80°-90°)	152.4	2.0			G2/225
BL	(0°-30°)	420.9	5.7	B1/500		
BM	(30°-60°)	648.8	8.7	B1/1000		
BH	(60°-80°)	399.5	5.4	B1/500		G1/500
BVH	(80°-90°)	38.5	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-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6
2.5°	979.4	981.4	979.9	979.9	980.4	980.9	981.9	983.9	984.4	987.5	988.0
5°	959.6	960.1	960.1	960.6	963.7	966.2	968.7	972.3	975.3	980.9	984.4
7.5°	952.5	954.6	954.0	955.1	958.1	960.6	963.7	968.7	976.3	980.9	986.0
10°	964.2	965.7	964.2	964.7	965.2	967.7	968.7	972.3	978.4	982.4	987.0
12.5°	991.0	991.0	989.5	988.5	987.0	987.5	985.4	984.9	988.0	988.5	989.0
15°	1026.5	1030.5	1025.4	1021.4	1019.4	1017.3	1010.8	1008.2	1007.7	1003.2	998.6
17.5°	1062.4	1063.4	1060.4	1055.8	1052.8	1048.2	1042.7	1037.6	1031.5	1024.4	1015.3
20°	1102.4	1102.9	1098.9	1092.3	1088.7	1083.2	1076.1	1067.5	1059.9	1048.7	1038.6
22.5°	1158.1	1157.6	1149.5	1143.9	1138.9	1132.3	1122.2	1110.5	1098.4	1085.2	1071.0
25°	1221.9	1221.9	1216.4	1207.2	1204.7	1195.1	1184.0	1170.3	1157.6	1138.9	1121.7
27.5°	1294.9	1295.4	1285.2	1280.2	1274.6	1264.5	1256.9	1246.2	1229.0	1210.3	1192.6
30°	1381.4	1378.9	1370.8	1360.2	1358.2	1350.0	1339.4	1331.8	1310.5	1297.4	1277.6
32.5°	1463.5	1467.5	1465.5	1453.4	1455.4	1447.3	1438.2	1432.6	1410.3	1397.6	1379.4
35°	1586.0	1589.6	1592.6	1588.1	1590.6	1586.0	1578.4	1563.7	1545.5	1528.8	1503.5
37.5°	1681.2	1684.8	1686.8	1697.9	1714.1	1729.8	1736.9	1729.3	1730.4	1705.0	1671.1
40°	1759.2	1767.8	1780.0	1801.2	1833.7	1863.5	1879.7	1892.4	1899.0	1875.2	1831.1
42.5°	1837.2	1846.3	1863.0	1897.0	1941.5	1984.6	2018.5	2057.5	2064.6	2058.5	2021.0
45°	1918.7	1929.4	1950.1	1988.6	2040.8	2097.0	2151.7	2206.9	2234.7	2239.3	2193.7
47.5°	2017.0	2032.2	2051.4	2095.0	2145.6	2208.9	2277.3	2348.2	2391.7	2391.7	2339.0
50°	2139.5	2156.7	2172.9	2216.5	2267.1	2332.5	2411.5	2490.4	2549.7	2553.2	2489.4
52.5°	2311.2	2313.7	2323.3	2363.3	2407.4	2480.3	2555.3	2646.9	2715.3	2718.3	2644.9
55°	2519.8	2519.8	2531.0	2564.4	2605.4	2665.7	2743.1	2844.9	2916.8	2932.5	2838.3
57.5°	2794.3	2804.4	2810.0	2849.0	2876.8	2940.6	3005.5	3116.4	3208.0	3218.1	3122.4
60°	3240.9	3221.7	3252.6	3287.0	3352.3	3398.9	3509.3	3620.7	3737.7	3765.5	3662.8
62.5°	3681.0	3701.7	3739.7	3802.0	3913.9	4018.2	4176.2	4345.4	4527.2	4564.6	4486.1
65°	3708.3	3721.0	3773.7	3881.0	4033.9	4219.8	4437.5	4692.3	4963.2	5103.4	4971.8
67°	3511.8	3515.4	3575.1	3697.2	3880.5	4100.8	4358.5	4669.5	4987.5	5180.4	5082.2
67.5°	3449.6	3456.1	3514.9	3639.5	3824.8	4050.1	4313.0	4632.5	4958.1	5159.7	5071.0
70°	3083.9	3083.9	3147.2	3272.8	3446.5	3666.3	3941.3	4263.8	4617.8	4787.5	4712.0
72.5°	2625.1	2608.4	2679.8	2775.0	2916.8	3108.8	3330.1	3584.8	3851.1	3974.7	3944.8
75°	1908.1	1939.5	1976.5	2046.8	2169.9	2321.3	2450.9	2678.3	2887.5	3024.2	2988.2
77.5°	1041.1	1053.3	1155.6	1197.6	1305.5	1417.9	1560.2	1719.7	1884.3	1970.4	1935.4
80°	618.8	642.6	703.4	753.5	811.8	897.3	1000.6	1035.6	1068.0	1066.0	1002.7
82.5°	390.9	419.8	485.6	528.7	559.1	608.7	664.9	709.0	718.6	671.0	597.5
85°	63.3	104.8	274.0	322.1	341.3	368.1	409.7	428.4	400.1	349.4	362.1
87.5°	24.8	29.9	83.6	105.8	111.9	58.7	101.8	119.5	60.8	30.9	69.9
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6
2.5°	991.0	993.5	996.1	999.1	1000.1	1002.7	1007.2	1006.7	1010.3	1011.8	1014.3
5°	989.0	994.6	998.6	1004.2	1006.2	1011.8	1017.9	1019.9	1024.4	1028.0	1031.0
7.5°	993.0	999.1	1004.2	1010.8	1015.3	1019.9	1024.4	1030.0	1034.1	1036.6	1038.6
10°	994.6	1001.1	1007.2	1012.8	1017.9	1021.4	1026.5	1031.0	1035.1	1036.6	1037.1
12.5°	995.1	999.6	1005.7	1011.8	1016.3	1020.9	1024.4	1029.5	1032.5	1033.0	1032.0
15°	999.1	999.6	1003.7	1010.8	1015.3	1019.9	1022.4	1024.9	1027.0	1025.4	1023.9
17.5°	1011.3	1007.7	1007.7	1011.3	1013.8	1015.8	1016.3	1015.8	1013.8	1010.8	1008.2
20°	1031.0	1023.9	1018.4	1016.3	1012.3	1007.2	1000.6	994.6	987.0	983.4	982.9
22.5°	1061.9	1051.3	1041.1	1031.0	1017.9	1003.2	988.0	974.8	964.2	958.6	959.1
25°	1114.6	1098.9	1087.2	1069.5	1048.2	1027.5	1007.7	990.0	977.3	967.2	969.2
27.5°	1185.5	1167.7	1157.6	1137.4	1113.1	1086.7	1063.4	1039.1	1020.9	1008.2	1010.8
30°	1268.5	1263.5	1246.7	1226.5	1203.7	1173.8	1138.9	1102.4	1069.5	1048.7	1044.7
32.5°	1368.8	1363.2	1345.0	1327.8	1298.4	1265.5	1219.9	1162.2	1110.5	1071.0	1053.8
35°	1492.3	1478.7	1456.4	1439.7	1406.8	1364.2	1305.5	1227.5	1149.0	1089.8	1046.7
37.5°	1646.3	1612.4	1575.4	1531.8	1483.2	1431.6	1363.7	1272.6	1175.3	1091.3	1014.8
40°	1793.1	1738.5	1677.2	1608.3	1549.1	1486.8	1416.4	1312.1	1193.1	1080.6	966.7
42.5°	1956.7	1871.6	1788.6	1693.9	1615.9	1542.0	1461.5	1339.9	1196.6	1051.8	904.4
45°	2114.2	2004.8	1893.4	1776.4	1677.2	1595.1	1503.5	1363.7	1195.6	1021.4	842.6
47.5°	2254.5	2123.8	1986.1	1854.4	1739.0	1648.8	1548.6	1396.1	1209.3	1012.8	801.6
50°	2385.6	2234.7	2073.2	1926.8	1801.2	1709.1	1605.8	1447.3	1251.3	1032.5	795.5
52.5°	2520.8	2356.8	2171.9	2014.4	1883.3	1776.4	1672.1	1512.6	1310.0	1073.1	809.2
55°	2697.1	2508.7	2311.7	2137.0	1986.6	1871.6	1751.1	1591.6	1373.3	1120.1	835.0
57.5°	2959.4	2739.1	2515.3	2327.4	2153.7	2010.4	1878.2	1695.4	1478.2	1191.0	891.8
60°	3430.3	3186.2	2927.0	2681.4	2481.3	2313.7	2145.6	1918.7	1671.6	1352.1	1021.9
62.5°	4199.5	3861.8	3503.2	3180.2	2905.2	2678.3	2441.3	2168.9	1880.7	1547.5	1218.9
65°	4661.9	4196.0	3739.7	3365.0	3039.9	2749.2	2462.6	2169.9	1890.9	1599.7	1307.5
67°	4719.1	4208.1	3703.3	3304.2	2955.8	2639.3	2328.4	2029.1	1779.5	1535.4	1283.2
67.5°	4701.9	4183.8	3668.8	3265.7	2913.8	2607.4	2301.6	1995.2	1752.1	1508.0	1265.0
70°	4362.6	3855.7	3346.3	2954.3	2617.0	2303.6	2014.4	1707.6	1519.7	1345.0	1134.8
72.5°	3620.7	3225.2	2798.3	2471.7	2180.5	1909.1	1654.9	1398.2	1247.2	1123.7	975.8
75°	2684.9	2322.3	1961.3	1764.8	1538.9	1321.7	1125.2	935.3	877.1	847.7	760.6
77.5°	1657.9	1332.3	1060.4	882.6	701.9	549.9	437.5	356.0	371.2	432.0	459.8
80°	825.4	609.7	472.0	375.2	303.3	245.1	179.8	131.7	157.5	186.9	211.7
82.5°	496.8	392.5	310.4	262.8	213.7	165.1	117.0	89.1	98.7	132.7	145.8
85°	308.4	247.1	197.5	165.1	136.7	101.3	66.3	65.8	69.9	88.1	100.8
87.5°	90.6	61.3	48.6	50.6	56.2	46.6	34.9	29.9	37.0	50.6	56.7
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6
2.5°	1014.8	1018.4	1019.9	1020.4	1020.9	1023.9	1023.9	1027.0	1028.0	1028.0	1029.0
5°	1034.1	1037.6	1039.1	1039.6	1040.6	1042.2	1041.7	1043.7	1044.7	1044.2	1044.2
7.5°	1041.1	1042.2	1042.2	1043.7	1045.2	1043.7	1042.7	1043.7	1043.2	1043.7	1043.7
10°	1038.6	1037.6	1037.6	1036.6	1038.1	1035.1	1035.1	1036.1	1035.6	1036.6	1038.1
12.5°	1032.5	1032.0	1030.5	1030.0	1032.0	1030.0	1030.5	1032.0	1033.0	1035.1	1037.6
15°	1023.9	1022.4	1022.4	1024.4	1029.5	1031.0	1033.0	1035.6	1036.1	1037.1	1038.1
17.5°	1009.2	1011.8	1017.9	1024.9	1034.6	1038.1	1039.1	1037.6	1032.5	1028.5	1024.4
20°	989.0	1000.1	1015.8	1031.0	1042.7	1042.2	1035.6	1026.0	1013.8	1005.2	999.6
22.5°	971.8	993.5	1017.9	1036.1	1043.7	1034.1	1018.9	1004.2	990.0	977.3	966.2
25°	983.9	1004.7	1025.4	1036.6	1036.1	1019.4	999.1	982.9	963.7	945.9	927.2
27.5°	1023.4	1036.1	1042.2	1038.6	1028.0	1005.7	983.4	960.6	935.8	914.5	892.8
30°	1050.3	1050.3	1044.2	1030.0	1011.3	986.5	959.1	929.7	900.4	875.6	850.7
32.5°	1041.7	1021.9	1004.2	984.9	963.7	936.8	905.4	873.5	840.1	811.2	790.0
35°	1004.2	961.6	924.7	897.3	875.0	843.1	806.7	770.2	742.9	723.1	711.0
37.5°	937.3	869.5	815.8	782.4	747.9	715.0	673.0	656.3	632.0	619.8	615.3
40°	856.3	757.1	689.7	646.7	610.2	569.2	540.8	530.2	521.1	518.5	516.5
42.5°	763.1	639.1	559.1	514.5	470.4	440.6	427.9	421.3	419.8	419.8	422.3
45°	666.4	519.1	426.9	390.9	354.5	338.8	335.7	332.7	333.2	331.7	332.7
47.5°	591.5	416.8	322.1	289.2	270.4	265.4	261.8	260.8	260.8	258.3	255.2
50°	552.5	348.4	252.7	226.9	216.2	212.7	212.7	210.7	206.6	204.1	197.5
52.5°	542.3	313.0	218.8	196.5	187.4	184.3	181.3	178.3	172.2	166.6	159.0
55°	550.5	301.8	208.1	187.4	177.2	173.7	171.2	166.1	157.5	149.4	140.8
57.5°	584.4	308.9	212.2	189.9	180.8	178.3	175.7	168.1	157.5	145.8	136.2
60°	677.0	342.3	229.4	203.6	196.0	196.5	192.9	183.3	168.1	151.4	137.2
62.5°	796.6	388.9	251.7	222.8	221.8	226.9	226.9	210.2	185.3	160.0	140.8
65°	864.9	403.6	254.7	225.3	234.0	248.6	247.6	225.3	191.4	160.0	139.3
67°	847.7	387.9	242.1	210.7	220.8	237.5	235.5	214.2	182.3	153.4	135.2
67.5°	834.0	382.8	239.0	207.1	217.2	230.9	230.9	209.6	178.3	151.4	133.7
70°	734.3	338.3	223.8	193.4	193.4	197.0	194.5	179.3	158.0	139.3	127.6
72.5°	612.2	295.7	211.7	183.8	174.2	172.2	168.6	158.0	144.3	131.2	121.0
75°	474.5	261.8	202.1	173.7	161.0	156.5	152.9	144.8	134.2	123.1	114.4
77.5°	332.2	224.3	189.4	165.1	151.4	147.9	142.3	133.2	124.6	115.0	106.8
80°	206.1	185.3	165.1	148.9	134.7	129.6	122.5	114.4	107.4	101.8	95.7
82.5°	146.9	136.2	123.1	114.4	99.8	84.6	90.6	91.2	86.6	83.0	81.5
85°	98.2	88.6	82.0	74.4	65.8	59.2	60.8	65.3	65.8	64.3	64.3
87.5°	53.7	45.6	44.1	45.6	39.5	37.5	38.0	42.0	42.5	42.5	43.0
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):**

	165°	170°	175°	180°
0°	1001.6	1001.6	1001.6	1001.6
2.5°	1029.5	1031.0	1030.5	1031.5
5°	1045.2	1046.2	1045.7	1046.2
7.5°	1042.7	1044.7	1045.7	1044.2
10°	1038.6	1041.7	1043.7	1043.7
12.5°	1039.6	1044.7	1047.7	1047.7
15°	1038.6	1042.7	1043.7	1043.7
17.5°	1022.9	1022.9	1023.4	1021.4
20°	995.6	992.5	991.5	988.0
22.5°	956.6	949.5	944.9	942.4
25°	912.0	900.9	893.8	889.7
27.5°	875.0	865.4	858.3	854.3
30°	834.0	822.9	818.8	815.8
32.5°	774.8	764.1	761.1	758.6
35°	697.8	694.3	686.2	680.6
37.5°	608.7	604.1	601.1	599.1
40°	515.5	516.0	513.5	508.9
42.5°	422.3	427.4	422.3	421.3
45°	331.7	337.3	337.3	338.8
47.5°	255.7	254.7	256.7	257.2
50°	193.4	190.4	189.4	187.9
52.5°	153.4	149.9	147.9	145.3
55°	135.2	131.2	129.1	128.6
57.5°	129.1	124.1	121.0	120.5
60°	127.6	120.5	116.5	115.5
62.5°	127.6	119.0	114.4	112.9
65°	126.1	117.5	113.4	111.9
67°	124.1	116.5	112.4	111.4
67.5°	123.1	116.0	112.4	110.9
70°	120.5	114.4	110.4	108.9
72.5°	115.0	109.9	105.8	104.8
75°	108.9	104.3	101.8	100.8
77.5°	101.8	97.7	94.7	92.2
80°	91.2	86.6	82.0	81.0
82.5°	77.5	72.4	68.9	68.4
85°	62.3	58.2	54.2	54.2
87.5°	43.5	41.0	38.5	36.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)