

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: P146874

Luminaire Tested: **LDRL-T4-F04-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146874
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-F04-E-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (28) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8862.8 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

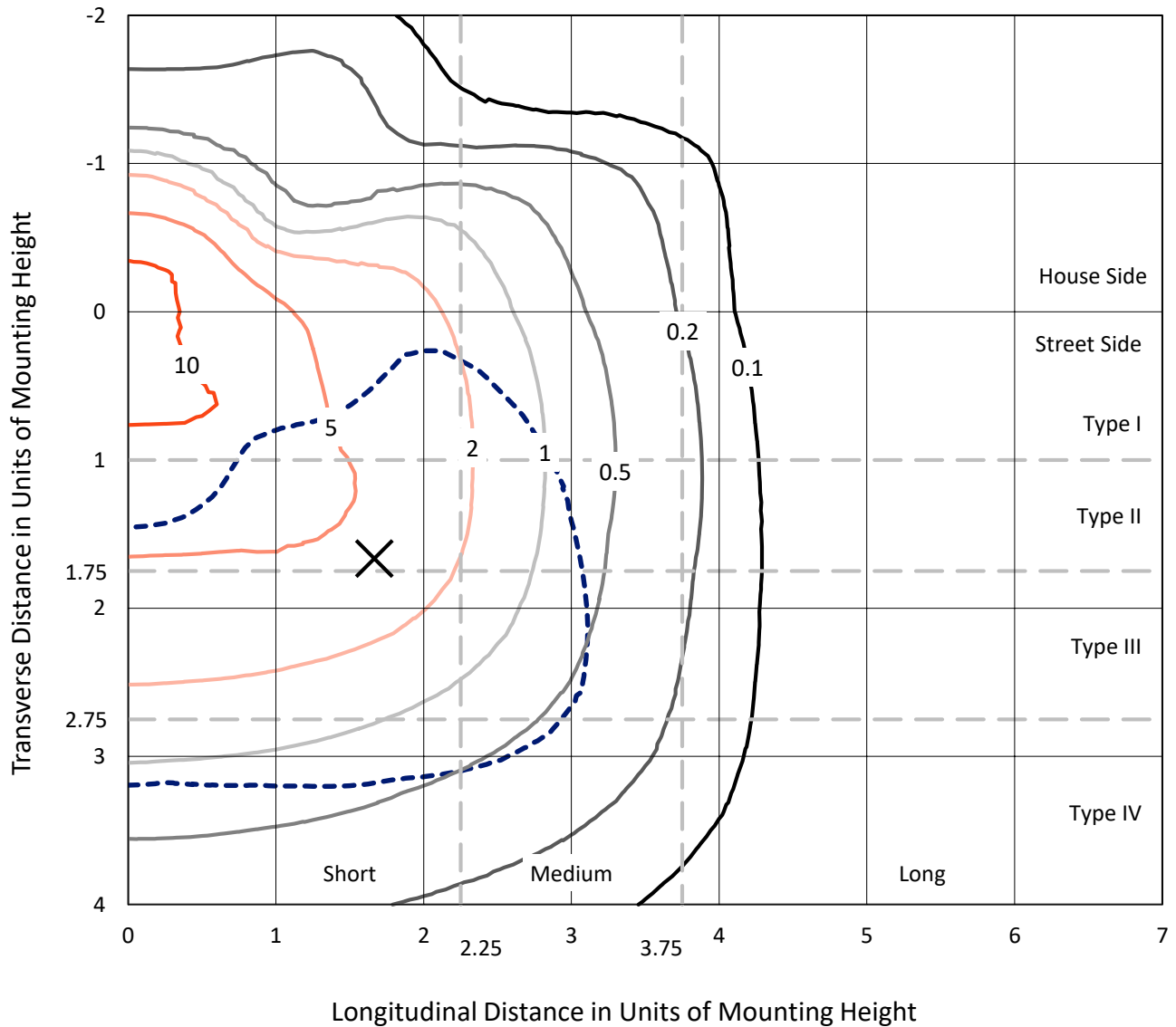
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

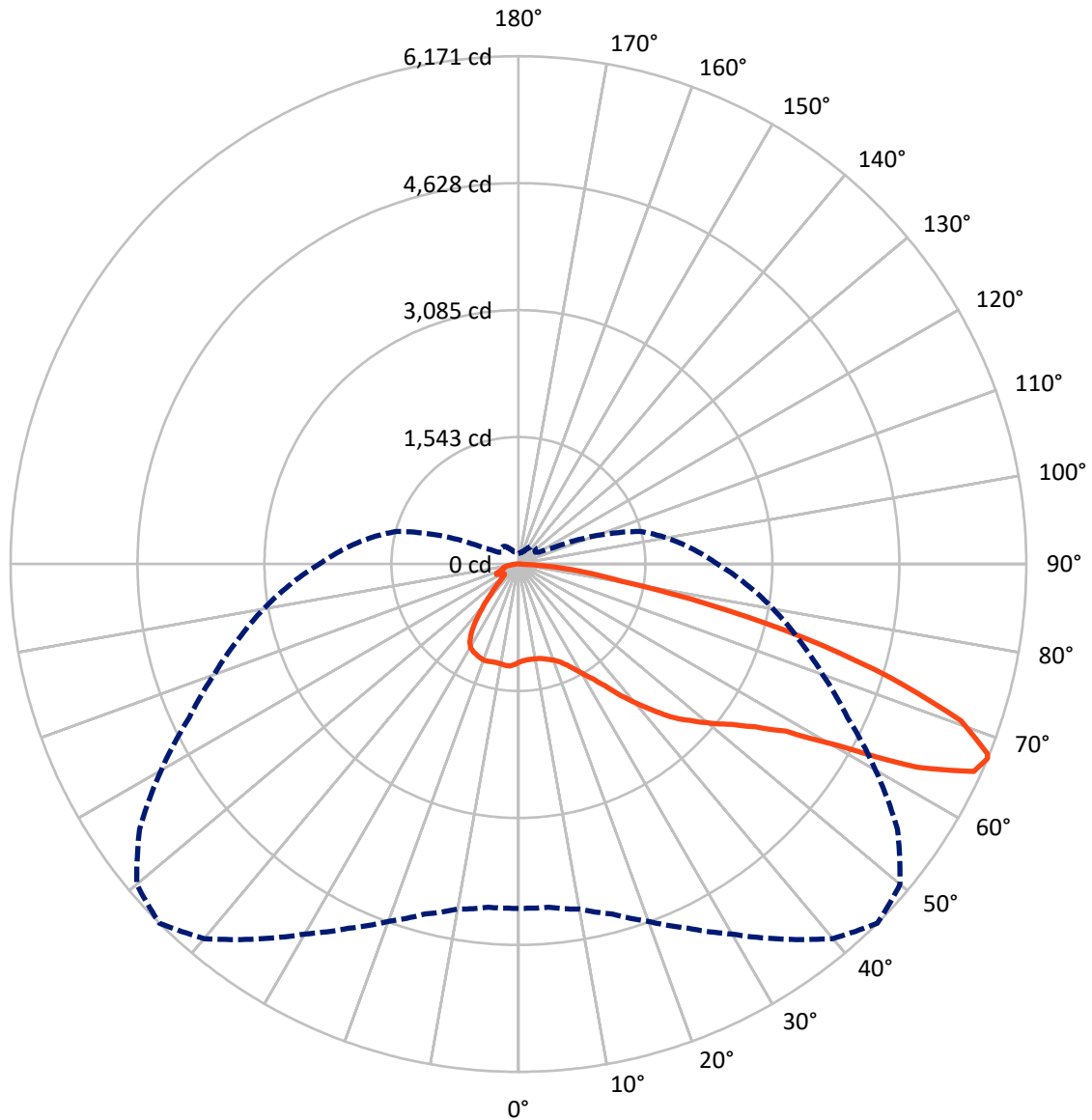
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.2 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
House Side	Lumens	1795.8	0.0	1795.8
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	7067.0	0.0	7067.0
	% Fixture	79.7	0.0	79.7
Total	Lumens	8862.8	0.0	8862.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.0	1.3
10°-20°	345.3	3.9
20°-30°	586.9	6.6
30°-40°	882.0	10.0
40°-50°	1146.9	12.9
50°-60°	1574.6	17.8
60°-70°	2483.9	28.0
70°-80°	1500.8	16.9
80°-90°	227.4	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°	8862.8	100.0
0°-180°	8862.8	100.0



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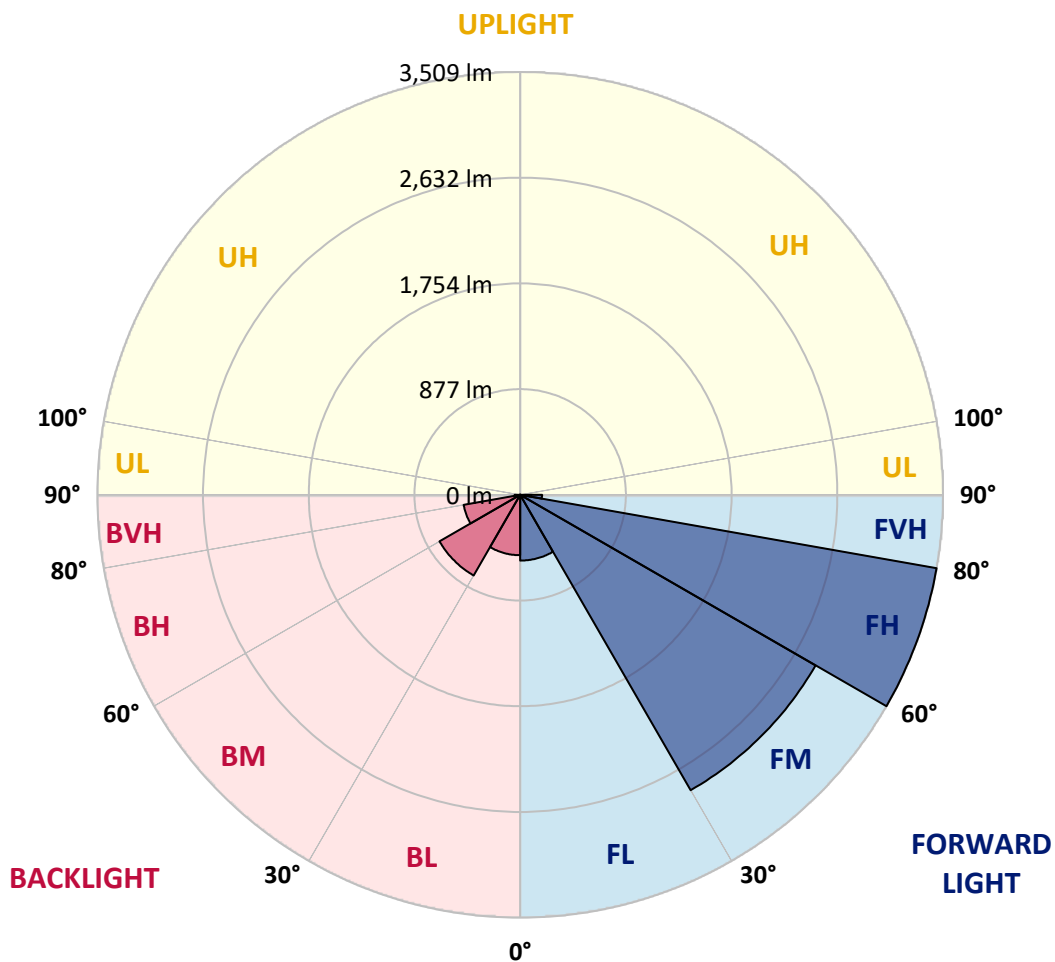
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	545.8	6.2			
FM	(30°-60°)	2830.7	31.9			
FH	(60°-80°)	3508.9	39.6			G2/5000
FVH	(80°-90°)	181.6	2.0			G2/225
BL	(0°-30°)	501.4	5.7	B2/1000		
BM	(30°-60°)	772.8	8.7	B1/1000		
BH	(60°-80°)	475.8	5.4	B1/500		G1/500
BVH	(80°-90°)	45.8	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1
2.5°	1166.6	1169.0	1167.2	1167.2	1167.8	1168.4	1169.6	1172.0	1172.6	1176.2	1176.8
5°	1143.1	1143.7	1143.7	1144.3	1147.9	1150.9	1153.9	1158.1	1161.8	1168.4	1172.6
7.5°	1134.6	1137.0	1136.4	1137.6	1141.2	1144.3	1147.9	1153.9	1163.0	1168.4	1174.4
10°	1148.5	1150.3	1148.5	1149.1	1149.7	1152.7	1153.9	1158.1	1165.4	1170.2	1175.6
12.5°	1180.5	1180.5	1178.6	1177.4	1175.6	1176.2	1173.8	1173.2	1176.8	1177.4	1178.0
15°	1222.7	1227.5	1221.5	1216.6	1214.2	1211.8	1204.0	1201.0	1200.4	1194.9	1189.5
17.5°	1265.5	1266.7	1263.1	1257.7	1254.0	1248.6	1242.0	1235.9	1228.7	1220.3	1209.4
20°	1313.2	1313.8	1308.9	1301.1	1296.9	1290.2	1281.8	1271.5	1262.5	1249.2	1237.2
22.5°	1379.5	1378.9	1369.3	1362.6	1356.6	1348.7	1336.7	1322.8	1308.3	1292.6	1275.8
25°	1455.5	1455.5	1448.9	1438.0	1435.0	1423.5	1410.3	1394.0	1378.9	1356.6	1336.1
27.5°	1542.4	1543.0	1530.9	1524.9	1518.2	1506.2	1497.1	1484.5	1464.0	1441.6	1420.5
30°	1645.5	1642.5	1632.8	1620.2	1617.8	1608.1	1595.5	1586.4	1561.1	1545.4	1521.9
32.5°	1743.2	1748.1	1745.6	1731.2	1733.6	1723.9	1713.1	1706.4	1679.9	1664.8	1643.1
35°	1889.2	1893.4	1897.0	1891.6	1894.6	1889.2	1880.2	1862.7	1841.0	1821.0	1790.9
37.5°	2002.6	2006.8	2009.2	2022.5	2041.8	2060.5	2069.0	2059.9	2061.1	2031.0	1990.5
40°	2095.5	2105.8	2120.2	2145.6	2184.2	2219.8	2239.1	2254.1	2262.0	2233.6	2181.2
42.5°	2188.4	2199.2	2219.2	2259.6	2312.6	2363.9	2404.3	2450.8	2459.2	2452.0	2407.4
45°	2285.5	2298.2	2322.9	2368.7	2430.9	2497.8	2563.0	2628.7	2661.9	2667.3	2613.0
47.5°	2402.5	2420.6	2443.5	2495.4	2555.7	2631.1	2712.6	2797.0	2848.9	2848.9	2786.2
50°	2548.5	2569.0	2588.3	2640.2	2700.5	2778.3	2872.4	2966.5	3037.1	3041.3	2965.3
52.5°	2753.0	2756.0	2767.5	2815.1	2867.6	2954.4	3043.7	3152.9	3234.3	3237.9	3150.5
55°	3001.5	3001.5	3014.8	3054.6	3103.4	3175.2	3267.5	3388.7	3474.4	3493.1	3380.9
57.5°	3328.4	3340.5	3347.1	3393.6	3426.7	3502.8	3580.0	3712.1	3821.2	3833.3	3719.3
60°	3860.4	3837.5	3874.3	3915.3	3993.1	4048.6	4180.1	4312.8	4452.2	4485.4	4362.9
62.5°	4384.6	4409.4	4454.6	4528.8	4662.1	4786.4	4974.5	5176.0	5392.6	5437.2	5343.7
65°	4417.2	4432.3	4495.0	4622.9	4805.0	5026.4	5285.8	5589.2	5911.9	6079.0	5922.2
67°	4183.2	4187.4	4258.6	4403.9	4622.3	4884.7	5191.7	5562.1	5940.9	6170.7	6053.7
67.5°	4109.0	4116.8	4186.8	4335.2	4555.9	4824.4	5137.4	5518.0	5905.9	6146.0	6040.4
70°	3673.5	3673.5	3748.9	3898.4	4105.3	4367.1	4694.7	5078.9	5500.5	5702.6	5612.7
72.5°	3127.0	3107.1	3192.1	3305.5	3474.4	3703.0	3966.6	4270.0	4587.3	4734.5	4698.9
75°	2272.8	2310.2	2354.3	2438.1	2584.7	2765.0	2919.5	3190.3	3439.4	3602.3	3559.5
77.5°	1240.2	1254.6	1376.5	1426.6	1555.0	1688.9	1858.4	2048.4	2244.5	2347.0	2305.4
80°	737.1	765.5	837.8	897.6	966.9	1068.9	1191.9	1233.5	1272.1	1269.7	1194.3
82.5°	465.7	500.0	578.5	629.7	665.9	725.0	792.0	844.5	855.9	799.2	711.8
85°	75.4	124.9	326.3	383.6	406.6	438.5	488.0	510.3	476.5	416.2	431.3
87.5°	29.6	35.6	99.5	126.1	133.3	70.0	121.2	142.4	72.4	36.8	83.2
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1
2.5°	1180.5	1183.5	1186.5	1190.1	1191.3	1194.3	1199.8	1199.2	1203.4	1205.2	1208.2
5°	1178.0	1184.7	1189.5	1196.1	1198.5	1205.2	1212.4	1214.8	1220.3	1224.5	1228.1
7.5°	1182.9	1190.1	1196.1	1204.0	1209.4	1214.8	1220.3	1226.9	1231.7	1234.7	1237.2
10°	1184.7	1192.5	1199.8	1206.4	1212.4	1216.6	1222.7	1228.1	1232.9	1234.7	1235.3
12.5°	1185.3	1190.7	1197.9	1205.2	1210.6	1216.0	1220.3	1226.3	1229.9	1230.5	1229.3
15°	1190.1	1190.7	1195.5	1204.0	1209.4	1214.8	1217.9	1220.9	1223.3	1221.5	1219.7
17.5°	1204.6	1200.4	1200.4	1204.6	1207.6	1210.0	1210.6	1210.0	1207.6	1204.0	1201.0
20°	1228.1	1219.7	1213.0	1210.6	1205.8	1199.8	1191.9	1184.7	1175.6	1171.4	1170.8
22.5°	1264.9	1252.2	1240.2	1228.1	1212.4	1194.9	1176.8	1161.1	1148.5	1141.8	1142.5
25°	1327.6	1308.9	1295.1	1273.9	1248.6	1223.9	1200.4	1179.2	1164.2	1152.1	1154.5
27.5°	1412.1	1391.0	1378.9	1354.8	1325.8	1294.5	1266.7	1237.8	1216.0	1201.0	1204.0
30°	1511.0	1505.0	1485.1	1460.9	1433.8	1398.2	1356.6	1313.2	1273.9	1249.2	1244.4
32.5°	1630.4	1623.8	1602.1	1581.6	1546.6	1507.4	1453.1	1384.3	1322.8	1275.8	1255.2
35°	1777.6	1761.3	1734.8	1714.9	1675.7	1625.0	1555.0	1462.1	1368.6	1298.1	1246.8
37.5°	1961.0	1920.6	1876.5	1824.7	1766.8	1705.2	1624.4	1515.8	1400.0	1299.9	1208.8
40°	2135.9	2070.8	1997.8	1915.7	1845.2	1771.0	1687.1	1562.9	1421.1	1287.2	1151.5
42.5°	2330.7	2229.4	2130.5	2017.7	1924.8	1836.7	1740.8	1596.1	1425.3	1252.8	1077.3
45°	2518.3	2388.0	2255.3	2116.0	1997.8	1900.1	1790.9	1624.4	1424.1	1216.6	1003.7
47.5°	2685.4	2529.8	2365.7	2208.9	2071.4	1964.0	1844.6	1663.0	1440.4	1206.4	954.9
50°	2841.7	2661.9	2469.5	2295.2	2145.6	2035.8	1912.7	1723.9	1490.5	1229.9	947.6
52.5°	3002.7	2807.3	2587.1	2399.5	2243.3	2116.0	1991.7	1801.7	1560.5	1278.2	963.9
55°	3212.6	2988.2	2753.6	2545.5	2366.3	2229.4	2085.8	1895.8	1635.9	1334.3	994.7
57.5°	3525.1	3262.7	2996.1	2772.3	2565.4	2394.7	2237.2	2019.5	1760.7	1418.7	1062.2
60°	4086.0	3795.3	3486.5	3193.9	2955.7	2756.0	2555.7	2285.5	1991.1	1610.5	1217.2
62.5°	5002.3	4600.0	4172.9	3788.1	3460.5	3190.3	2908.0	2583.5	2240.3	1843.4	1451.9
65°	5553.0	4998.1	4454.6	4008.2	3621.0	3274.7	2933.3	2584.7	2252.3	1905.5	1557.4
67°	5621.2	5012.5	4411.2	3935.8	3520.8	3143.9	2773.5	2417.0	2119.6	1828.9	1528.5
67.5°	5600.7	4983.6	4370.1	3890.0	3470.8	3105.8	2741.5	2376.6	2087.1	1796.3	1506.8
70°	5196.5	4592.7	3985.9	3519.0	3117.3	2743.9	2399.5	2034.0	1810.2	1602.1	1351.8
72.5°	4312.8	3841.7	3333.3	2944.2	2597.4	2274.0	1971.2	1665.4	1485.7	1338.5	1162.4
75°	3198.1	2766.3	2336.2	2102.1	1833.1	1574.3	1340.3	1114.1	1044.7	1009.7	906.0
77.5°	1974.9	1587.0	1263.1	1051.4	836.0	655.1	521.2	424.0	442.1	514.5	547.7
80°	983.2	726.2	562.2	447.0	361.3	291.9	214.1	156.8	187.6	222.6	252.1
82.5°	591.7	467.5	369.8	313.1	254.5	196.6	139.3	106.2	117.6	158.0	173.7
85°	367.3	294.4	235.2	196.6	162.9	120.6	79.0	78.4	83.2	105.0	120.0
87.5°	108.0	73.0	57.9	60.3	67.0	55.5	41.6	35.6	44.0	60.3	67.6
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1	1193.1
2.5°	1208.8	1213.0	1214.8	1215.4	1216.0	1219.7	1219.7	1223.3	1224.5	1224.5	1225.7
5°	1231.7	1235.9	1237.8	1238.4	1239.6	1241.4	1240.8	1243.2	1244.4	1243.8	1243.8
7.5°	1240.2	1241.4	1241.4	1243.2	1245.0	1243.2	1242.0	1243.2	1242.6	1243.2	1243.2
10°	1237.2	1235.9	1235.9	1234.7	1236.5	1232.9	1232.9	1234.1	1233.5	1234.7	1236.5
12.5°	1229.9	1229.3	1227.5	1226.9	1229.3	1226.9	1227.5	1229.3	1230.5	1232.9	1235.9
15°	1219.7	1217.9	1217.9	1220.3	1226.3	1228.1	1230.5	1233.5	1234.1	1235.3	1236.5
17.5°	1202.2	1205.2	1212.4	1220.9	1232.3	1236.5	1237.8	1235.9	1229.9	1225.1	1220.3
20°	1178.0	1191.3	1210.0	1228.1	1242.0	1241.4	1233.5	1222.1	1207.6	1197.3	1190.7
22.5°	1157.5	1183.5	1212.4	1234.1	1243.2	1231.7	1213.6	1196.1	1179.2	1164.2	1150.9
25°	1172.0	1196.7	1221.5	1234.7	1234.1	1214.2	1190.1	1170.8	1147.9	1126.8	1104.4
27.5°	1219.1	1234.1	1241.4	1237.2	1224.5	1197.9	1171.4	1144.3	1114.7	1089.4	1063.4
30°	1251.0	1251.0	1243.8	1226.9	1204.6	1175.0	1142.5	1107.5	1072.5	1042.9	1013.4
32.5°	1240.8	1217.2	1196.1	1173.2	1147.9	1115.9	1078.5	1040.5	1000.7	966.3	941.0
35°	1196.1	1145.5	1101.4	1068.9	1042.3	1004.3	960.9	917.5	884.9	861.4	846.9
37.5°	1116.5	1035.7	971.7	931.9	890.9	851.7	801.6	781.7	752.8	738.3	732.9
40°	1020.0	901.8	821.6	770.3	726.8	678.0	644.2	631.5	620.7	617.7	615.3
42.5°	909.0	761.2	665.9	612.8	560.4	524.8	509.7	501.9	500.0	500.0	503.1
45°	793.8	618.3	508.5	465.7	422.2	403.5	399.9	396.3	396.9	395.1	396.3
47.5°	704.5	496.4	383.6	344.4	322.1	316.1	311.9	310.6	310.6	307.6	304.0
50°	658.1	415.0	301.0	270.2	257.6	253.3	253.3	250.9	246.1	243.1	235.2
52.5°	646.0	372.8	260.6	234.0	223.2	219.6	215.9	212.3	205.1	198.5	189.4
55°	655.7	359.5	247.9	223.2	211.1	206.9	203.9	197.8	187.6	177.9	167.7
57.5°	696.1	367.9	252.7	226.2	215.3	212.3	209.3	200.3	187.6	173.7	162.3
60°	806.5	407.8	273.2	242.5	233.4	234.0	229.8	218.4	200.3	180.4	163.5
62.5°	948.8	463.3	299.8	265.4	264.2	270.2	270.2	250.3	220.8	190.6	167.7
65°	1030.3	480.7	303.4	268.4	278.7	296.2	295.0	268.4	228.0	190.6	165.9
67°	1009.7	462.0	288.3	250.9	263.0	282.9	280.5	255.2	217.2	182.8	161.1
67.5°	993.5	456.0	284.7	246.7	258.8	275.1	275.1	249.7	212.3	180.4	159.2
70°	874.6	402.9	266.6	230.4	230.4	234.6	231.6	213.5	188.2	165.9	152.0
72.5°	729.3	352.3	252.1	219.0	207.5	205.1	200.9	188.2	171.9	156.2	144.2
75°	565.2	311.9	240.7	206.9	191.8	186.4	182.2	172.5	159.8	146.6	136.3
77.5°	395.7	267.2	225.6	196.6	180.4	176.1	169.5	158.6	148.4	136.9	127.3
80°	245.5	220.8	196.6	177.3	160.4	154.4	146.0	136.3	127.9	121.2	114.0
82.5°	174.9	162.3	146.6	136.3	118.8	100.7	108.0	108.6	103.1	98.9	97.1
85°	117.0	105.6	97.7	88.7	78.4	70.6	72.4	77.8	78.4	76.6	76.6
87.5°	63.9	54.3	52.5	54.3	47.0	44.6	45.2	50.1	50.7	50.7	51.3
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):

	165°	170°	175°	180°
0°	1193.1	1193.1	1193.1	1193.1
2.5°	1226.3	1228.1	1227.5	1228.7
5°	1245.0	1246.2	1245.6	1246.2
7.5°	1242.0	1244.4	1245.6	1243.8
10°	1237.2	1240.8	1243.2	1243.2
12.5°	1238.4	1244.4	1248.0	1248.0
15°	1237.2	1242.0	1243.2	1243.2
17.5°	1218.5	1218.5	1219.1	1216.6
20°	1185.9	1182.3	1181.1	1176.8
22.5°	1139.4	1131.0	1125.6	1122.5
25°	1086.4	1073.1	1064.6	1059.8
27.5°	1042.3	1030.9	1022.4	1017.6
30°	993.5	980.2	975.4	971.7
32.5°	922.9	910.2	906.6	903.6
35°	831.2	827.0	817.3	810.7
37.5°	725.0	719.6	716.0	713.6
40°	614.1	614.7	611.6	606.2
42.5°	503.1	509.1	503.1	501.9
45°	395.1	401.7	401.7	403.5
47.5°	304.6	303.4	305.8	306.4
50°	230.4	226.8	225.6	223.8
52.5°	182.8	178.5	176.1	173.1
55°	161.1	156.2	153.8	153.2
57.5°	153.8	147.8	144.2	143.6
60°	152.0	143.6	138.7	137.5
62.5°	152.0	141.8	136.3	134.5
65°	150.2	139.9	135.1	133.3
67°	147.8	138.7	133.9	132.7
67.5°	146.6	138.1	133.9	132.1
70°	143.6	136.3	131.5	129.7
72.5°	136.9	130.9	126.1	124.9
75°	129.7	124.3	121.2	120.0
77.5°	121.2	116.4	112.8	109.8
80°	108.6	103.1	97.7	96.5
82.5°	92.3	86.3	82.0	81.4
85°	74.2	69.4	64.5	64.5
87.5°	51.9	48.9	45.8	42.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)