

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: P146860

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146860
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
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (63) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8815.8 lumens
Efficiency: N/A
Efficacy: 117.2 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

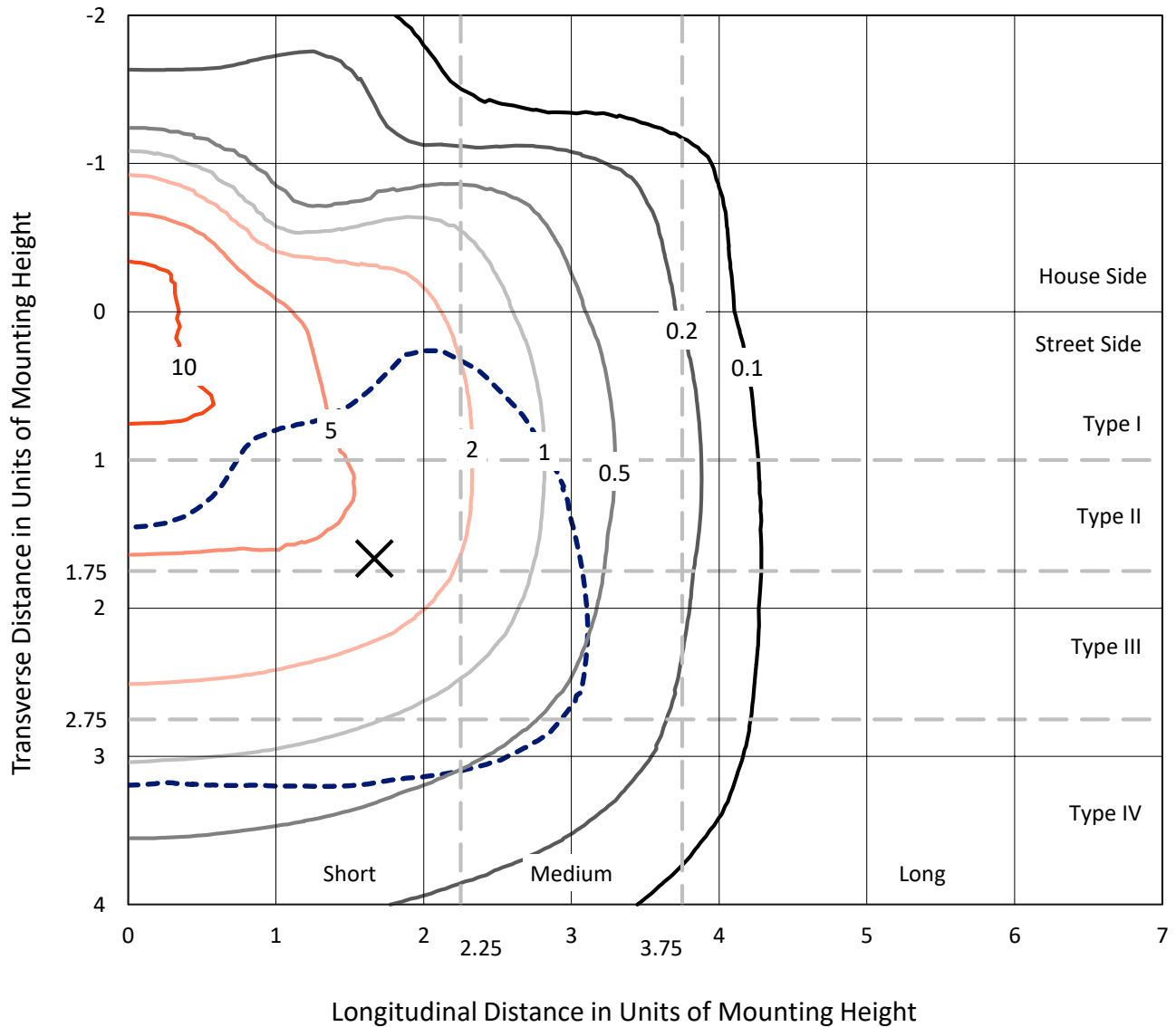
Input Watts (W): 75.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

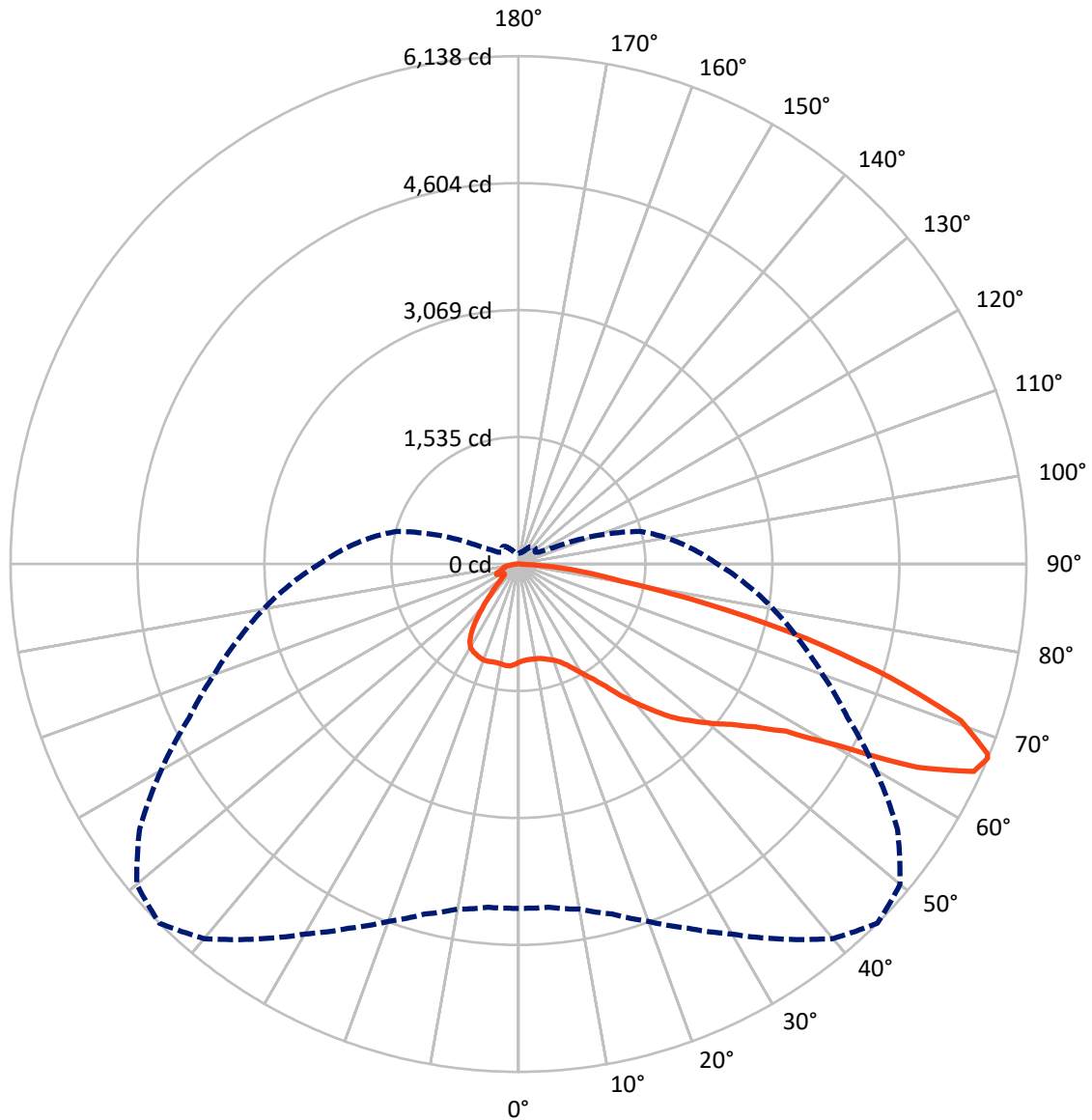
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.1 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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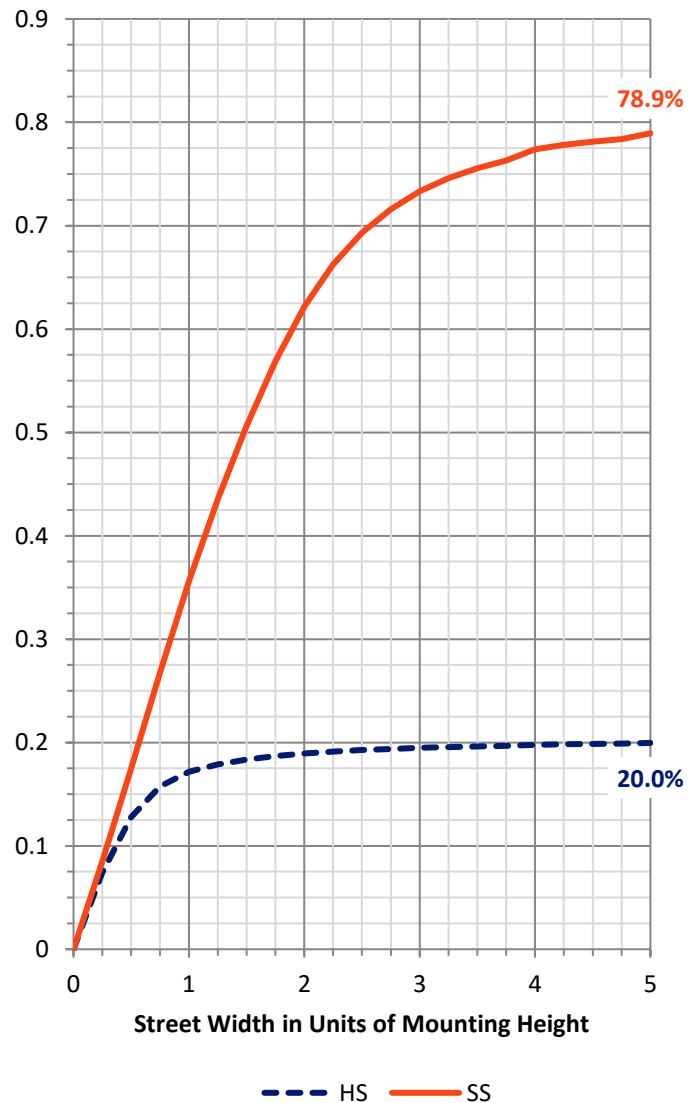
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1786.3	0.0	1786.3
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	7029.5	0.0	7029.5
	% Fixture	79.7	0.0	79.7
Total	Lumens	8815.8	0.0	8815.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.4	1.3
10°-20°	343.5	3.9
20°-30°	583.8	6.6
30°-40°	877.3	10.0
40°-50°	1140.8	12.9
50°-60°	1566.3	17.8
60°-70°	2470.8	28.0
70°-80°	1492.9	16.9
80°-90°	226.2	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°	8815.8	100.0
0°-180°	8815.8	100.0

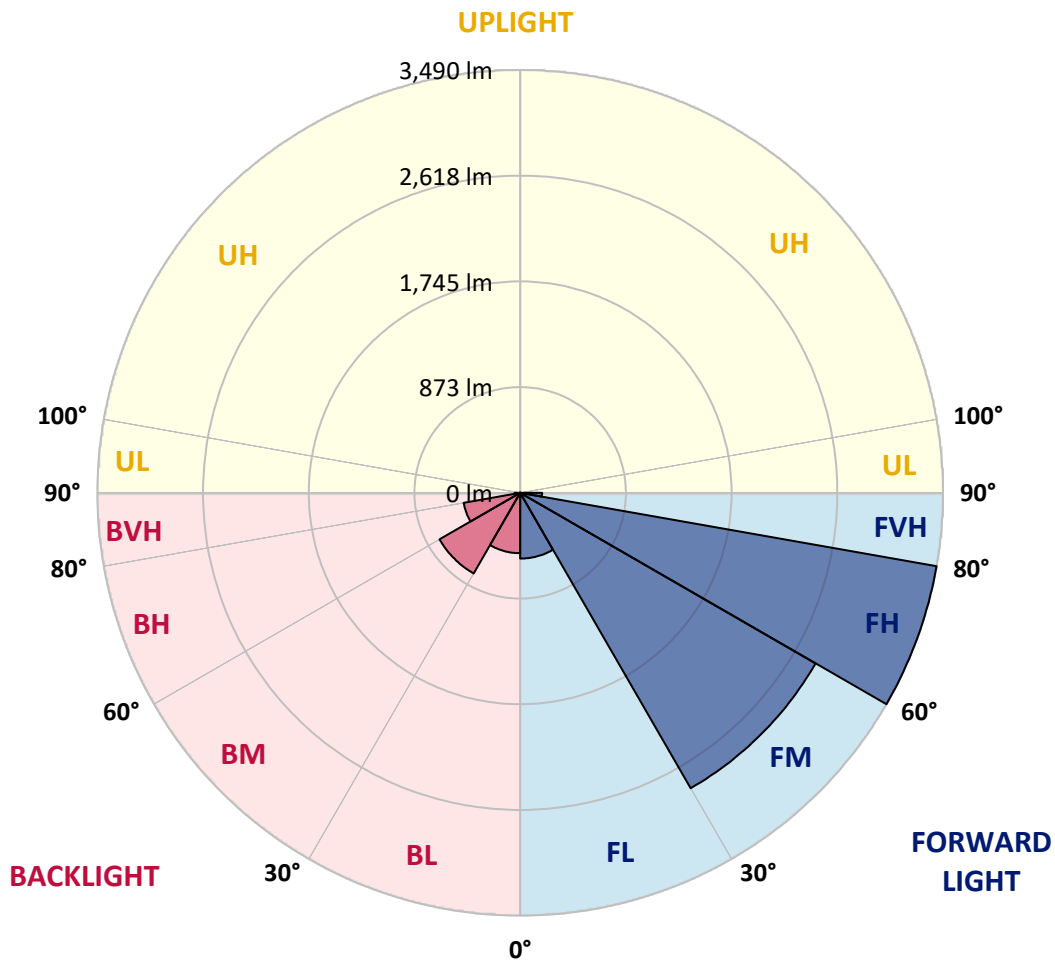


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	542.9	6.2			
FM	(30°-60°)	2815.7	31.9			
FH	(60°-80°)	3490.4	39.6			G2/5000
FVH	(80°-90°)	180.6	2.0			G2/225
BL	(0°-30°)	498.7	5.7	B1/500		
BM	(30°-60°)	768.7	8.7	B1/1000		
BH	(60°-80°)	473.3	5.4	B1/500		G1/500
BVH	(80°-90°)	45.6	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°	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8
2.5°	1160.4	1162.8	1161.0	1161.0	1161.6	1162.2	1163.4	1165.8	1166.4	1170.0	1170.6
5°	1137.0	1137.6	1137.6	1138.2	1141.8	1144.8	1147.8	1152.0	1155.6	1162.2	1166.4
7.5°	1128.6	1131.0	1130.4	1131.6	1135.2	1138.2	1141.8	1147.8	1156.8	1162.2	1168.2
10°	1142.4	1144.2	1142.4	1143.0	1143.6	1146.6	1147.8	1152.0	1159.2	1164.0	1169.4
12.5°	1174.2	1174.2	1172.4	1171.2	1169.4	1170.0	1167.6	1167.0	1170.6	1171.2	1171.8
15°	1216.2	1221.0	1215.0	1210.2	1207.8	1205.4	1197.6	1194.6	1194.0	1188.6	1183.2
17.5°	1258.8	1260.0	1256.4	1251.0	1247.4	1242.0	1235.4	1229.4	1222.2	1213.8	1203.0
20°	1306.2	1306.8	1302.0	1294.2	1290.0	1283.4	1275.0	1264.8	1255.8	1242.6	1230.6
22.5°	1372.2	1371.6	1362.0	1355.4	1349.4	1341.6	1329.6	1315.8	1301.4	1285.8	1269.0
25°	1447.8	1447.8	1441.2	1430.4	1427.4	1416.0	1402.8	1386.6	1371.6	1349.4	1329.0
27.5°	1534.2	1534.8	1522.8	1516.8	1510.2	1498.2	1489.2	1476.6	1456.2	1434.0	1413.0
30°	1636.8	1633.8	1624.2	1611.6	1609.2	1599.6	1587.0	1578.0	1552.8	1537.2	1513.8
32.5°	1734.0	1738.8	1736.4	1722.0	1724.4	1714.8	1704.0	1697.4	1671.0	1656.0	1634.4
35°	1879.2	1883.4	1887.0	1881.6	1884.6	1879.2	1870.2	1852.8	1831.2	1811.4	1781.4
37.5°	1992.0	1996.2	1998.6	2011.8	2031.0	2049.6	2058.0	2049.0	2050.2	2020.2	1980.0
40°	2084.4	2094.6	2109.0	2134.2	2172.6	2208.0	2227.2	2242.2	2250.0	2221.8	2169.6
42.5°	2176.8	2187.6	2207.4	2247.6	2300.4	2351.4	2391.6	2437.8	2446.2	2439.0	2394.6
45°	2273.4	2286.0	2310.6	2356.2	2418.0	2484.6	2549.4	2614.8	2647.8	2653.2	2599.2
47.5°	2389.8	2407.8	2430.6	2482.2	2542.2	2617.2	2698.2	2782.2	2833.8	2833.8	2771.4
50°	2535.0	2555.4	2574.6	2626.2	2686.2	2763.6	2857.2	2950.8	3021.0	3025.2	2949.6
52.5°	2738.4	2741.4	2752.8	2800.2	2852.4	2938.8	3027.6	3136.2	3217.2	3220.8	3133.8
55°	2985.6	2985.6	2998.8	3038.4	3087.0	3158.4	3250.2	3370.8	3456.0	3474.6	3363.0
57.5°	3310.8	3322.8	3329.4	3375.6	3408.6	3484.2	3561.0	3692.4	3801.0	3813.0	3699.6
60°	3840.0	3817.2	3853.8	3894.6	3972.0	4027.2	4158.0	4290.0	4428.6	4461.6	4339.8
62.5°	4361.4	4386.0	4431.0	4504.8	4637.4	4761.0	4948.2	5148.6	5364.0	5408.4	5315.4
65°	4393.8	4408.8	4471.2	4598.4	4779.6	4999.8	5257.8	5559.6	5880.6	6046.8	5890.8
67°	4161.0	4165.2	4236.0	4380.6	4597.8	4858.8	5164.2	5532.6	5909.4	6138.0	6021.6
67.5°	4087.2	4095.0	4164.6	4312.2	4531.8	4798.8	5110.2	5488.8	5874.6	6113.4	6008.4
70°	3654.0	3654.0	3729.0	3877.8	4083.6	4344.0	4669.8	5052.0	5471.4	5672.4	5583.0
72.5°	3110.4	3090.6	3175.2	3288.0	3456.0	3683.4	3945.6	4247.4	4563.0	4709.4	4674.0
75°	2260.8	2298.0	2341.8	2425.2	2571.0	2750.4	2904.0	3173.4	3421.2	3583.2	3540.6
77.5°	1233.6	1248.0	1369.2	1419.0	1546.8	1680.0	1848.6	2037.6	2232.6	2334.6	2293.2
80°	733.2	761.4	833.4	892.8	961.8	1063.2	1185.6	1227.0	1265.4	1263.0	1188.0
82.5°	463.2	497.4	575.4	626.4	662.4	721.2	787.8	840.0	851.4	795.0	708.0
85°	75.0	124.2	324.6	381.6	404.4	436.2	485.4	507.6	474.0	414.0	429.0
87.5°	29.4	35.4	99.0	125.4	132.6	69.6	120.6	141.6	72.0	36.6	82.8
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8
2.5°	1174.2	1177.2	1180.2	1183.8	1185.0	1188.0	1193.4	1192.8	1197.0	1198.8	1201.8
5°	1171.8	1178.4	1183.2	1189.8	1192.2	1198.8	1206.0	1208.4	1213.8	1218.0	1221.6
7.5°	1176.6	1183.8	1189.8	1197.6	1203.0	1208.4	1213.8	1220.4	1225.2	1228.2	1230.6
10°	1178.4	1186.2	1193.4	1200.0	1206.0	1210.2	1216.2	1221.6	1226.4	1228.2	1228.8
12.5°	1179.0	1184.4	1191.6	1198.8	1204.2	1209.6	1213.8	1219.8	1223.4	1224.0	1222.8
15°	1183.8	1184.4	1189.2	1197.6	1203.0	1208.4	1211.4	1214.4	1216.8	1215.0	1213.2
17.5°	1198.2	1194.0	1194.0	1198.2	1201.2	1203.6	1204.2	1203.6	1201.2	1197.6	1194.6
20°	1221.6	1213.2	1206.6	1204.2	1199.4	1193.4	1185.6	1178.4	1169.4	1165.2	1164.6
22.5°	1258.2	1245.6	1233.6	1221.6	1206.0	1188.6	1170.6	1155.0	1142.4	1135.8	1136.4
25°	1320.6	1302.0	1288.2	1267.2	1242.0	1217.4	1194.0	1173.0	1158.0	1146.0	1148.4
27.5°	1404.6	1383.6	1371.6	1347.6	1318.8	1287.6	1260.0	1231.2	1209.6	1194.6	1197.6
30°	1503.0	1497.0	1477.2	1453.2	1426.2	1390.8	1349.4	1306.2	1267.2	1242.6	1237.8
32.5°	1621.8	1615.2	1593.6	1573.2	1538.4	1499.4	1445.4	1377.0	1315.8	1269.0	1248.6
35°	1768.2	1752.0	1725.6	1705.8	1666.8	1616.4	1546.8	1454.4	1361.4	1291.2	1240.2
37.5°	1950.6	1910.4	1866.6	1815.0	1757.4	1696.2	1615.8	1507.8	1392.6	1293.0	1202.4
40°	2124.6	2059.8	1987.2	1905.6	1835.4	1761.6	1678.2	1554.6	1413.6	1280.4	1145.4
42.5°	2318.4	2217.6	2119.2	2007.0	1914.6	1827.0	1731.6	1587.6	1417.8	1246.2	1071.6
45°	2505.0	2375.4	2243.4	2104.8	1987.2	1890.0	1781.4	1615.8	1416.6	1210.2	998.4
47.5°	2671.2	2516.4	2353.2	2197.2	2060.4	1953.6	1834.8	1654.2	1432.8	1200.0	949.8
50°	2826.6	2647.8	2456.4	2283.0	2134.2	2025.0	1902.6	1714.8	1482.6	1223.4	942.6
52.5°	2986.8	2792.4	2573.4	2386.8	2231.4	2104.8	1981.2	1792.2	1552.2	1271.4	958.8
55°	3195.6	2972.4	2739.0	2532.0	2353.8	2217.6	2074.8	1885.8	1627.2	1327.2	989.4
57.5°	3506.4	3245.4	2980.2	2757.6	2551.8	2382.0	2225.4	2008.8	1751.4	1411.2	1056.6
60°	4064.4	3775.2	3468.0	3177.0	2940.0	2741.4	2542.2	2273.4	1980.6	1602.0	1210.8
62.5°	4975.8	4575.6	4150.8	3768.0	3442.2	3173.4	2892.6	2569.8	2228.4	1833.6	1444.2
65°	5523.6	4971.6	4431.0	3987.0	3601.8	3257.4	2917.8	2571.0	2240.4	1895.4	1549.2
67°	5591.4	4986.0	4387.8	3915.0	3502.2	3127.2	2758.8	2404.2	2108.4	1819.2	1520.4
67.5°	5571.0	4957.2	4347.0	3869.4	3452.4	3089.4	2727.0	2364.0	2076.0	1786.8	1498.8
70°	5169.0	4568.4	3964.8	3500.4	3100.8	2729.4	2386.8	2023.2	1800.6	1593.6	1344.6
72.5°	4290.0	3821.4	3315.6	2928.6	2583.6	2262.0	1960.8	1656.6	1477.8	1331.4	1156.2
75°	3181.2	2751.6	2323.8	2091.0	1823.4	1566.0	1333.2	1108.2	1039.2	1004.4	901.2
77.5°	1964.4	1578.6	1256.4	1045.8	831.6	651.6	518.4	421.8	439.8	511.8	544.8
80°	978.0	722.4	559.2	444.6	359.4	290.4	213.0	156.0	186.6	221.4	250.8
82.5°	588.6	465.0	367.8	311.4	253.2	195.6	138.6	105.6	117.0	157.2	172.8
85°	365.4	292.8	234.0	195.6	162.0	120.0	78.6	78.0	82.8	104.4	119.4
87.5°	107.4	72.6	57.6	60.0	66.6	55.2	41.4	35.4	43.8	60.0	67.2
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°	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8
2.5°	1202.4	1206.6	1208.4	1209.0	1209.6	1213.2	1213.2	1216.8	1218.0	1218.0	1219.2
5°	1225.2	1229.4	1231.2	1231.8	1233.0	1234.8	1234.2	1236.6	1237.8	1237.2	1237.2
7.5°	1233.6	1234.8	1234.8	1236.6	1238.4	1236.6	1235.4	1236.6	1236.0	1236.6	1236.6
10°	1230.6	1229.4	1229.4	1228.2	1230.0	1226.4	1226.4	1227.6	1227.0	1228.2	1230.0
12.5°	1223.4	1222.8	1221.0	1220.4	1222.8	1220.4	1221.0	1222.8	1224.0	1226.4	1229.4
15°	1213.2	1211.4	1211.4	1213.8	1219.8	1221.6	1224.0	1227.0	1227.6	1228.8	1230.0
17.5°	1195.8	1198.8	1206.0	1214.4	1225.8	1230.0	1231.2	1229.4	1223.4	1218.6	1213.8
20°	1171.8	1185.0	1203.6	1221.6	1235.4	1234.8	1227.0	1215.6	1201.2	1191.0	1184.4
22.5°	1151.4	1177.2	1206.0	1227.6	1236.6	1225.2	1207.2	1189.8	1173.0	1158.0	1144.8
25°	1165.8	1190.4	1215.0	1228.2	1227.6	1207.8	1183.8	1164.6	1141.8	1120.8	1098.6
27.5°	1212.6	1227.6	1234.8	1230.6	1218.0	1191.6	1165.2	1138.2	1108.8	1083.6	1057.8
30°	1244.4	1244.4	1237.2	1220.4	1198.2	1168.8	1136.4	1101.6	1066.8	1037.4	1008.0
32.5°	1234.2	1210.8	1189.8	1167.0	1141.8	1110.0	1072.8	1035.0	995.4	961.2	936.0
35°	1189.8	1139.4	1095.6	1063.2	1036.8	999.0	955.8	912.6	880.2	856.8	842.4
37.5°	1110.6	1030.2	966.6	927.0	886.2	847.2	797.4	777.6	748.8	734.4	729.0
40°	1014.6	897.0	817.2	766.2	723.0	674.4	640.8	628.2	617.4	614.4	612.0
42.5°	904.2	757.2	662.4	609.6	557.4	522.0	507.0	499.2	497.4	497.4	500.4
45°	789.6	615.0	505.8	463.2	420.0	401.4	397.8	394.2	394.8	393.0	394.2
47.5°	700.8	493.8	381.6	342.6	320.4	314.4	310.2	309.0	309.0	306.0	302.4
50°	654.6	412.8	299.4	268.8	256.2	252.0	252.0	249.6	244.8	241.8	234.0
52.5°	642.6	370.8	259.2	232.8	222.0	218.4	214.8	211.2	204.0	197.4	188.4
55°	652.2	357.6	246.6	222.0	210.0	205.8	202.8	196.8	186.6	177.0	166.8
57.5°	692.4	366.0	251.4	225.0	214.2	211.2	208.2	199.2	186.6	172.8	161.4
60°	802.2	405.6	271.8	241.2	232.2	232.8	228.6	217.2	199.2	179.4	162.6
62.5°	943.8	460.8	298.2	264.0	262.8	268.8	268.8	249.0	219.6	189.6	166.8
65°	1024.8	478.2	301.8	267.0	277.2	294.6	293.4	267.0	226.8	189.6	165.0
67°	1004.4	459.6	286.8	249.6	261.6	281.4	279.0	253.8	216.0	181.8	160.2
67.5°	988.2	453.6	283.2	245.4	257.4	273.6	273.6	248.4	211.2	179.4	158.4
70°	870.0	400.8	265.2	229.2	229.2	233.4	230.4	212.4	187.2	165.0	151.2
72.5°	725.4	350.4	250.8	217.8	206.4	204.0	199.8	187.2	171.0	155.4	143.4
75°	562.2	310.2	239.4	205.8	190.8	185.4	181.2	171.6	159.0	145.8	135.6
77.5°	393.6	265.8	224.4	195.6	179.4	175.2	168.6	157.8	147.6	136.2	126.6
80°	244.2	219.6	195.6	176.4	159.6	153.6	145.2	135.6	127.2	120.6	113.4
82.5°	174.0	161.4	145.8	135.6	118.2	100.2	107.4	108.0	102.6	98.4	96.6
85°	116.4	105.0	97.2	88.2	78.0	70.2	72.0	77.4	78.0	76.2	76.2
87.5°	63.6	54.0	52.2	54.0	46.8	44.4	45.0	49.8	50.4	50.4	51.0
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°	1186.8	1186.8	1186.8	1186.8
2.5°	1219.8	1221.6	1221.0	1222.2
5°	1238.4	1239.6	1239.0	1239.6
7.5°	1235.4	1237.8	1239.0	1237.2
10°	1230.6	1234.2	1236.6	1236.6
12.5°	1231.8	1237.8	1241.4	1241.4
15°	1230.6	1235.4	1236.6	1236.6
17.5°	1212.0	1212.0	1212.6	1210.2
20°	1179.6	1176.0	1174.8	1170.6
22.5°	1133.4	1125.0	1119.6	1116.6
25°	1080.6	1067.4	1059.0	1054.2
27.5°	1036.8	1025.4	1017.0	1012.2
30°	988.2	975.0	970.2	966.6
32.5°	918.0	905.4	901.8	898.8
35°	826.8	822.6	813.0	806.4
37.5°	721.2	715.8	712.2	709.8
40°	610.8	611.4	608.4	603.0
42.5°	500.4	506.4	500.4	499.2
45°	393.0	399.6	399.6	401.4
47.5°	303.0	301.8	304.2	304.8
50°	229.2	225.6	224.4	222.6
52.5°	181.8	177.6	175.2	172.2
55°	160.2	155.4	153.0	152.4
57.5°	153.0	147.0	143.4	142.8
60°	151.2	142.8	138.0	136.8
62.5°	151.2	141.0	135.6	133.8
65°	149.4	139.2	134.4	132.6
67°	147.0	138.0	133.2	132.0
67.5°	145.8	137.4	133.2	131.4
70°	142.8	135.6	130.8	129.0
72.5°	136.2	130.2	125.4	124.2
75°	129.0	123.6	120.6	119.4
77.5°	120.6	115.8	112.2	109.2
80°	108.0	102.6	97.2	96.0
82.5°	91.8	85.8	81.6	81.0
85°	73.8	69.0	64.2	64.2
87.5°	51.6	48.6	45.6	42.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)