

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: P146601

Luminaire Tested: **LDRL-T3-E03-E-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146601
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-E03-E-7050
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 3
Light Source: (63) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9191.3 lumens
Efficiency: N/A
Efficacy: 122.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

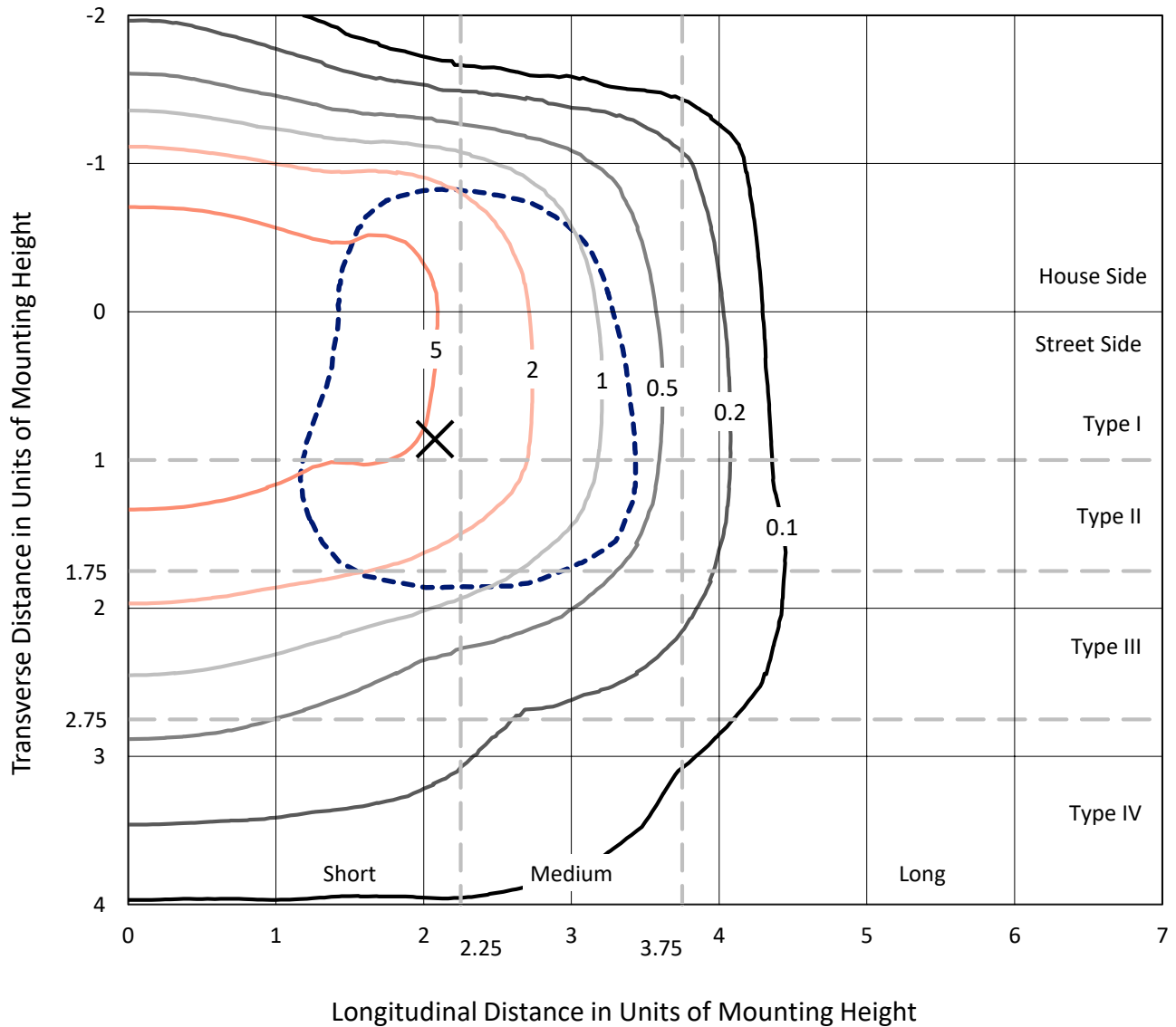
Input Watts (W): 75.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

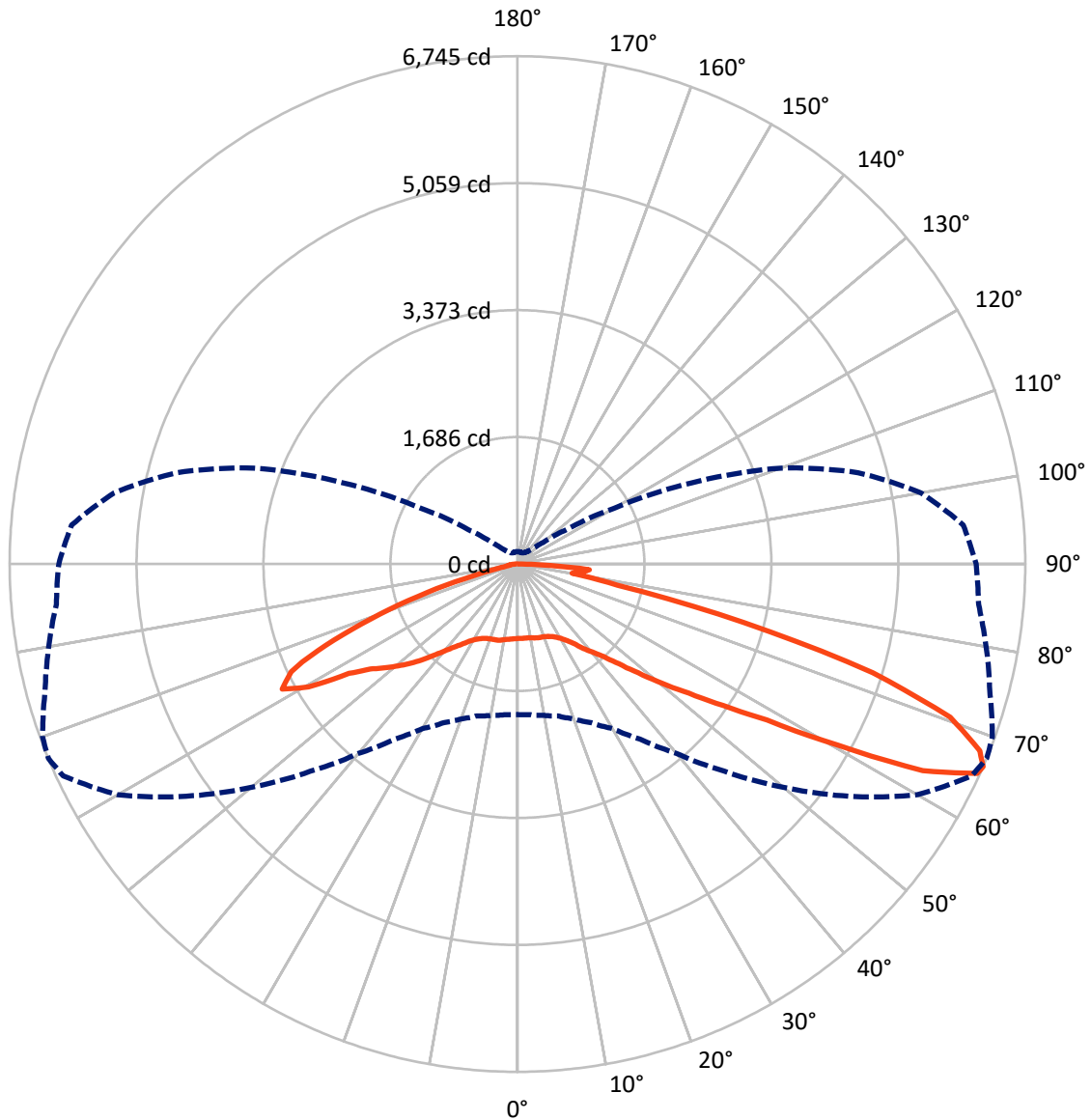
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.9 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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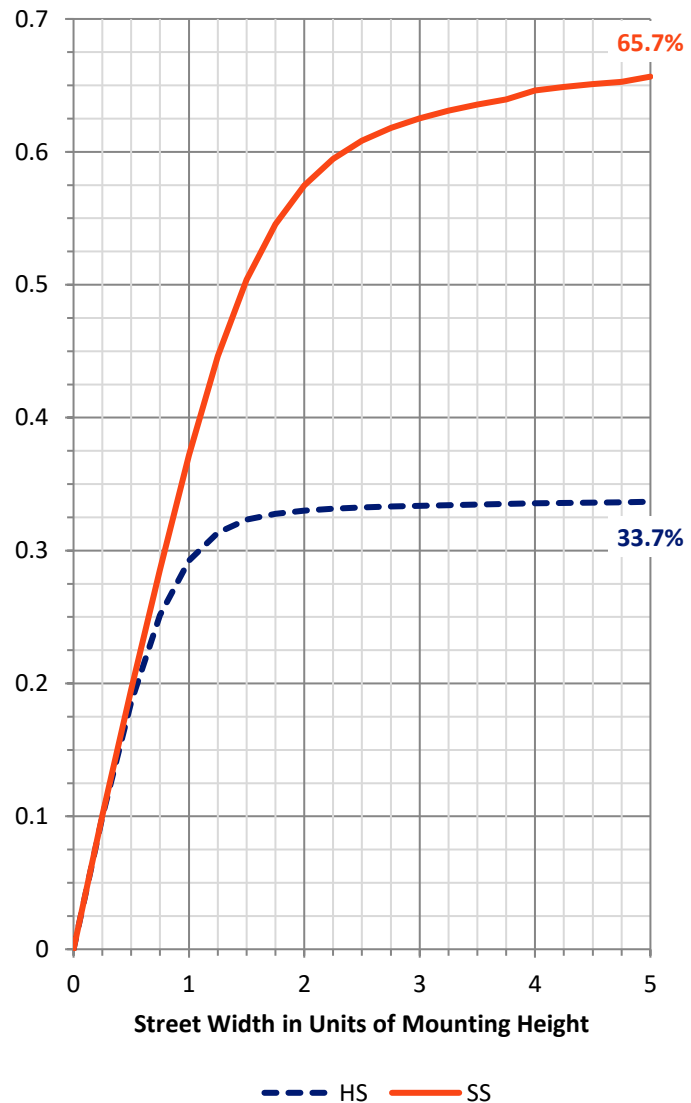
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3122.6	0.0	3122.6
	% Fixture	34.0	0.0	34.0
Street Side	Lumens	6068.7	0.0	6068.7
	% Fixture	66.0	0.0	66.0
Total	Lumens	9191.3	0.0	9191.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.0	1.0
10°-20°	281.6	3.1
20°-30°	484.1	5.3
30°-40°	778.7	8.5
40°-50°	1283.4	14.0
50°-60°	2011.8	21.9
60°-70°	2784.1	30.3
70°-80°	1260.0	13.7
80°-90°	212.6	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°	9191.3	100.0
0°-180°	9191.3	100.0



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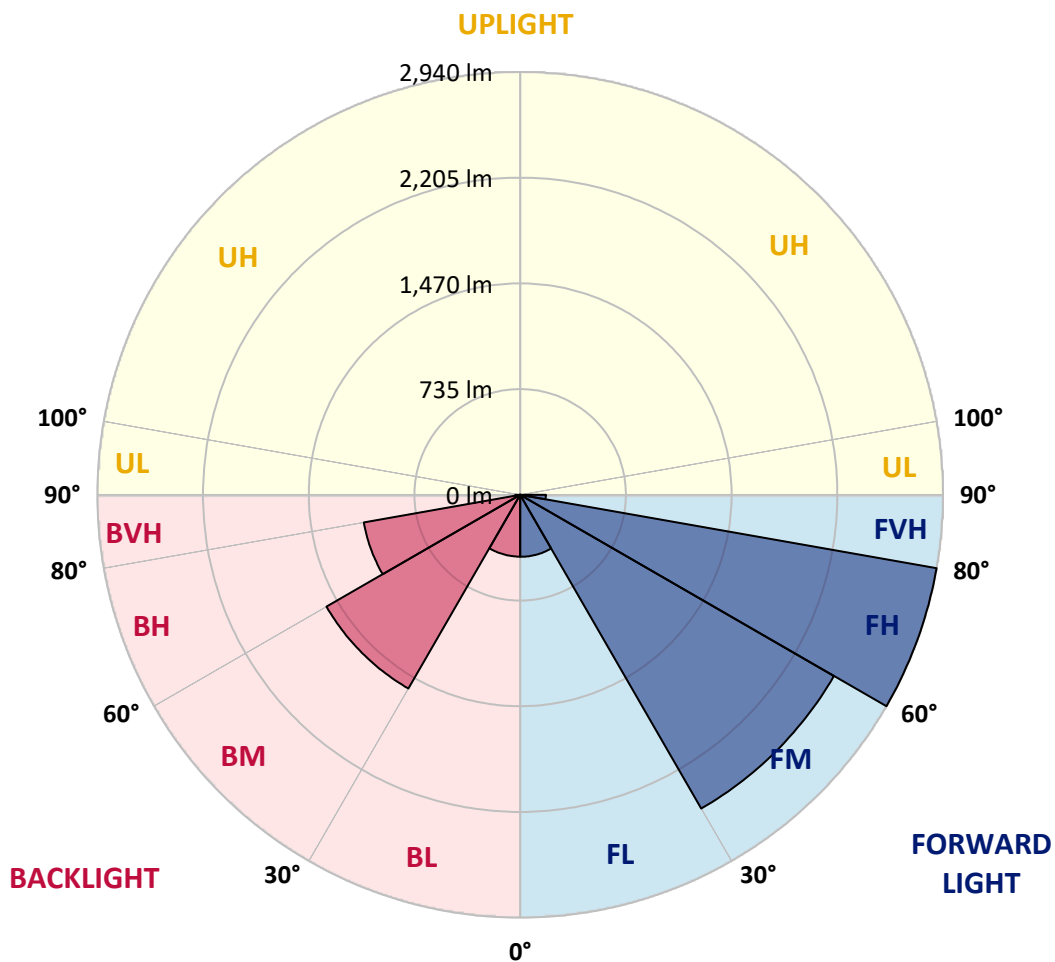
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	431.1	4.7			
FM	(30°-60°)	2518.8	27.4			
FH	(60°-80°)	2940.2	32.0			G2/5000
FVH	(80°-90°)	178.6	1.9			G2/225
BL	(0°-30°)	429.7	4.7	B1/500		
BM	(30°-60°)	1555.1	16.9	B2/2500		
BH	(60°-80°)	1103.9	12.0	B3/2500		G3/2500
BVH	(80°-90°)	33.9	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°	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4
2.5°	988.1	987.5	986.9	986.9	986.3	986.9	987.5	988.1	987.5	988.1	987.5
5°	986.3	986.3	985.7	985.7	985.7	985.7	986.3	986.9	986.3	987.5	986.3
7.5°	978.3	982.0	980.8	982.0	983.2	984.4	985.1	986.3	988.1	989.4	988.1
10°	967.8	969.7	970.3	971.5	974.0	977.1	979.5	982.6	986.9	988.1	989.4
12.5°	948.7	951.2	953.0	955.5	959.2	964.1	968.4	973.4	980.8	985.7	990.0
15°	934.6	937.7	938.3	941.3	945.0	950.6	956.1	963.5	973.4	982.0	990.6
17.5°	943.8	945.0	943.8	943.8	945.0	947.5	951.8	958.0	968.4	978.9	989.4
20°	971.5	971.5	970.3	969.7	968.4	966.0	965.4	964.7	971.5	979.5	988.8
22.5°	998.0	998.0	997.4	999.8	999.2	999.2	997.4	994.3	991.2	990.0	996.1
25°	1014.6	1017.1	1018.3	1022.0	1024.5	1028.2	1029.4	1028.8	1024.5	1017.1	1015.2
27.5°	1041.7	1043.5	1044.8	1049.1	1054.0	1058.3	1062.6	1068.2	1068.2	1061.4	1052.2
30°	1094.0	1091.6	1092.8	1094.0	1098.3	1104.5	1110.0	1117.4	1121.1	1118.7	1106.3
32.5°	1142.7	1145.1	1146.4	1150.1	1154.4	1163.6	1170.4	1179.0	1187.0	1188.2	1182.1
35°	1214.1	1212.9	1211.0	1223.9	1228.9	1239.3	1247.3	1259.6	1265.8	1271.3	1267.7
37.5°	1326.8	1323.1	1320.6	1324.3	1331.1	1337.8	1349.5	1358.8	1369.2	1382.2	1377.9
40°	1486.2	1493.6	1483.1	1488.1	1493.6	1478.2	1488.7	1497.3	1515.1	1515.8	1515.1
42.5°	1693.7	1699.2	1696.8	1699.8	1690.0	1685.1	1680.8	1685.1	1707.2	1704.2	1689.4
45°	1901.2	1909.2	1907.3	1908.6	1927.6	1919.6	1926.4	1927.6	1950.4	1944.3	1933.2
47.5°	2078.5	2092.0	2095.1	2106.2	2132.0	2153.0	2181.9	2203.5	2214.5	2221.9	2230.5
50°	2218.9	2228.7	2245.9	2273.6	2311.2	2347.5	2412.8	2455.3	2494.1	2521.1	2548.8
52.5°	2311.8	2322.9	2349.4	2391.2	2445.4	2511.9	2588.2	2676.9	2758.8	2806.8	2848.1
55°	2350.0	2361.1	2393.7	2448.5	2520.5	2605.5	2715.1	2840.1	2949.0	3059.2	3122.6
57.5°	2327.8	2340.1	2377.7	2439.3	2526.1	2637.5	2773.6	2926.9	3086.3	3253.2	3380.6
60°	2262.6	2273.6	2316.1	2380.2	2479.3	2604.9	2768.0	2960.1	3184.2	3431.7	3673.7
62.5°	2172.7	2189.3	2226.9	2292.1	2390.6	2527.9	2713.8	2963.8	3285.2	3684.1	4155.1
65°	2058.2	2070.5	2103.7	2155.4	2263.8	2407.2	2603.6	2909.6	3329.5	3895.3	4567.6
66°	1999.1	2010.8	2041.5	2090.2	2189.3	2327.2	2523.6	2837.0	3280.3	3894.1	4611.3
67.5°	1895.0	1900.6	1922.7	1970.7	2035.4	2159.1	2341.4	2635.0	3071.5	3729.7	4489.4
70°	1589.6	1597.6	1619.2	1643.8	1667.8	1712.2	1839.6	2033.5	2382.6	3013.7	3738.3
72.5°	1099.6	1111.9	1135.3	1180.8	1218.4	1274.4	1324.3	1388.9	1504.7	1943.0	2674.4
75°	794.8	799.1	833.6	913.6	989.4	1101.4	1200.5	1231.9	1192.5	1185.8	1571.2
77.5°	474.1	480.2	530.1	610.7	689.5	841.6	1044.8	1201.8	1288.6	1257.8	1189.5
80°	199.5	208.1	237.6	258.6	323.8	451.3	652.0	898.3	1127.3	1268.3	1236.3
82.5°	64.0	74.5	88.0	106.5	125.6	168.1	260.4	389.7	615.7	918.0	1128.5
85°	23.4	24.0	33.2	46.2	51.1	59.1	75.7	117.0	208.1	344.2	640.3
87.5°	9.2	11.1	12.9	17.9	18.5	19.1	21.5	27.7	27.1	23.4	121.3
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):

	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4
2.5°	988.1	989.4	988.8	989.4	989.4	988.1	988.1	990.6	988.8	990.0	990.0
5°	987.5	988.8	988.1	989.4	989.4	988.8	988.8	992.4	991.8	993.7	994.9
7.5°	990.0	990.6	990.0	990.0	991.8	991.2	991.8	993.1	996.1	999.2	1001.7
10°	993.1	994.3	996.1	996.8	999.2	998.6	1000.5	1002.3	1005.4	1008.5	1011.5
12.5°	997.4	1001.1	1006.6	1007.8	1010.3	1012.2	1015.2	1017.1	1019.5	1024.5	1028.2
15°	1001.1	1007.8	1014.6	1017.1	1019.5	1022.0	1025.1	1026.9	1031.2	1035.5	1039.9
17.5°	1002.3	1010.3	1018.9	1022.0	1024.5	1028.8	1032.5	1036.2	1041.1	1046.6	1051.6
20°	1002.9	1014.0	1025.1	1028.8	1034.3	1040.5	1046.6	1049.7	1056.5	1063.3	1067.6
22.5°	1008.5	1022.0	1037.4	1044.2	1049.7	1060.8	1068.8	1073.7	1081.7	1087.3	1089.1
25°	1023.8	1038.0	1056.5	1066.9	1076.2	1092.2	1102.0	1111.3	1115.6	1123.0	1121.1
27.5°	1051.6	1062.6	1086.6	1100.8	1112.5	1133.4	1152.5	1161.1	1167.9	1171.6	1167.3
30°	1099.0	1103.3	1129.7	1147.0	1166.7	1199.3	1220.2	1231.3	1239.9	1240.6	1229.5
32.5°	1169.8	1163.0	1186.4	1211.0	1236.9	1276.3	1304.6	1316.3	1323.1	1323.7	1299.0
35°	1265.8	1254.1	1273.8	1297.8	1329.8	1381.5	1417.3	1430.8	1441.3	1436.3	1400.0
37.5°	1387.1	1386.5	1395.7	1426.5	1462.8	1529.3	1566.9	1574.3	1573.6	1558.9	1504.1
40°	1521.9	1510.8	1512.1	1534.2	1576.1	1663.5	1715.9	1728.2	1723.9	1702.3	1630.9
42.5°	1691.8	1686.9	1670.3	1682.0	1720.8	1827.3	1890.7	1903.0	1906.7	1871.0	1786.7
45°	1930.1	1925.8	1888.9	1891.3	1919.6	2031.7	2097.6	2117.9	2118.5	2084.6	1975.0
47.5°	2218.9	2215.2	2172.1	2159.7	2173.9	2273.6	2355.5	2359.8	2361.1	2314.3	2200.4
50°	2546.4	2535.9	2503.3	2490.4	2473.7	2583.9	2649.8	2649.2	2642.4	2590.7	2462.7
52.5°	2862.8	2886.2	2873.9	2848.7	2849.3	2928.7	2990.9	2956.4	2960.7	2911.5	2764.3
55°	3200.8	3260.6	3305.5	3314.7	3310.4	3351.1	3385.5	3324.0	3301.2	3293.2	3136.8
57.5°	3559.8	3712.4	3851.0	3908.8	3886.7	3961.2	3992.0	3927.9	3929.2	3992.0	3857.1
60°	4039.4	4424.8	4773.9	4882.2	4932.7	5055.8	5001.0	4997.3	5094.0	5175.3	4925.3
62.5°	4767.1	5405.5	5962.7	6043.4	6084.0	6111.7	6087.1	6020.0	6119.7	6129.5	5744.1
65°	5318.7	6068.0	6606.7	6707.7	6700.3	6559.3	6422.6	6288.4	6287.2	6188.6	5692.4
66°	5378.4	6130.8	6655.9	6745.2	6712.6	6495.2	6321.6	6147.4	6091.4	5943.6	5440.0
67.5°	5247.9	6021.2	6542.7	6622.7	6553.1	6222.5	5986.1	5750.3	5665.9	5460.3	4946.9
70°	4486.3	5283.0	5980.6	6096.3	6013.8	5574.8	5224.5	4965.3	4735.7	4533.1	4109.6
72.5°	3478.5	4074.5	4812.6	4933.3	4940.1	4596.5	4201.9	3953.2	3686.0	3482.8	3165.1
75°	2281.6	2732.3	3138.0	3097.4	3109.1	2838.8	2603.6	2396.8	2154.8	1994.7	1843.3
77.5°	1333.5	1494.8	1457.9	1356.9	1272.0	999.8	715.4	491.3	428.5	447.0	504.2
80°	1159.3	1068.8	836.7	735.7	669.2	454.4	244.4	172.4	151.5	153.3	162.5
82.5°	1247.9	1294.7	1062.6	874.9	762.8	535.0	287.5	143.4	103.4	120.7	133.0
85°	968.4	1232.6	1136.5	960.4	807.8	568.9	293.7	91.1	61.6	82.5	104.0
87.5°	275.8	436.5	349.1	308.4	248.7	169.9	70.2	36.3	33.2	43.1	59.7
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°	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4	989.4
2.5°	990.6	990.6	992.4	993.1	993.7	993.7	994.9	994.9	995.5	998.0	997.4
5°	996.8	998.6	1001.1	1002.3	1004.1	1004.8	1006.6	1006.6	1008.5	1010.3	1009.7
7.5°	1004.1	1006.0	1007.8	1009.7	1011.5	1014.0	1013.4	1012.8	1012.2	1010.9	1009.7
10°	1014.6	1016.5	1018.3	1017.7	1016.5	1015.2	1010.3	1004.8	1002.3	997.4	993.7
12.5°	1031.9	1033.7	1031.9	1026.9	1020.2	1012.2	1001.7	992.4	986.9	979.5	975.2
15°	1044.8	1046.6	1042.9	1034.3	1023.2	1012.8	998.6	986.9	977.1	969.1	962.9
17.5°	1054.6	1053.4	1045.4	1035.5	1023.8	1015.2	1002.3	989.4	977.7	966.6	958.0
20°	1068.8	1062.0	1050.3	1038.0	1026.3	1018.9	1008.5	996.8	984.4	968.4	957.4
22.5°	1087.3	1074.9	1059.6	1047.2	1036.2	1028.8	1018.3	1007.2	995.5	977.1	961.7
25°	1113.7	1094.0	1076.2	1063.3	1053.4	1046.0	1033.1	1021.4	1008.5	990.0	970.3
27.5°	1150.7	1122.4	1103.9	1091.0	1081.1	1072.5	1055.9	1041.7	1025.1	1006.6	983.2
30°	1198.7	1164.2	1143.9	1132.8	1122.4	1110.0	1092.2	1071.3	1049.7	1025.1	999.8
32.5°	1258.4	1219.6	1200.5	1189.5	1175.9	1159.3	1135.9	1108.2	1076.2	1043.5	1012.2
35°	1343.4	1299.0	1278.1	1259.0	1239.3	1214.7	1179.6	1139.6	1097.1	1054.6	1015.8
37.5°	1427.7	1386.5	1360.6	1340.9	1310.1	1270.1	1221.5	1166.1	1109.4	1055.2	1008.5
40°	1547.2	1499.1	1469.0	1433.9	1384.0	1321.8	1251.0	1176.5	1106.3	1041.1	985.7
42.5°	1693.7	1638.9	1594.0	1530.5	1453.0	1363.1	1265.2	1170.4	1084.8	1009.7	948.7
45°	1879.0	1807.6	1732.5	1632.7	1513.9	1388.3	1264.6	1148.8	1047.9	962.9	902.6
47.5°	2095.1	1994.7	1868.5	1716.5	1553.9	1394.5	1244.9	1110.0	992.4	898.9	829.3
50°	2317.4	2172.1	1992.9	1781.1	1574.3	1379.1	1201.2	1046.6	919.8	813.3	738.2
52.5°	2591.3	2366.0	2105.6	1824.8	1565.6	1333.5	1128.5	957.4	821.9	717.9	631.7
55°	2917.6	2588.9	2212.7	1848.8	1527.5	1251.6	1018.3	840.4	698.2	603.4	525.8
57.5°	3457.6	2937.9	2395.5	1884.5	1452.3	1129.7	884.1	700.0	566.4	485.8	423.6
60°	4388.4	3654.0	2782.2	1972.6	1348.3	956.1	713.6	548.6	438.4	373.7	330.0
62.5°	5038.0	4088.0	2990.3	1942.4	1171.6	753.0	527.6	392.2	319.5	277.0	247.5
65°	4911.8	3916.8	2739.7	1650.0	918.0	532.5	350.9	265.4	224.1	197.6	182.9
66°	4685.2	3727.8	2548.8	1481.3	796.1	443.9	289.4	219.8	192.7	173.6	163.8
67.5°	4272.1	3336.3	2205.9	1188.8	596.0	327.5	219.8	171.2	156.4	146.5	139.8
70°	3537.0	2638.1	1518.8	702.5	315.2	183.5	139.8	126.2	119.4	115.1	114.5
72.5°	2712.0	1892.5	878.6	339.8	168.7	121.9	107.1	102.2	99.7	98.5	98.5
75°	1675.2	1067.6	392.8	170.5	116.4	99.7	93.0	90.5	89.9	89.9	89.9
77.5°	589.2	371.9	176.1	125.0	102.2	89.9	84.3	83.1	84.3	84.3	84.3
80°	162.5	143.4	127.4	110.8	92.3	83.1	78.2	77.6	80.0	80.7	78.2
82.5°	126.8	119.4	109.0	99.1	84.3	75.7	73.3	74.5	75.7	73.9	70.2
85°	108.4	103.4	76.3	76.3	68.3	65.9	65.3	66.5	65.9	61.0	56.0
87.5°	61.6	54.2	41.2	44.9	48.0	49.3	41.2	44.3	43.7	38.8	36.3
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):

	160°	165°	170°	175°	180°
0°	989.4	989.4	989.4	989.4	989.4
2.5°	998.6	998.6	999.8	999.8	999.2
5°	1010.9	1010.9	1012.8	1011.5	1012.2
7.5°	1008.5	1006.0	1006.0	1004.8	1004.1
10°	991.2	986.9	984.4	985.7	983.8
12.5°	971.5	967.8	965.4	964.7	964.1
15°	959.2	954.9	953.0	951.8	951.8
17.5°	952.4	947.5	945.0	943.2	942.6
20°	949.4	943.2	939.5	937.7	936.4
22.5°	950.6	943.2	938.3	935.8	934.6
25°	955.5	946.3	940.1	937.0	935.2
27.5°	964.1	951.8	945.0	940.7	938.3
30°	974.6	957.4	947.5	941.3	938.9
32.5°	981.4	958.0	945.7	936.4	934.0
35°	980.1	951.2	935.2	923.5	921.6
37.5°	967.8	933.3	913.6	898.3	896.4
40°	941.3	906.3	883.5	868.1	864.4
42.5°	904.4	868.1	843.5	829.3	824.4
45°	850.2	805.9	783.1	771.4	764.7
47.5°	773.9	732.0	706.8	696.9	688.3
50°	687.1	640.9	622.4	611.4	601.5
52.5°	584.9	545.5	531.3	520.9	512.8
55°	485.8	458.1	441.4	430.3	431.0
57.5°	390.3	373.7	364.5	352.8	354.0
60°	307.2	293.1	293.1	285.7	283.2
62.5°	234.6	229.0	227.2	224.7	220.4
65°	177.9	177.9	178.5	178.5	176.1
66°	160.1	161.9	164.4	164.4	161.3
67.5°	138.5	141.0	143.4	144.7	144.7
70°	114.5	117.6	118.8	120.1	119.4
72.5°	100.4	102.8	102.8	103.4	102.2
75°	91.1	92.3	93.0	91.7	91.1
77.5°	84.3	85.0	84.3	83.7	83.1
80°	76.3	75.7	73.9	71.4	70.8
82.5°	65.9	63.4	62.2	58.5	57.9
85°	52.9	49.9	47.4	42.5	40.0
87.5°	35.1	33.9	32.0	23.4	19.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)