

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: P145444

Luminaire Tested: **LDRL-SL4-F03-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145444
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33703)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL4-F03-E-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (21) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6519.1 lumens
Efficiency: N/A
Efficacy: 83.3 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): 78.3
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

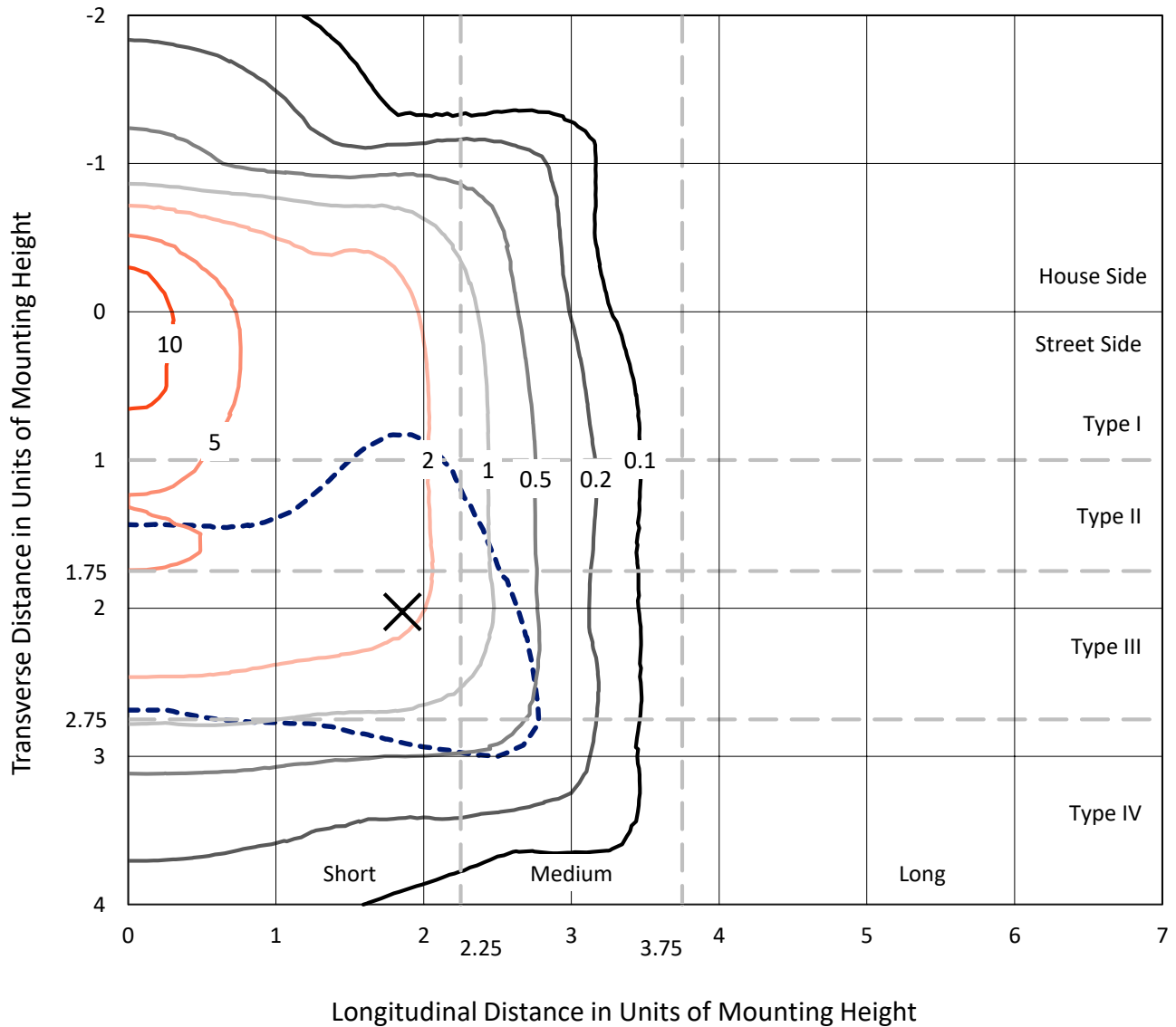


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Iso-Footcandle Lines of Horizontal Illumination

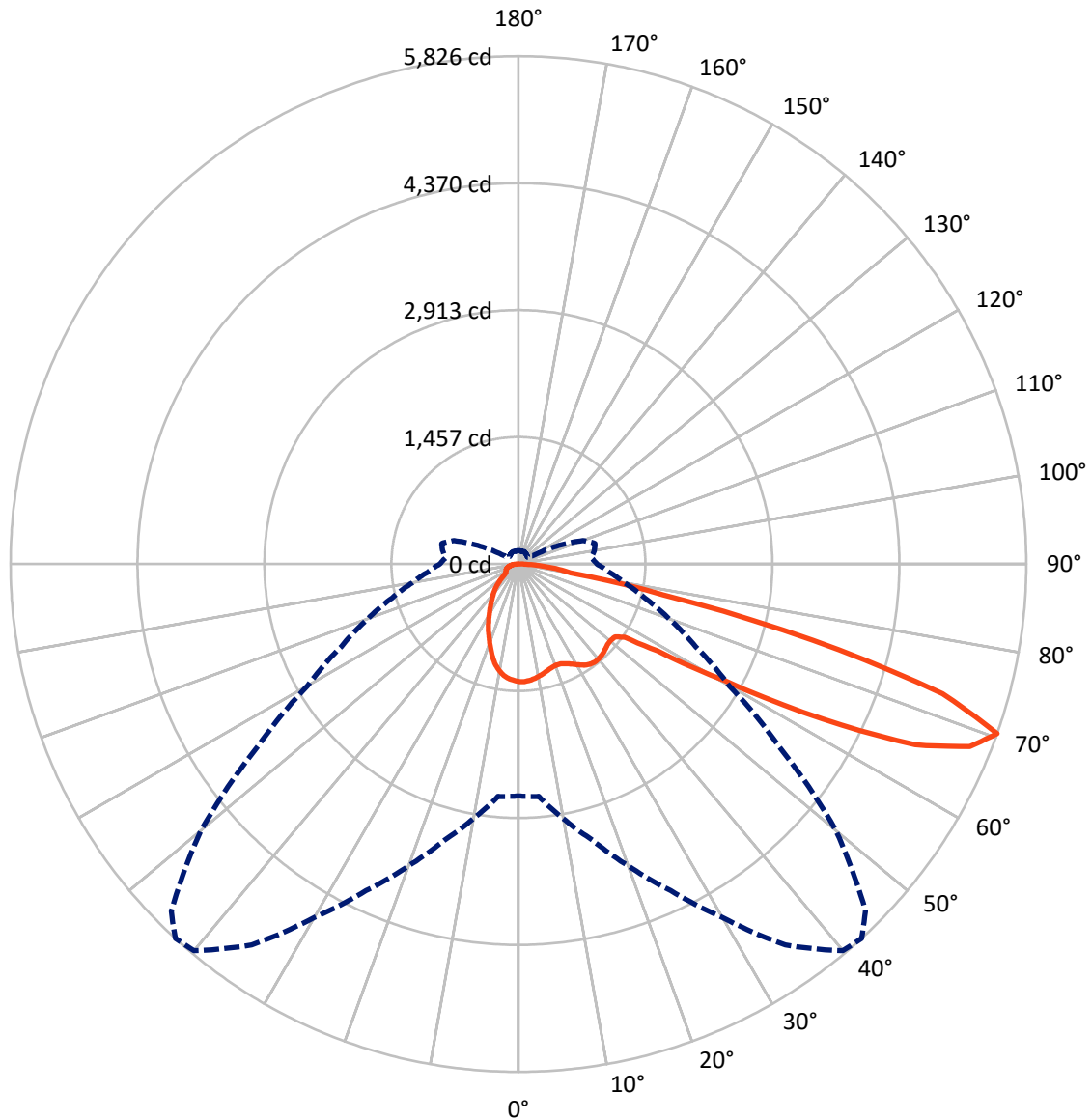
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.5 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1408.2	0.0	1408.2
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	5110.8	0.0	5110.8
	% Fixture	78.4	0.0	78.4
Total	Lumens	6519.1	0.0	6519.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.4	1.9
10°-20°	337.9	5.2
20°-30°	492.9	7.6
30°-40°	628.6	9.6
40°-50°	733.7	11.3
50°-60°	1122.1	17.2
60°-70°	2034.0	31.2
70°-80°	904.4	13.9
80°-90°	140.0	2.1
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°	6519.1	100.0
0°-180°	6519.1	100.0



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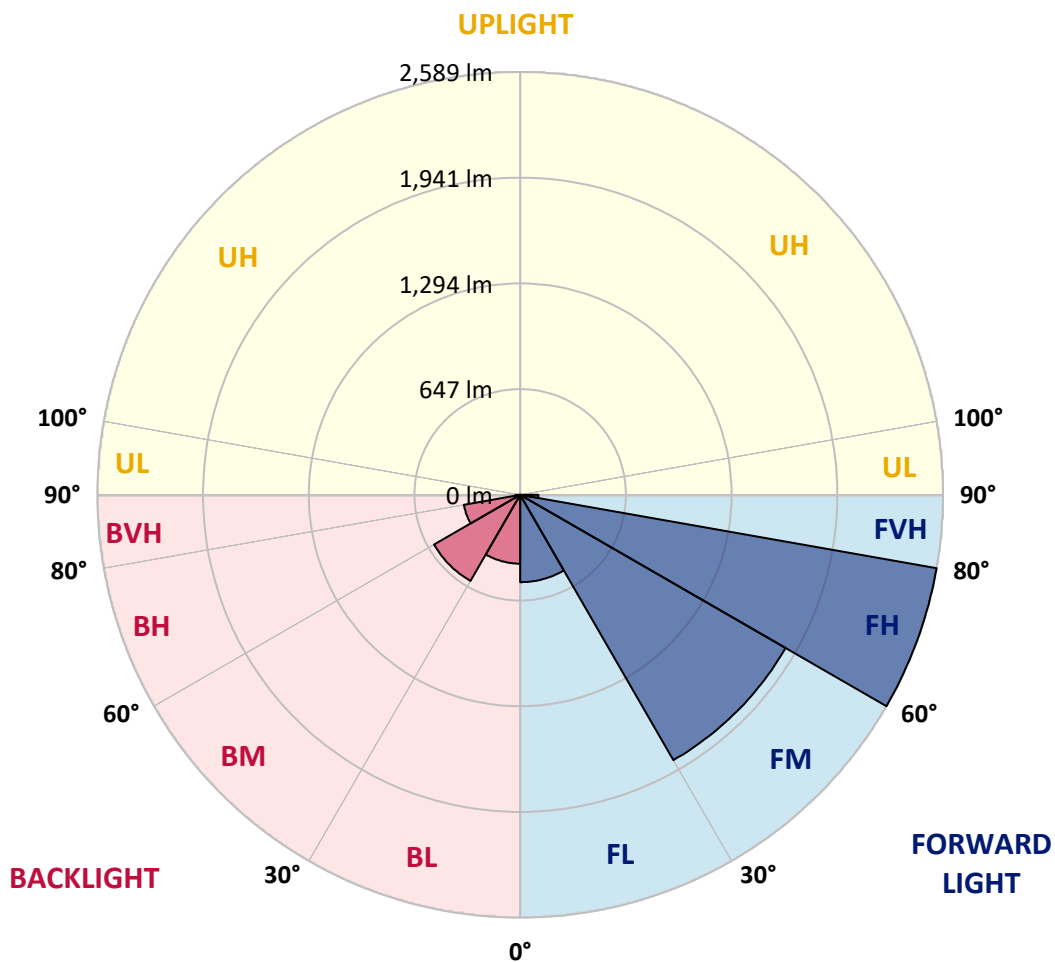
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	534.7	8.2			
FM (30°-60°)	1875.7	28.8			
FH (60°-80°)	2588.6	39.7			G2/5000
FVH (80°-90°)	111.8	1.7			G2/225
BL (0°-30°)	421.5	6.5	B1/500		
BM (30°-60°)	608.8	9.3	B1/1000		
BH (60°-80°)	349.9	5.4	B1/500		G1/500
BVH (80°-90°)	28.1	0.4			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°	42.5°	45°
0°	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1
2.5°	1354.5	1353.1	1354.0	1354.9	1354.9	1355.4	1351.3	1351.8	1349.9	1350.4	1350.9
5°	1349.5	1348.1	1349.0	1349.0	1349.0	1348.6	1343.2	1342.7	1340.4	1340.4	1339.5
7.5°	1340.0	1335.0	1337.7	1338.2	1337.3	1335.0	1331.9	1328.7	1327.3	1327.3	1324.2
10°	1325.5	1320.1	1321.4	1322.4	1321.9	1317.4	1316.0	1312.9	1309.2	1307.9	1304.3
12.5°	1307.0	1303.4	1305.2	1304.7	1304.7	1300.6	1298.4	1293.9	1289.3	1287.1	1282.5
15°	1295.2	1290.7	1292.5	1292.5	1290.7	1286.6	1283.4	1275.3	1267.6	1264.9	1259.0
17.5°	1302.4	1297.9	1299.7	1298.4	1295.2	1286.6	1278.5	1265.4	1253.1	1245.9	1238.2
20°	1331.4	1326.9	1328.2	1327.3	1322.8	1308.8	1293.9	1271.2	1248.6	1237.8	1226.0
22.5°	1377.5	1373.9	1376.2	1374.8	1367.6	1349.5	1327.3	1294.8	1260.8	1244.5	1227.8
25°	1445.9	1445.0	1448.6	1444.5	1434.1	1407.0	1374.8	1330.9	1286.6	1266.3	1242.7
27.5°	1528.2	1520.5	1525.9	1522.3	1515.1	1480.7	1437.3	1381.6	1325.1	1298.4	1270.3
30°	1602.4	1595.6	1605.6	1603.7	1592.9	1557.6	1502.9	1437.7	1373.9	1340.0	1307.9
32.5°	1688.3	1679.7	1687.4	1687.4	1671.2	1623.6	1561.2	1486.6	1419.6	1383.4	1345.0
35°	1778.4	1769.3	1776.6	1774.3	1745.3	1682.5	1604.2	1523.2	1449.5	1412.4	1373.0
37.5°	1862.1	1860.7	1862.5	1847.6	1807.3	1726.8	1633.1	1542.7	1464.4	1425.5	1384.3
40°	1945.8	1942.6	1934.9	1908.7	1849.8	1753.0	1648.1	1549.5	1465.3	1424.6	1383.0
42.5°	1998.2	1992.4	1979.2	1943.5	1869.8	1759.4	1643.6	1539.1	1454.5	1412.8	1372.1
45°	2016.3	2010.4	1994.6	1954.4	1870.2	1749.4	1625.9	1518.2	1434.1	1396.1	1354.9
47.5°	2001.4	1997.8	1983.3	1943.0	1855.7	1730.9	1603.7	1497.4	1414.6	1377.5	1339.1
50°	1976.1	1973.8	1961.1	1924.0	1842.2	1719.6	1593.3	1487.5	1409.2	1374.8	1338.6
52.5°	2039.4	2032.6	2010.0	1966.1	1870.7	1739.9	1609.6	1502.4	1421.9	1387.0	1349.9
55°	2818.0	2767.8	2655.6	2445.2	2150.7	1922.2	1730.0	1600.6	1513.7	1479.8	1444.5
57.5°	3706.0	3653.6	3607.0	3446.4	3096.7	2665.1	2276.9	2049.8	1894.2	1879.3	1865.2
60°	4048.0	4064.8	4060.7	4001.0	3821.8	3616.9	3292.1	3023.8	2726.6	2714.4	2732.0
62.5°	4283.7	4297.8	4299.6	4281.5	4223.1	4154.8	4086.9	4001.0	3944.4	3920.0	3762.1
65°	4381.0	4401.4	4446.1	4479.6	4489.1	4512.7	4574.2	4808.1	5003.0	5001.7	4816.7
67.5°	4009.6	4034.0	4203.7	4370.1	4509.9	4671.9	4921.2	5301.6	5595.2	5586.2	5434.6
70°	2661.0	2676.4	2964.6	3278.1	3684.8	4134.4	4679.1	5335.1	5790.2	5826.0	5630.5
72.5°	1632.2	1667.5	1761.6	1888.8	2105.9	2522.6	3332.3	4453.4	5121.1	5087.6	4932.0
75°	1102.0	1103.8	1101.1	1114.7	1126.9	1211.1	1537.2	2448.8	3469.0	3487.1	3420.1
77.5°	753.2	763.2	768.6	765.0	777.2	773.6	792.6	839.2	1329.6	1696.9	1559.4
80°	658.2	662.3	668.2	659.6	637.0	624.3	642.0	625.2	589.0	608.5	582.7
82.5°	416.7	428.9	430.2	460.1	504.4	506.2	528.9	512.1	466.0	435.7	398.6
85°	299.5	304.0	312.2	314.0	298.6	285.5	293.6	279.6	252.0	235.7	208.6
87.5°	174.6	179.1	187.3	182.3	166.9	147.9	133.5	114.9	90.9	85.1	75.1
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1
2.5°	1351.3	1349.0	1347.2	1346.3	1348.1	1346.3	1344.5	1343.6	1341.8	1342.3	1340.0
5°	1338.6	1335.5	1332.8	1330.5	1332.3	1329.1	1326.4	1324.6	1322.4	1321.9	1319.6
7.5°	1321.0	1316.0	1312.4	1308.3	1303.8	1301.1	1297.9	1294.8	1289.8	1289.3	1288.4
10°	1297.9	1293.9	1286.6	1280.3	1273.9	1267.2	1260.4	1255.4	1249.5	1247.3	1244.1
12.5°	1274.9	1266.7	1258.1	1248.2	1240.5	1229.6	1220.6	1211.1	1202.5	1197.0	1191.2
15°	1247.7	1239.1	1226.9	1217.4	1206.5	1194.3	1182.6	1168.5	1154.5	1145.9	1137.8
17.5°	1224.2	1213.3	1203.4	1189.8	1178.9	1164.9	1147.3	1132.3	1115.6	1101.6	1086.7
20°	1206.1	1193.9	1182.1	1169.9	1156.8	1140.9	1121.5	1100.2	1079.0	1059.1	1036.9
22.5°	1198.8	1179.4	1166.3	1155.0	1141.4	1123.3	1101.6	1075.3	1049.1	1023.8	998.0
25°	1205.2	1176.2	1155.9	1143.2	1131.0	1112.4	1088.0	1058.2	1027.4	995.3	964.5
27.5°	1222.4	1185.7	1156.8	1136.9	1122.8	1104.8	1077.6	1046.4	1011.6	975.4	942.3
30°	1247.3	1201.6	1165.4	1136.9	1116.1	1095.3	1065.8	1030.6	993.9	955.9	918.8
32.5°	1274.4	1219.2	1175.8	1138.2	1106.1	1079.9	1049.1	1014.7	975.8	935.6	895.7
35°	1294.8	1231.9	1180.3	1133.3	1092.1	1059.1	1026.0	992.6	954.6	913.8	874.0
37.5°	1303.4	1236.9	1179.4	1122.8	1072.6	1036.4	1002.1	968.6	931.9	893.5	856.8
40°	1303.8	1236.9	1174.0	1108.8	1052.3	1012.9	976.7	945.5	911.1	878.1	845.5
42.5°	1295.2	1230.5	1164.0	1095.7	1037.3	993.0	955.9	923.8	896.2	866.8	839.2
45°	1279.8	1217.9	1155.0	1088.5	1031.9	988.0	948.2	917.9	893.0	866.8	842.8
47.5°	1268.1	1210.6	1155.4	1098.9	1045.0	999.8	956.8	924.7	903.4	882.6	865.4
50°	1270.3	1213.3	1160.8	1107.0	1054.1	1008.4	966.8	939.2	926.5	919.7	915.6
52.5°	1282.1	1224.2	1184.4	1148.6	1131.4	1103.4	1080.3	1059.5	1062.7	1046.4	1025.6
55°	1403.3	1383.9	1429.6	1462.6	1478.9	1507.4	1548.6	1509.2	1503.8	1453.5	1304.3
57.5°	1884.2	1930.4	2000.5	2050.3	2055.2	2046.6	2012.7	1980.1	1927.2	1851.7	1642.7
60°	2690.9	2680.0	2614.8	2527.5	2459.7	2370.6	2281.0	2205.4	2120.4	2004.6	1782.0
62.5°	3539.1	3277.6	3045.5	2847.8	2680.0	2531.2	2395.9	2282.3	2165.6	1999.1	1762.1
65°	4224.0	3721.0	3312.0	2994.0	2744.2	2533.9	2359.2	2202.7	2046.6	1853.9	1624.1
67.5°	4713.5	3915.5	3298.4	2851.0	2500.8	2211.3	1957.1	1778.8	1618.7	1467.1	1363.5
70°	4752.4	3646.3	2790.4	2243.0	1839.0	1498.8	1235.0	1040.5	901.2	838.3	883.1
72.5°	4061.2	2697.6	1855.3	1373.0	1089.8	846.9	680.9	544.2	432.0	376.8	384.5
75°	2391.8	1295.2	835.6	622.5	508.5	406.3	351.5	296.8	261.9	209.9	167.8
77.5°	910.7	563.2	421.6	350.2	249.7	179.6	141.6	122.1	112.2	110.8	105.0
80°	524.8	413.0	289.1	189.1	138.4	117.2	100.4	86.0	80.1	78.7	81.0
82.5°	331.6	257.4	158.8	121.7	100.9	86.9	72.4	62.9	57.9	56.1	59.3
85°	171.5	128.9	96.8	83.2	77.4	70.6	57.9	48.4	48.0	50.2	57.9
87.5°	63.3	55.2	43.4	37.5	40.3	37.5	27.1	23.5	21.3	28.0	40.7
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1	1348.1
2.5°	1340.0	1339.1	1339.5	1338.6	1338.6	1340.0	1338.2	1336.8	1339.1	1339.1	1340.4
5°	1319.2	1320.1	1320.1	1319.6	1320.5	1322.8	1322.4	1322.4	1326.0	1327.3	1329.1
7.5°	1286.2	1287.5	1288.0	1289.3	1289.8	1292.9	1295.2	1297.9	1303.4	1304.7	1308.8
10°	1241.4	1240.5	1243.6	1243.2	1247.3	1250.0	1251.8	1257.7	1265.8	1270.3	1274.4
12.5°	1188.4	1188.4	1190.3	1190.7	1194.3	1197.9	1200.2	1207.4	1214.2	1220.1	1229.2
15°	1132.3	1130.5	1126.5	1126.0	1127.4	1131.0	1136.0	1141.4	1151.8	1160.4	1168.1
17.5°	1073.5	1068.1	1063.1	1056.8	1056.3	1055.9	1058.6	1062.7	1079.0	1087.6	1098.4
20°	1021.5	1009.7	998.0	984.9	977.2	973.6	974.9	980.3	995.7	1007.0	1018.3
22.5°	974.9	957.3	938.7	917.9	905.2	897.6	898.5	900.7	912.0	918.8	924.7
25°	935.1	910.7	884.9	858.2	840.6	828.8	828.3	828.3	823.4	824.3	821.1
27.5°	908.0	874.0	841.0	809.8	786.7	775.0	759.1	747.8	737.9	724.3	718.4
30°	881.7	846.9	809.3	775.0	747.4	724.3	694.9	670.5	651.0	632.4	616.6
32.5°	858.2	822.0	786.3	748.7	710.7	670.9	632.4	604.4	576.8	548.3	529.3
35°	837.4	803.5	767.7	725.2	671.8	619.8	576.4	538.4	505.8	471.4	443.8
37.5°	825.6	794.9	757.8	699.9	632.9	573.6	525.2	482.7	439.3	398.1	364.2
40°	819.7	792.6	747.4	674.1	598.1	534.7	480.9	429.8	378.7	330.2	295.0
42.5°	818.8	792.6	732.0	647.8	568.2	500.4	440.2	378.7	316.7	269.6	238.4
45°	827.0	791.7	715.7	624.3	541.5	469.6	397.2	324.8	261.0	219.9	202.7
47.5°	850.5	794.9	703.0	604.4	516.2	435.7	348.3	265.1	210.8	192.3	191.8
50°	888.5	809.3	700.3	589.9	491.3	393.1	290.9	212.2	185.9	185.0	190.0
52.5°	948.7	836.5	707.1	580.0	461.4	337.9	230.3	183.2	178.2	183.2	189.6
55°	1081.2	884.9	716.1	562.3	413.0	267.8	189.6	173.7	176.0	181.9	187.7
57.5°	1322.4	985.3	725.6	522.5	334.8	205.8	170.6	170.1	174.2	179.1	184.6
60°	1475.3	1109.3	748.7	463.7	252.9	170.1	163.3	167.8	172.8	176.4	181.0
62.5°	1480.2	1141.8	760.9	400.8	188.2	155.6	157.0	165.6	171.5	172.8	175.1
65°	1384.8	1080.3	705.7	326.2	156.1	147.5	152.5	160.1	166.0	166.9	168.7
67.5°	1209.7	952.7	598.1	246.1	142.1	141.1	146.6	152.5	156.5	160.1	162.9
70°	911.1	786.3	480.9	190.9	133.5	132.6	138.0	143.0	146.6	151.1	155.6
72.5°	461.9	544.2	364.6	156.1	121.7	122.6	128.5	133.0	135.7	139.8	144.3
75°	157.4	237.5	230.7	126.2	108.6	112.2	114.9	119.9	124.0	126.7	128.9
77.5°	98.6	103.1	119.0	101.8	95.9	96.8	101.3	105.9	110.4	112.2	113.1
80°	82.3	82.8	83.2	81.4	81.9	84.6	87.3	92.3	96.8	97.7	98.2
82.5°	65.1	69.7	69.2	68.8	71.0	73.7	75.6	77.4	79.2	80.1	81.4
85°	57.5	56.5	57.0	58.4	56.5	54.7	54.3	54.3	57.0	60.2	61.5
87.5°	52.5	44.8	33.5	31.7	31.7	30.8	29.0	29.0	31.7	34.4	35.7
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):

	160°	165°	170°	175°	180°
0°	1348.1	1348.1	1348.1	1348.1	1348.1
2.5°	1340.0	1340.4	1340.0	1340.0	1342.3
5°	1330.0	1331.9	1330.9	1332.3	1333.7
7.5°	1309.7	1314.2	1315.1	1318.7	1317.4
10°	1280.3	1283.4	1288.0	1291.6	1290.2
12.5°	1233.7	1241.4	1248.2	1252.2	1251.3
15°	1174.4	1185.3	1194.3	1197.5	1193.9
17.5°	1111.1	1117.9	1128.7	1131.0	1134.6
20°	1031.0	1030.6	1040.1	1040.1	1038.2
22.5°	926.5	933.3	933.3	927.0	923.8
25°	819.7	822.0	815.2	816.6	808.0
27.5°	712.5	706.6	701.2	703.5	697.1
30°	610.3	597.6	592.2	593.1	586.3
32.5°	512.1	497.2	491.8	484.5	478.6
35°	423.0	399.5	385.4	381.8	385.9
37.5°	335.7	318.9	302.2	290.0	291.3
40°	265.6	248.4	237.5	232.5	231.6
42.5°	219.4	209.5	207.2	207.6	207.6
45°	199.1	199.5	201.3	203.1	203.6
47.5°	195.0	197.7	200.9	203.1	203.6
50°	194.5	197.2	199.5	202.2	203.1
52.5°	194.1	195.9	197.2	198.6	200.0
55°	192.3	193.2	192.7	193.6	195.0
57.5°	187.7	188.2	187.3	187.7	190.5
60°	183.7	184.1	182.3	184.6	185.0
62.5°	178.7	178.2	177.3	178.7	178.7
65°	171.5	168.7	169.6	171.0	171.5
67.5°	162.9	160.1	160.1	161.1	162.4
70°	152.0	150.6	150.6	152.5	154.3
72.5°	139.8	140.7	143.4	146.1	148.8
75°	129.8	132.1	134.8	141.6	145.7
77.5°	117.2	117.6	119.9	126.7	133.9
80°	99.5	99.1	99.5	100.4	101.8
82.5°	78.7	77.8	75.1	76.0	74.2
85°	57.9	56.5	53.4	51.1	50.7
87.5°	33.5	33.5	32.1	30.3	28.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)