

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: P146609

Luminaire Tested: **LDRL-T3-E04-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146609
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33695)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-T3-E04-E-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 3
Light Source: (84) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10908.4 lumens
Efficiency: N/A
Efficacy: 112.2 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

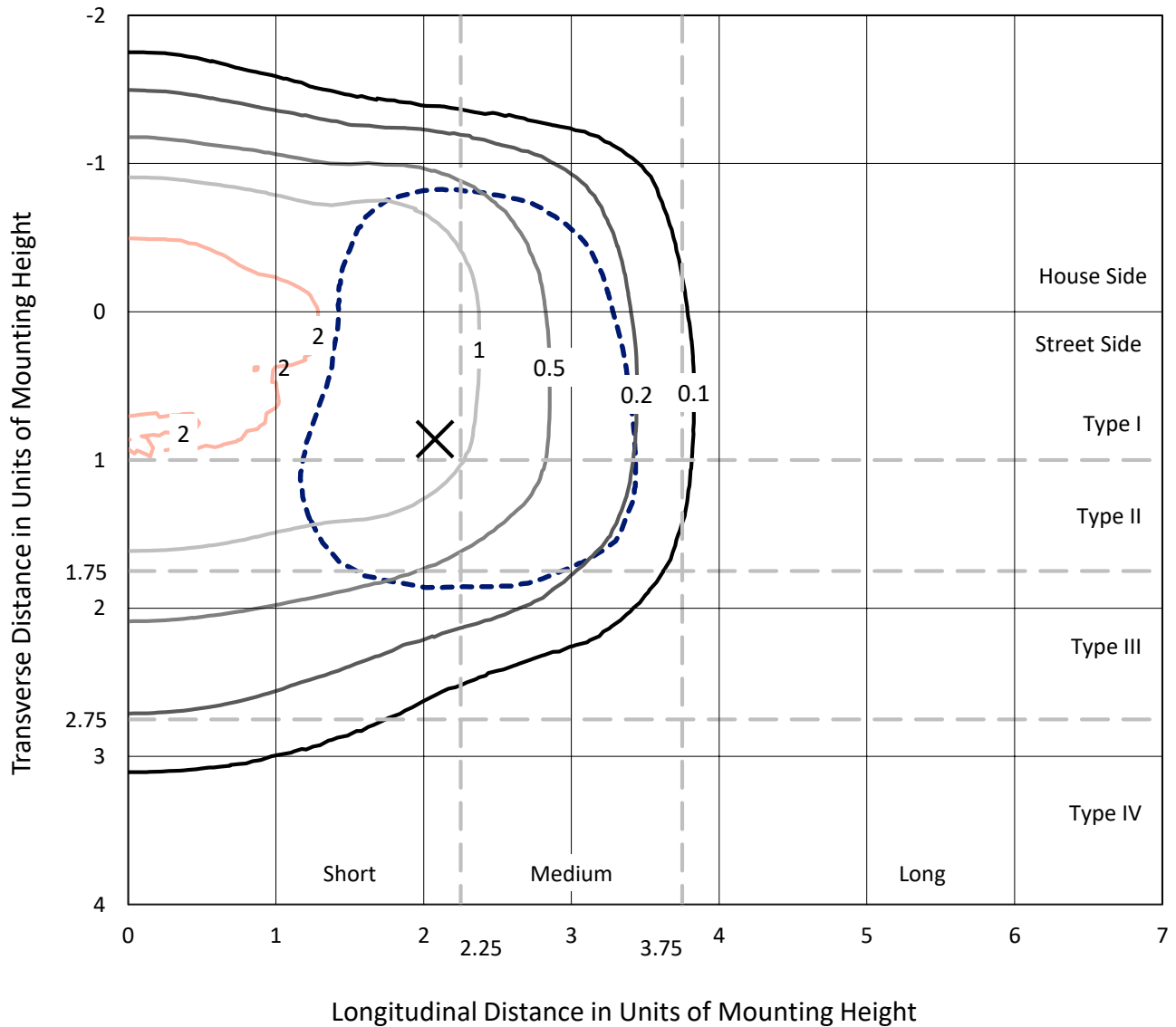
Input Watts (W): 97.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

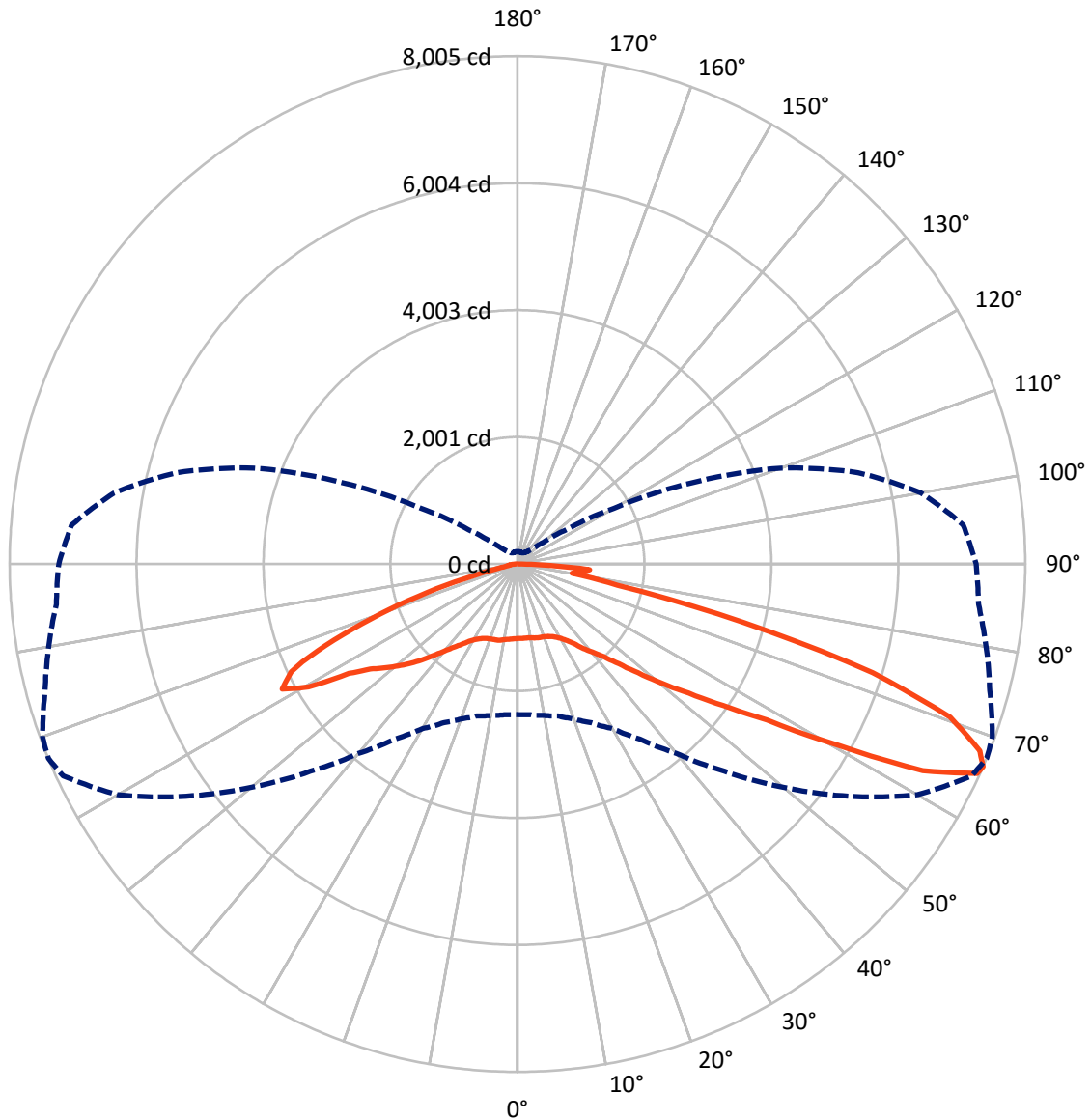
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.9 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 67.5-Deg Lateral - - - Horizontal Cone Through 66-Deg Vertical

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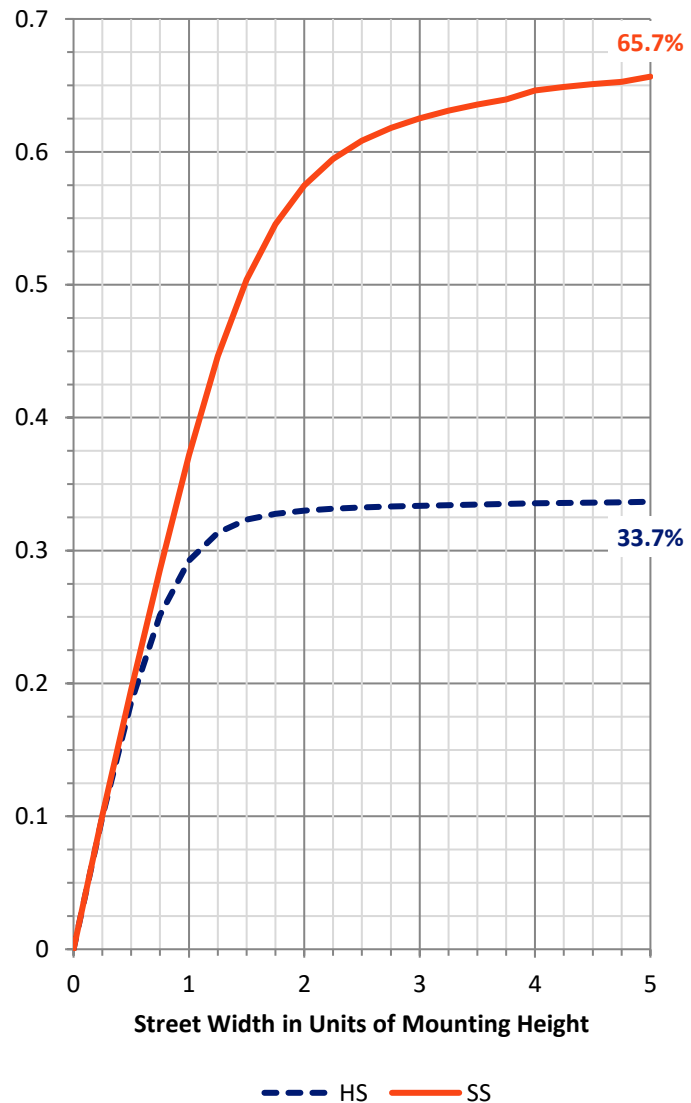
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3705.9	0.0	3705.9
	% Fixture	34.0	0.0	34.0
Street Side	Lumens	7202.4	0.0	7202.4
	% Fixture	66.0	0.0	66.0
Total	Lumens	10908.4	0.0	10908.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.8	1.0
10°-20°	334.2	3.1
20°-30°	574.6	5.3
30°-40°	924.1	8.5
40°-50°	1523.2	14.0
50°-60°	2387.6	21.9
60°-70°	3304.2	30.3
70°-80°	1495.3	13.7
80°-90°	252.3	2.3
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°	10908.4	100.0
0°-180°	10908.4	100.0



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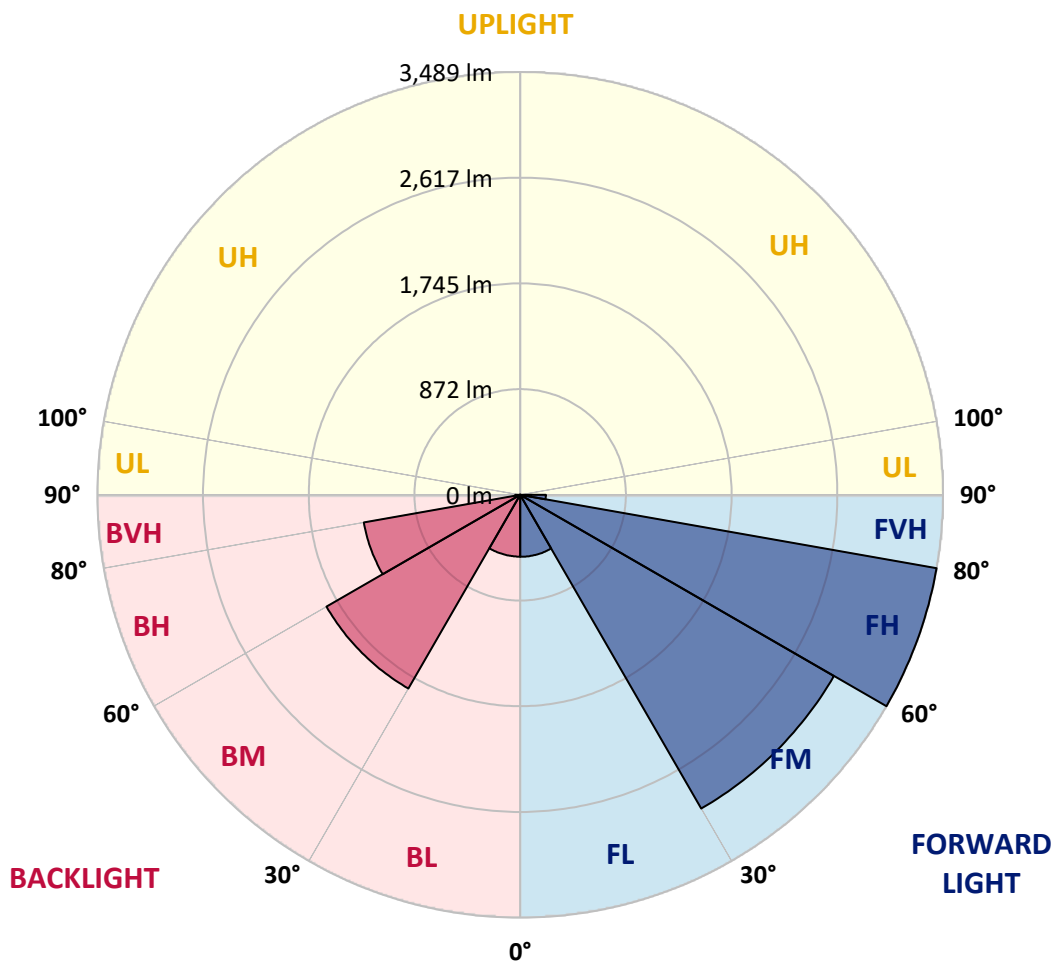
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	511.6	4.7			
FM	(30°-60°)	2989.3	27.4			
FH	(60°-80°)	3489.5	32.0			G2/5000
FVH	(80°-90°)	212.0	1.9			G2/225
BL	(0°-30°)	510.0	4.7	B2/1000		
BM	(30°-60°)	1845.6	16.9	B2/2500		
BH	(60°-80°)	1310.1	12.0	B3/2500		G3/2500
BVH	(80°-90°)	40.3	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2
2.5°	1172.7	1172.0	1171.3	1171.3	1170.5	1171.3	1172.0	1172.7	1172.0	1172.7	1172.0
5°	1170.5	1170.5	1169.8	1169.8	1169.8	1169.8	1170.5	1171.3	1170.5	1172.0	1170.5
7.5°	1161.1	1165.4	1164.0	1165.4	1166.9	1168.4	1169.1	1170.5	1172.7	1174.2	1172.7
10°	1148.6	1150.8	1151.6	1153.0	1155.9	1159.6	1162.5	1166.2	1171.3	1172.7	1174.2
12.5°	1126.0	1128.9	1131.1	1134.0	1138.4	1144.2	1149.4	1155.2	1164.0	1169.8	1174.9
15°	1109.2	1112.8	1113.6	1117.2	1121.6	1128.2	1134.7	1143.5	1155.2	1165.4	1175.7
17.5°	1120.1	1121.6	1120.1	1120.1	1121.6	1124.5	1129.6	1136.9	1149.4	1161.8	1174.2
20°	1153.0	1153.0	1151.6	1150.8	1149.4	1146.4	1145.7	1145.0	1153.0	1162.5	1173.5
22.5°	1184.4	1184.4	1183.7	1186.6	1185.9	1185.9	1183.7	1180.0	1176.4	1174.9	1182.2
25°	1204.2	1207.1	1208.5	1212.9	1215.9	1220.2	1221.7	1221.0	1215.9	1207.1	1204.9
27.5°	1236.3	1238.5	1240.0	1245.1	1250.9	1256.0	1261.2	1267.7	1267.7	1259.7	1248.7
30°	1298.4	1295.5	1297.0	1298.4	1303.5	1310.8	1317.4	1326.2	1330.6	1327.6	1313.0
32.5°	1356.1	1359.1	1360.5	1364.9	1370.0	1381.0	1389.0	1399.3	1408.8	1410.2	1402.9
35°	1440.9	1439.4	1437.2	1452.6	1458.4	1470.9	1480.4	1495.0	1502.3	1508.9	1504.5
37.5°	1574.6	1570.2	1567.3	1571.7	1579.7	1587.8	1601.7	1612.6	1625.0	1640.4	1635.3
40°	1763.9	1772.6	1760.2	1766.1	1772.6	1754.4	1766.8	1777.0	1798.2	1798.9	1798.2
42.5°	2010.1	2016.7	2013.8	2017.4	2005.7	1999.9	1994.8	1999.9	2026.2	2022.5	2005.0
45°	2256.3	2265.8	2263.6	2265.1	2287.8	2278.3	2286.3	2287.8	2314.8	2307.5	2294.3
47.5°	2466.8	2482.9	2486.5	2499.7	2530.3	2555.2	2589.5	2615.1	2628.3	2637.0	2647.3
50°	2633.4	2645.1	2665.5	2698.4	2743.0	2786.1	2863.5	2914.0	2960.0	2992.1	3025.0
52.5°	2743.7	2756.9	2788.3	2838.0	2902.3	2981.2	3071.8	3177.0	3274.2	3331.2	3380.1
55°	2789.0	2802.2	2840.9	2905.9	2991.4	3092.2	3222.3	3370.6	3500.0	3630.8	3706.0
57.5°	2762.7	2777.3	2821.9	2895.0	2998.0	3130.2	3291.7	3473.7	3662.9	3860.9	4012.2
60°	2685.2	2698.4	2748.8	2824.8	2942.4	3091.5	3285.1	3513.1	3779.1	4072.8	4360.0
62.5°	2578.6	2598.3	2642.9	2720.3	2837.2	3000.2	3220.8	3517.5	3898.9	4372.4	4931.4
65°	2442.7	2457.3	2496.7	2558.1	2686.7	2857.0	3090.0	3453.2	3951.5	4623.0	5420.9
66°	2372.5	2386.4	2422.9	2480.7	2598.3	2762.0	2995.1	3367.0	3893.1	4621.6	5472.8
67.5°	2249.0	2255.6	2281.9	2338.9	2415.6	2562.5	2778.8	3127.3	3645.4	4426.5	5328.1
70°	1886.6	1896.1	1921.7	1950.9	1979.4	2032.0	2183.3	2413.4	2827.7	3576.7	4436.7
72.5°	1305.0	1319.6	1347.4	1401.4	1446.0	1512.5	1571.7	1648.4	1785.8	2306.0	3174.1
75°	943.3	948.4	989.3	1084.3	1174.2	1307.2	1424.8	1462.1	1415.3	1407.3	1864.7
77.5°	562.6	569.9	629.1	724.8	818.4	998.8	1240.0	1426.3	1529.3	1492.8	1411.7
80°	236.7	247.0	282.0	306.9	384.3	535.6	773.8	1066.1	1337.9	1505.2	1467.2
82.5°	76.0	88.4	104.5	126.4	149.1	199.5	309.1	462.5	730.7	1089.4	1339.3
85°	27.8	28.5	39.5	54.8	60.6	70.1	89.9	138.8	247.0	408.5	759.9
87.5°	11.0	13.2	15.3	21.2	21.9	22.7	25.6	32.9	32.1	27.8	143.9
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°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2
2.5°	1172.7	1174.2	1173.5	1174.2	1174.2	1172.7	1172.7	1175.7	1173.5	1174.9	1174.9
5°	1172.0	1173.5	1172.7	1174.2	1174.2	1173.5	1173.5	1177.9	1177.1	1179.3	1180.8
7.5°	1174.9	1175.7	1174.9	1174.9	1177.1	1176.4	1177.1	1178.6	1182.2	1185.9	1188.8
10°	1178.6	1180.0	1182.2	1183.0	1185.9	1185.2	1187.4	1189.5	1193.2	1196.9	1200.5
12.5°	1183.7	1188.1	1194.7	1196.1	1199.0	1201.2	1204.9	1207.1	1210.0	1215.9	1220.2
15°	1188.1	1196.1	1204.2	1207.1	1210.0	1212.9	1216.6	1218.8	1223.9	1229.0	1234.1
17.5°	1189.5	1199.0	1209.3	1212.9	1215.9	1221.0	1225.4	1229.7	1235.6	1242.2	1248.0
20°	1190.3	1203.4	1216.6	1221.0	1227.5	1234.8	1242.2	1245.8	1253.8	1261.9	1267.0
22.5°	1196.9	1212.9	1231.2	1239.2	1245.8	1259.0	1268.5	1274.3	1283.8	1290.4	1292.6
25°	1215.1	1231.9	1253.8	1266.3	1277.2	1296.2	1307.9	1318.9	1324.0	1332.8	1330.6
27.5°	1248.0	1261.2	1289.7	1306.5	1320.3	1345.2	1367.8	1378.1	1386.1	1390.5	1385.4
30°	1304.3	1309.4	1340.8	1361.3	1384.6	1423.4	1448.2	1461.4	1471.6	1472.3	1459.2
32.5°	1388.3	1380.3	1408.0	1437.2	1467.9	1514.7	1548.3	1562.2	1570.2	1571.0	1541.7
35°	1502.3	1488.4	1511.8	1540.3	1578.3	1639.6	1682.0	1698.1	1710.5	1704.7	1661.6
37.5°	1646.2	1645.5	1656.5	1693.0	1736.1	1815.0	1859.6	1868.3	1867.6	1850.1	1785.1
40°	1806.2	1793.1	1794.6	1820.9	1870.5	1974.3	2036.4	2051.0	2045.9	2020.3	1935.6
42.5°	2007.9	2002.1	1982.3	1996.2	2042.3	2168.7	2243.9	2258.5	2262.9	2220.5	2120.4
45°	2290.7	2285.6	2241.7	2244.6	2278.3	2411.2	2489.4	2513.5	2514.3	2474.1	2344.0
47.5°	2633.4	2629.0	2577.8	2563.2	2580.0	2698.4	2795.6	2800.7	2802.2	2746.6	2611.5
50°	3022.1	3009.7	2970.9	2955.6	2935.9	3066.7	3144.8	3144.1	3136.1	3074.7	2922.7
52.5°	3397.7	3425.4	3410.8	3380.9	3381.6	3475.8	3549.6	3508.7	3513.8	3455.4	3280.8
55°	3798.8	3869.7	3923.0	3934.0	3928.9	3977.1	4018.0	3944.9	3917.9	3908.4	3722.8
57.5°	4224.8	4406.0	4570.4	4639.1	4612.8	4701.2	4737.7	4661.7	4663.2	4737.7	4577.7
60°	4794.0	5251.4	5665.7	5794.3	5854.2	6000.3	5935.3	5930.9	6045.6	6142.1	5845.4
62.5°	5657.7	6415.4	7076.6	7172.4	7220.6	7253.5	7224.2	7144.6	7263.0	7274.7	6817.2
65°	6312.3	7201.6	7840.9	7960.8	7952.0	7784.7	7622.5	7463.2	7461.7	7344.8	6755.9
66°	6383.2	7276.1	7899.4	8005.3	7966.6	7708.7	7502.6	7295.8	7229.4	7054.0	6456.3
67.5°	6228.3	7146.1	7764.9	7859.9	7777.4	7385.0	7104.4	6824.6	6724.5	6480.4	5871.0
70°	5324.5	6270.0	7097.8	7235.2	7137.3	6616.3	6200.6	5892.9	5620.4	5380.0	4877.3
72.5°	4128.3	4835.6	5711.7	5854.9	5863.0	5455.3	4986.9	4691.7	4374.6	4133.5	3756.4
75°	2707.9	3242.8	3724.3	3676.1	3689.9	3369.2	3090.0	2844.5	2557.4	2367.4	2187.7
77.5°	1582.7	1774.1	1730.3	1610.4	1509.6	1186.6	849.1	583.1	508.6	530.5	598.4
80°	1375.9	1268.5	993.0	873.2	794.2	539.2	290.1	204.6	179.7	181.9	192.9
82.5°	1481.1	1536.6	1261.2	1038.3	905.3	635.0	341.2	170.2	122.8	143.2	157.8
85°	1149.4	1462.8	1348.8	1139.9	958.7	675.1	348.5	108.1	73.1	97.9	123.5
87.5°	327.3	518.1	414.3	366.1	295.2	201.7	83.3	43.1	39.5	51.1	70.9
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2	1174.2
2.5°	1175.7	1175.7	1177.9	1178.6	1179.3	1179.3	1180.8	1180.8	1181.5	1184.4	1183.7
5°	1183.0	1185.2	1188.1	1189.5	1191.7	1192.5	1194.7	1194.7	1196.9	1199.0	1198.3
7.5°	1191.7	1193.9	1196.1	1198.3	1200.5	1203.4	1202.7	1202.0	1201.2	1199.8	1198.3
10°	1204.2	1206.4	1208.5	1207.8	1206.4	1204.9	1199.0	1192.5	1189.5	1183.7	1179.3
12.5°	1224.6	1226.8	1224.6	1218.8	1210.7	1201.2	1188.8	1177.9	1171.3	1162.5	1157.4
15°	1240.0	1242.2	1237.8	1227.5	1214.4	1202.0	1185.2	1171.3	1159.6	1150.1	1142.8
17.5°	1251.7	1250.2	1240.7	1229.0	1215.1	1204.9	1189.5	1174.2	1160.3	1147.2	1136.9
20°	1268.5	1260.4	1246.5	1231.9	1218.0	1209.3	1196.9	1183.0	1168.4	1149.4	1136.2
22.5°	1290.4	1275.8	1257.5	1242.9	1229.7	1221.0	1208.5	1195.4	1181.5	1159.6	1141.3
25°	1321.8	1298.4	1277.2	1261.9	1250.2	1241.4	1226.1	1212.2	1196.9	1174.9	1151.6
27.5°	1365.6	1332.0	1310.1	1294.8	1283.1	1272.8	1253.1	1236.3	1216.6	1194.7	1166.9
30°	1422.6	1381.7	1357.6	1344.5	1332.0	1317.4	1296.2	1271.4	1245.8	1216.6	1186.6
32.5°	1493.5	1447.5	1424.8	1411.7	1395.6	1375.9	1348.1	1315.2	1277.2	1238.5	1201.2
35°	1594.3	1541.7	1516.9	1494.2	1470.9	1441.6	1400.0	1352.5	1302.1	1251.7	1205.6
37.5°	1694.4	1645.5	1614.8	1591.4	1554.9	1507.4	1449.7	1383.9	1316.7	1252.4	1196.9
40°	1836.2	1779.2	1743.4	1701.8	1642.6	1568.8	1484.7	1396.3	1313.0	1235.6	1169.8
42.5°	2010.1	1945.1	1891.7	1816.5	1724.4	1617.7	1501.5	1389.0	1287.5	1198.3	1126.0
45°	2230.0	2145.3	2056.1	1937.8	1796.7	1647.7	1500.8	1363.4	1243.6	1142.8	1071.2
47.5°	2486.5	2367.4	2217.6	2037.1	1844.2	1655.0	1477.4	1317.4	1177.9	1066.8	984.2
50°	2750.3	2577.8	2365.2	2113.9	1868.3	1636.7	1425.6	1242.2	1091.6	965.2	876.1
52.5°	3075.4	2808.0	2498.9	2165.7	1858.1	1582.7	1339.3	1136.2	975.5	852.0	749.7
55°	3462.7	3072.5	2626.1	2194.2	1812.8	1485.5	1208.5	997.4	828.6	716.1	624.0
57.5°	4103.5	3486.8	2843.1	2236.6	1723.7	1340.8	1049.3	830.8	672.2	576.5	502.7
60°	5208.3	4336.6	3301.9	2341.1	1600.2	1134.7	846.9	651.0	520.2	443.5	391.6
62.5°	5979.2	4851.7	3548.9	2305.3	1390.5	893.6	626.2	465.4	379.2	328.8	293.7
65°	5829.4	4648.6	3251.5	1958.2	1089.4	632.0	416.5	314.9	266.0	234.5	217.0
66°	5560.5	4424.3	3025.0	1758.0	944.8	526.8	343.4	260.9	228.7	206.1	194.4
67.5°	5070.2	3959.6	2618.0	1410.9	707.3	388.7	260.9	203.1	185.6	173.9	165.9
70°	4197.8	3131.0	1802.6	833.7	374.1	217.7	165.9	149.8	141.8	136.6	135.9
72.5°	3218.6	2246.1	1042.7	403.3	200.2	144.7	127.1	121.3	118.4	116.9	116.9
75°	1988.2	1267.0	466.2	202.4	138.1	118.4	110.3	107.4	106.7	106.7	106.7
77.5°	699.3	441.3	209.0	148.3	121.3	106.7	100.1	98.6	100.1	100.1	100.1
80°	192.9	170.2	151.3	131.5	109.6	98.6	92.8	92.1	95.0	95.7	92.8
82.5°	150.5	141.8	129.3	117.6	100.1	89.9	87.0	88.4	89.9	87.7	83.3
85°	128.6	122.8	90.6	90.6	81.1	78.2	77.5	78.9	78.2	72.3	66.5
87.5°	73.1	64.3	49.0	53.3	57.0	58.5	49.0	52.6	51.9	46.0	43.1
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):

	160°	165°	170°	175°	180°
0°	1174.2	1174.2	1174.2	1174.2	1174.2
2.5°	1185.2	1185.2	1186.6	1186.6	1185.9
5°	1199.8	1199.8	1202.0	1200.5	1201.2
7.5°	1196.9	1193.9	1193.9	1192.5	1191.7
10°	1176.4	1171.3	1168.4	1169.8	1167.6
12.5°	1153.0	1148.6	1145.7	1145.0	1144.2
15°	1138.4	1133.3	1131.1	1129.6	1129.6
17.5°	1130.4	1124.5	1121.6	1119.4	1118.7
20°	1126.7	1119.4	1115.0	1112.8	1111.4
22.5°	1128.2	1119.4	1113.6	1110.6	1109.2
25°	1134.0	1123.1	1115.7	1112.1	1109.9
27.5°	1144.2	1129.6	1121.6	1116.5	1113.6
30°	1156.7	1136.2	1124.5	1117.2	1114.3
32.5°	1164.7	1136.9	1122.3	1111.4	1108.4
35°	1163.2	1128.9	1109.9	1096.0	1093.8
37.5°	1148.6	1107.7	1084.3	1066.1	1063.9
40°	1117.2	1075.6	1048.5	1030.3	1025.9
42.5°	1073.4	1030.3	1001.0	984.2	978.4
45°	1009.1	956.5	929.4	915.5	907.5
47.5°	918.5	868.8	838.8	827.1	816.9
50°	815.4	760.6	738.7	725.6	713.9
52.5°	694.1	647.4	630.6	618.2	608.7
55°	576.5	543.6	523.9	510.7	511.5
57.5°	463.3	443.5	432.6	418.7	420.1
60°	364.6	347.8	347.8	339.0	336.1
62.5°	278.4	271.8	269.6	266.7	261.6
65°	211.2	211.2	211.9	211.9	209.0
66°	190.0	192.2	195.1	195.1	191.4
67.5°	164.4	167.3	170.2	171.7	171.7
70°	135.9	139.6	141.0	142.5	141.8
72.5°	119.1	122.0	122.0	122.8	121.3
75°	108.1	109.6	110.3	108.9	108.1
77.5°	100.1	100.8	100.1	99.4	98.6
80°	90.6	89.9	87.7	84.8	84.0
82.5°	78.2	75.3	73.8	69.4	68.7
85°	62.8	59.2	56.3	50.4	47.5
87.5°	41.6	40.2	38.0	27.8	22.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)