

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: P145428

Luminaire Tested: **LDRL-SL4-E02-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145428
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-E02-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (42) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4864.8 lumens
Efficiency: N/A
Efficacy: 93.4 lumens/watt
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

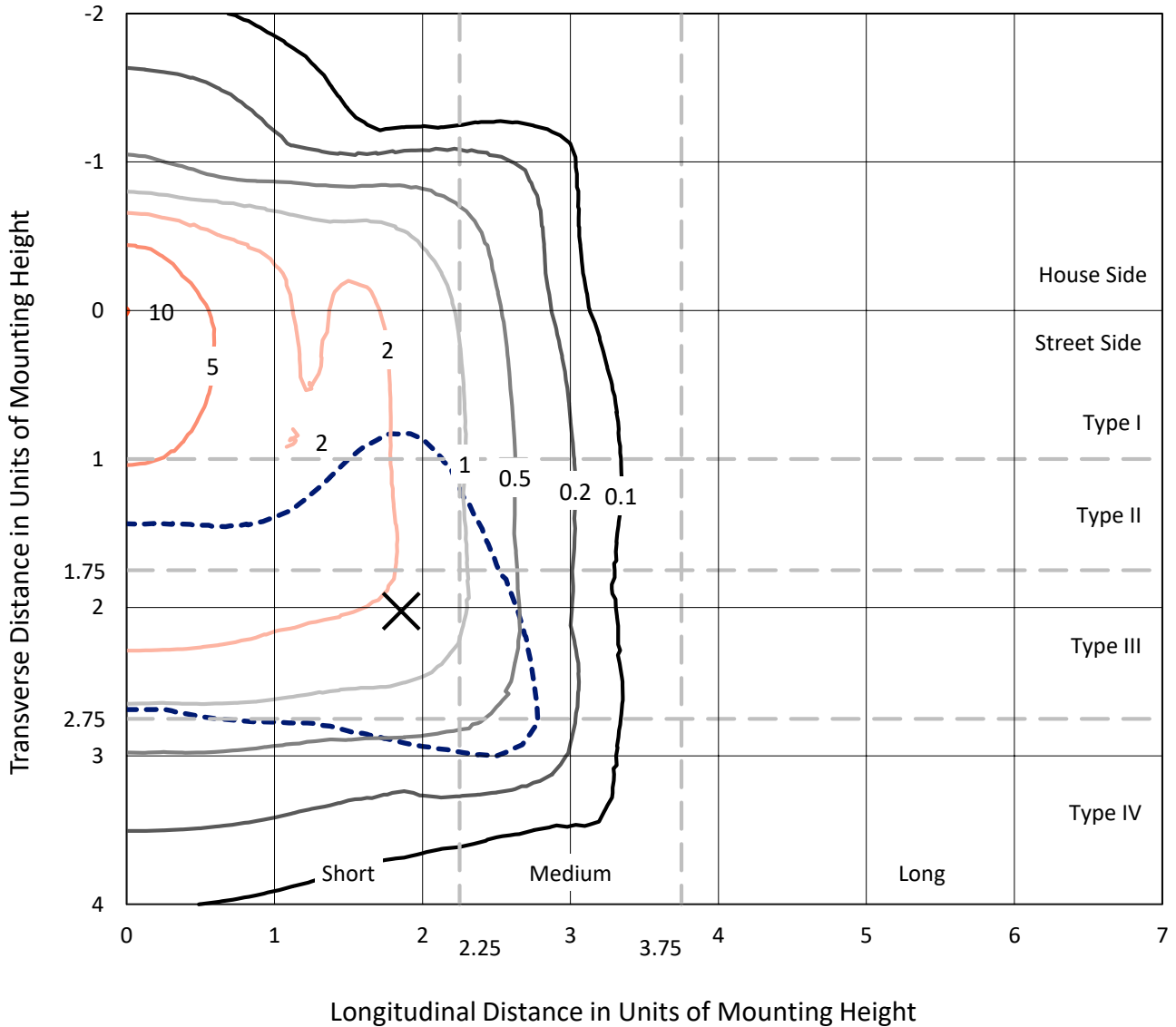
Input Watts (W): 52.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

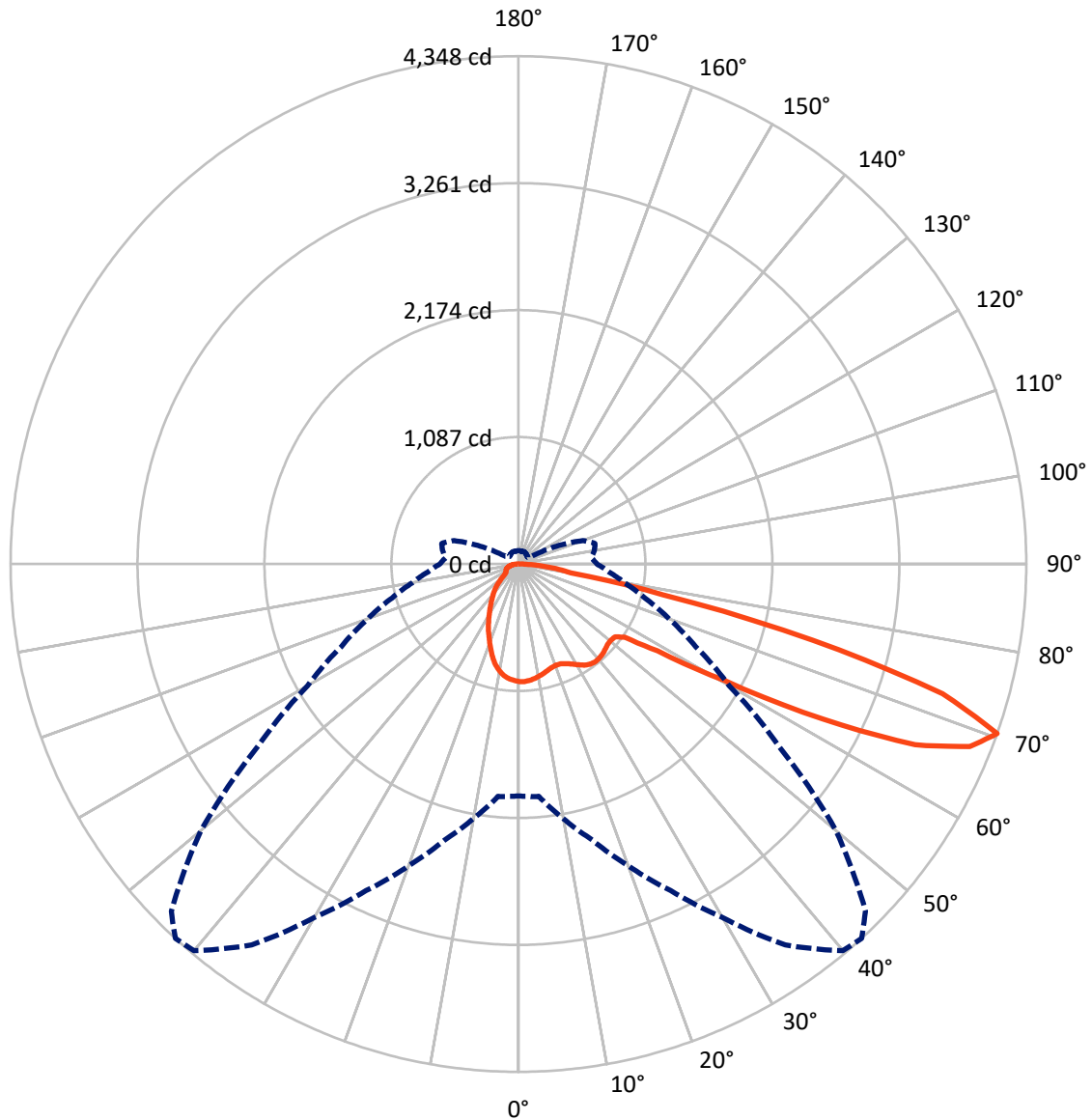
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.1 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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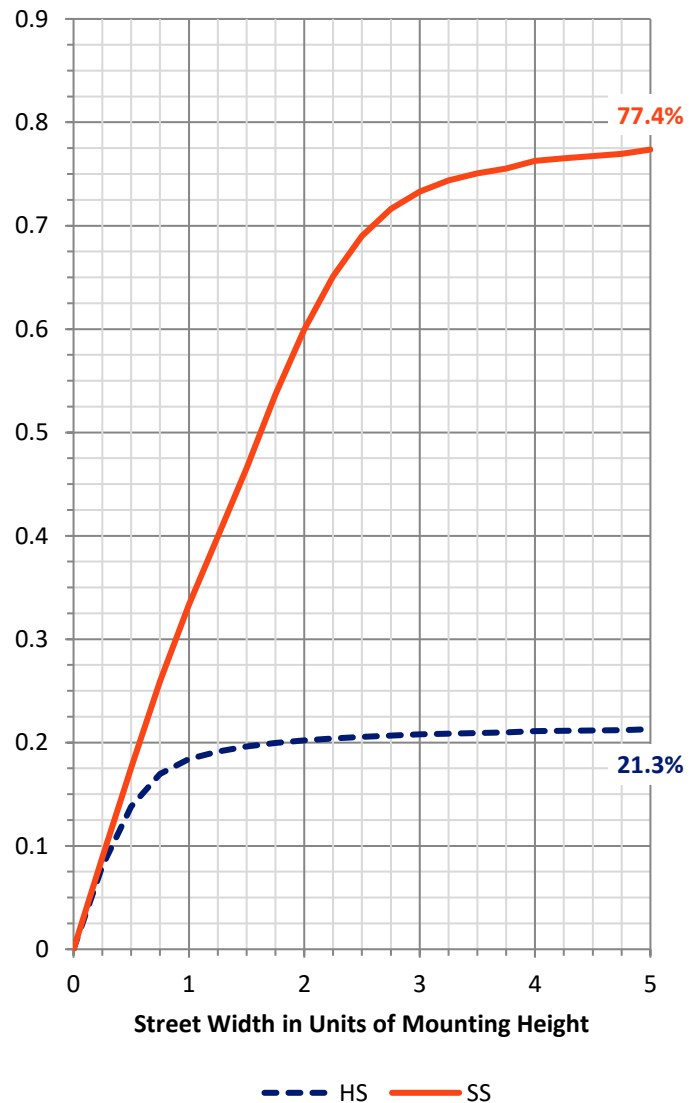
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1050.9	0.0	1050.9
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	3813.9	0.0	3813.9
	% Fixture	78.4	0.0	78.4
Total	Lumens	4864.8	0.0	4864.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.6	1.9
10°-20°	252.2	5.2
20°-30°	367.8	7.6
30°-40°	469.1	9.6
40°-50°	547.5	11.3
50°-60°	837.4	17.2
60°-70°	1517.9	31.2
70°-80°	674.9	13.9
80°-90°	104.4	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°	4864.8	100.0
0°-180°	4864.8	100.0



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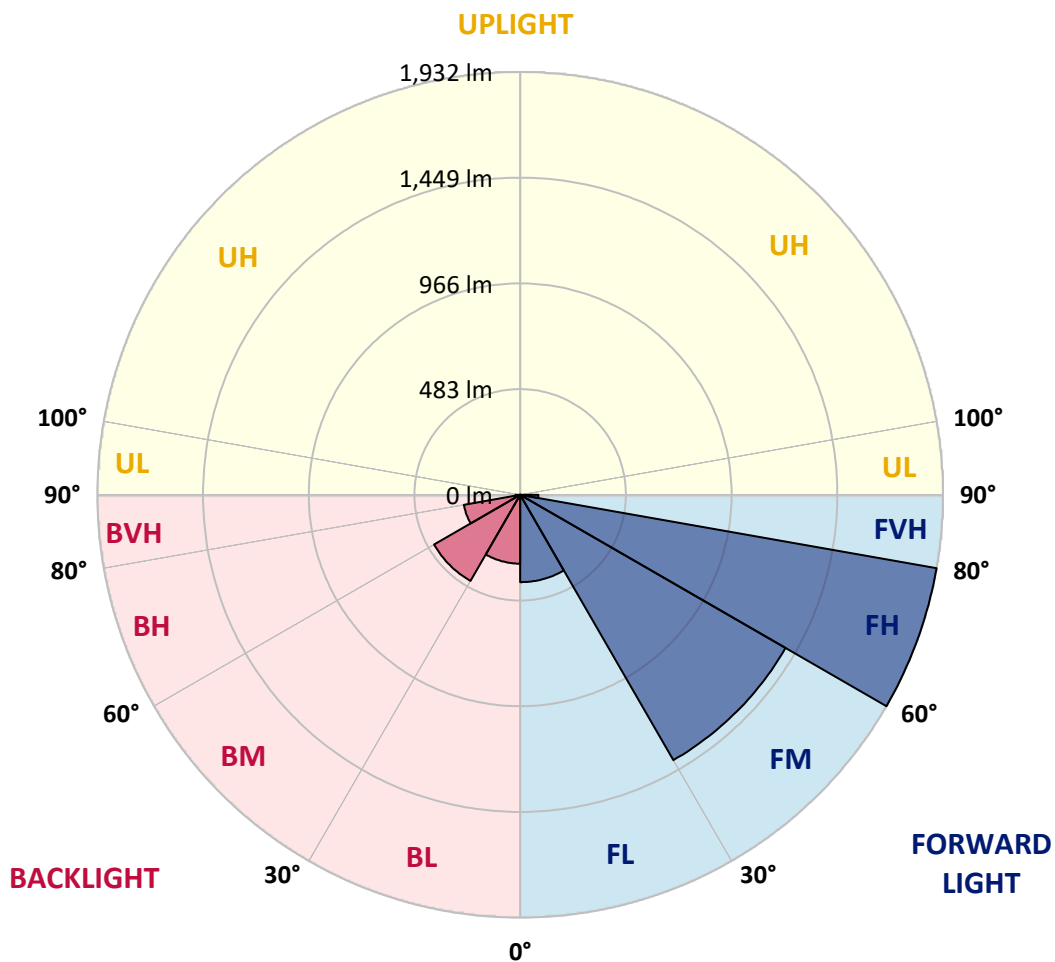
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	399.0	8.2			
FM	(30°-60°)	1399.7	28.8			
FH	(60°-80°)	1931.7	39.7			G2/5000
FVH	(80°-90°)	83.4	1.7			G1/100
BL	(0°-30°)	314.5	6.5	B1/500		
BM	(30°-60°)	454.3	9.3	B1/1000		
BH	(60°-80°)	261.1	5.4	B1/500		G1/500
BVH	(80°-90°)	21.0	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°	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0
2.5°	1010.8	1009.8	1010.4	1011.1	1011.1	1011.4	1008.4	1008.7	1007.4	1007.7	1008.1
5°	1007.0	1006.0	1006.7	1006.7	1006.7	1006.4	1002.3	1002.0	1000.3	1000.3	999.6
7.5°	1000.0	996.2	998.3	998.6	997.9	996.2	993.9	991.5	990.5	990.5	988.1
10°	989.2	985.1	986.1	986.8	986.5	983.1	982.1	979.7	977.0	976.0	973.3
12.5°	975.3	972.6	974.0	973.6	973.6	970.6	968.9	965.5	962.1	960.5	957.1
15°	966.5	963.2	964.5	964.5	963.2	960.1	957.8	951.7	945.9	943.9	939.5
17.5°	971.9	968.6	969.9	968.9	966.5	960.1	954.0	944.3	935.1	929.7	924.0
20°	993.5	990.2	991.2	990.5	987.1	976.7	965.5	948.6	931.8	923.7	914.9
22.5°	1028.0	1025.3	1027.0	1026.0	1020.6	1007.0	990.5	966.2	940.9	928.7	916.2
25°	1079.0	1078.3	1081.0	1077.9	1070.2	1049.9	1026.0	993.2	960.1	944.9	927.4
27.5°	1140.4	1134.7	1138.7	1136.0	1130.6	1105.0	1072.5	1031.0	988.8	968.9	948.0
30°	1195.8	1190.7	1198.1	1196.8	1188.7	1162.3	1121.5	1072.9	1025.3	1000.0	976.0
32.5°	1259.9	1253.5	1259.2	1259.2	1247.1	1211.6	1165.0	1109.3	1059.4	1032.4	1003.7
35°	1327.1	1320.3	1325.7	1324.1	1302.4	1255.5	1197.1	1136.7	1081.7	1054.0	1024.6
37.5°	1389.5	1388.5	1389.9	1378.7	1348.7	1288.6	1218.7	1151.2	1092.8	1063.8	1033.0
40°	1452.0	1449.6	1443.9	1424.3	1380.4	1308.2	1229.9	1156.3	1093.5	1063.1	1032.0
42.5°	1491.2	1486.8	1477.0	1450.3	1395.3	1312.9	1226.5	1148.5	1085.4	1054.3	1023.9
45°	1504.7	1500.3	1488.5	1458.4	1395.6	1305.5	1213.3	1133.0	1070.2	1041.8	1011.1
47.5°	1493.5	1490.8	1480.0	1450.0	1384.8	1291.6	1196.8	1117.4	1055.7	1028.0	999.3
50°	1474.6	1472.9	1463.5	1435.8	1374.7	1283.2	1189.0	1110.0	1051.6	1026.0	998.9
52.5°	1521.9	1516.8	1499.9	1467.2	1396.0	1298.4	1201.2	1121.2	1061.1	1035.1	1007.4
55°	2102.9	2065.4	1981.7	1824.7	1604.9	1434.4	1291.0	1194.4	1129.6	1104.3	1077.9
57.5°	2765.6	2726.4	2691.7	2571.8	2310.8	1988.8	1699.1	1529.6	1413.5	1402.4	1391.9
60°	3020.8	3033.3	3030.3	2985.7	2852.0	2699.1	2456.7	2256.5	2034.7	2025.6	2038.7
62.5°	3196.7	3207.2	3208.5	3195.0	3151.5	3100.5	3049.8	2985.7	2943.5	2925.3	2807.5
65°	3269.3	3284.5	3317.9	3342.9	3350.0	3367.5	3413.4	3588.0	3733.5	3732.5	3594.4
67.5°	2992.1	3010.3	3136.9	3261.2	3365.5	3486.4	3672.4	3956.3	4175.4	4168.6	4055.5
70°	1985.7	1997.2	2212.3	2446.2	2749.7	3085.3	3491.8	3981.3	4320.9	4347.6	4201.7
72.5°	1218.0	1244.4	1314.6	1409.5	1571.5	1882.4	2486.7	3323.3	3821.6	3796.6	3680.5
75°	822.4	823.7	821.7	831.8	841.0	903.7	1147.2	1827.4	2588.7	2602.2	2552.2
77.5°	562.1	569.5	573.6	570.9	580.0	577.3	591.5	626.2	992.2	1266.3	1163.7
80°	491.2	494.2	498.6	492.2	475.3	465.9	479.0	466.6	439.6	454.1	434.8
82.5°	310.9	320.0	321.1	343.3	376.4	377.8	394.7	382.2	347.7	325.1	297.4
85°	223.5	226.9	232.9	234.3	222.8	213.0	219.1	208.6	188.0	175.9	155.6
87.5°	130.3	133.7	139.8	136.1	124.6	110.4	99.6	85.7	67.9	63.5	56.0
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0
2.5°	1008.4	1006.7	1005.4	1004.7	1006.0	1004.7	1003.3	1002.7	1001.3	1001.6	1000.0
5°	998.9	996.6	994.6	992.9	994.2	991.9	989.8	988.5	986.8	986.5	984.8
7.5°	985.8	982.1	979.4	976.3	973.0	970.9	968.6	966.2	962.5	962.1	961.5
10°	968.6	965.5	960.1	955.4	950.7	945.6	940.5	936.8	932.4	930.8	928.4
12.5°	951.3	945.3	938.9	931.4	925.7	917.6	910.8	903.7	897.3	893.3	888.9
15°	931.1	924.7	915.6	908.5	900.4	891.3	882.5	872.0	861.5	855.1	849.1
17.5°	913.5	905.4	898.0	887.9	879.8	869.3	856.1	845.0	832.5	822.0	810.9
20°	900.0	890.9	882.1	873.0	863.2	851.4	836.9	821.0	805.2	790.3	773.8
22.5°	894.6	880.1	870.3	861.9	851.8	838.3	822.0	802.5	782.9	764.0	744.7
25°	899.4	877.8	862.6	853.1	844.0	830.1	811.9	789.6	766.7	742.7	719.8
27.5°	912.2	884.8	863.2	848.4	837.9	824.4	804.2	780.9	754.9	727.9	703.2
30°	930.8	896.7	869.6	848.4	832.9	817.3	795.4	769.0	741.7	713.3	685.7
32.5°	951.0	909.8	877.4	849.4	825.4	805.8	782.9	757.2	728.2	698.1	668.4
35°	966.2	919.3	880.8	845.7	815.0	790.3	765.7	740.7	712.3	681.9	652.2
37.5°	972.6	923.0	880.1	837.9	800.4	773.4	747.8	722.8	695.4	666.8	639.4
40°	973.0	923.0	876.1	827.4	785.2	755.9	728.9	705.6	679.9	655.3	631.0
42.5°	966.5	918.3	868.6	817.7	774.1	741.0	713.3	689.4	668.8	646.8	626.2
45°	955.1	908.8	861.9	812.3	770.1	737.3	707.6	685.0	666.4	646.8	628.9
47.5°	946.3	903.4	862.2	820.0	779.8	746.1	714.0	690.0	674.2	658.7	645.8
50°	948.0	905.4	866.3	826.1	786.6	752.5	721.4	700.9	691.4	686.3	683.3
52.5°	956.7	913.5	883.8	857.2	844.3	823.4	806.2	790.7	793.0	780.9	765.3
55°	1047.2	1032.7	1066.8	1091.4	1103.6	1124.9	1155.6	1126.2	1122.2	1084.7	973.3
57.5°	1406.1	1440.5	1492.9	1530.0	1533.7	1527.3	1502.0	1477.7	1438.2	1381.8	1225.8
60°	2008.0	1999.9	1951.3	1886.2	1835.5	1769.0	1702.2	1645.8	1582.3	1495.9	1329.8
62.5°	2641.0	2445.9	2272.7	2125.2	1999.9	1888.9	1787.9	1703.2	1616.1	1491.8	1314.9
65°	3152.1	2776.7	2471.5	2234.2	2047.9	1890.9	1760.6	1643.8	1527.3	1383.5	1212.0
67.5°	3517.4	2921.9	2461.4	2127.5	1866.2	1650.2	1460.4	1327.4	1207.9	1094.8	1017.5
70°	3546.4	2721.0	2082.3	1673.8	1372.3	1118.5	921.6	776.5	672.5	625.6	659.0
72.5°	3030.6	2013.1	1384.5	1024.6	813.3	632.0	508.1	406.1	322.4	281.2	287.0
75°	1784.9	966.5	623.5	464.5	379.5	303.2	262.3	221.5	195.5	156.6	125.2
77.5°	679.6	420.3	314.6	261.3	186.4	134.0	105.7	91.2	83.7	82.7	78.3
80°	391.6	308.2	215.7	141.1	103.3	87.4	74.9	64.1	59.8	58.7	60.4
82.5°	247.5	192.1	118.5	90.8	75.3	64.8	54.0	46.9	43.2	41.9	44.2
85°	127.9	96.2	72.2	62.1	57.7	52.7	43.2	36.1	35.8	37.5	43.2
87.5°	47.3	41.2	32.4	28.0	30.0	28.0	20.3	17.6	15.9	20.9	30.4
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°	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0	1006.0
2.5°	1000.0	999.3	999.6	998.9	998.9	1000.0	998.6	997.6	999.3	999.3	1000.3
5°	984.4	985.1	985.1	984.8	985.4	987.1	986.8	986.8	989.5	990.5	991.9
7.5°	959.8	960.8	961.1	962.1	962.5	964.9	966.5	968.6	972.6	973.6	976.7
10°	926.4	925.7	928.1	927.7	930.8	932.8	934.1	938.5	944.6	948.0	951.0
12.5°	886.9	886.9	888.2	888.6	891.3	894.0	895.6	901.0	906.1	910.5	917.2
15°	845.0	843.7	840.6	840.3	841.3	844.0	847.7	851.8	859.5	865.9	871.7
17.5°	801.1	797.1	793.4	788.6	788.3	787.9	790.0	793.0	805.2	811.6	819.7
20°	762.3	753.5	744.7	734.9	729.2	726.5	727.5	731.6	743.0	751.5	759.9
22.5°	727.5	714.4	700.5	685.0	675.5	669.8	670.5	672.2	680.6	685.7	690.0
25°	697.8	679.6	660.3	640.4	627.3	618.5	618.1	618.1	614.4	615.1	612.7
27.5°	677.6	652.2	627.6	604.3	587.1	578.3	566.5	558.0	550.6	540.5	536.1
30°	658.0	632.0	604.0	578.3	557.7	540.5	518.5	500.3	485.8	472.0	460.1
32.5°	640.4	613.4	586.7	558.7	530.4	500.7	472.0	451.0	430.4	409.2	395.0
35°	624.9	599.6	572.9	541.2	501.3	462.5	430.1	401.7	377.4	351.8	331.2
37.5°	616.1	593.2	565.5	522.3	472.3	428.1	391.9	360.2	327.8	297.1	271.8
40°	611.7	591.5	557.7	503.0	446.3	399.0	358.9	320.7	282.6	246.4	220.1
42.5°	611.0	591.5	546.2	483.4	424.0	373.4	328.5	282.6	236.3	201.2	177.9
45°	617.1	590.8	534.1	465.9	404.1	350.4	296.4	242.4	194.8	164.1	151.2
47.5°	634.7	593.2	524.6	451.0	385.2	325.1	259.9	197.8	157.3	143.5	143.1
50°	663.0	604.0	522.6	440.2	366.6	293.4	217.1	158.3	138.8	138.1	141.8
52.5°	707.9	624.2	527.7	432.8	344.3	252.2	171.8	136.7	133.0	136.7	141.5
55°	806.9	660.3	534.4	419.6	308.2	199.9	141.5	129.6	131.3	135.7	140.1
57.5°	986.8	735.3	541.5	389.9	249.8	153.6	127.3	126.9	130.0	133.7	137.7
60°	1100.9	827.8	558.7	346.0	188.7	126.9	121.9	125.2	129.0	131.7	135.0
62.5°	1104.6	852.1	567.8	299.1	140.4	116.1	117.1	123.6	127.9	129.0	130.6
65°	1033.4	806.2	526.7	243.4	116.5	110.1	113.8	119.5	123.9	124.6	125.9
67.5°	902.7	711.0	446.3	183.7	106.0	105.3	109.4	113.8	116.8	119.5	121.5
70°	679.9	586.7	358.9	142.5	99.6	98.9	103.0	106.7	109.4	112.8	116.1
72.5°	344.7	406.1	272.1	116.5	90.8	91.5	95.9	99.3	101.3	104.3	107.7
75°	117.5	177.2	172.2	94.2	81.0	83.7	85.7	89.5	92.5	94.5	96.2
77.5°	73.6	77.0	88.8	76.0	71.6	72.2	75.6	79.0	82.4	83.7	84.4
80°	61.4	61.8	62.1	60.8	61.1	63.1	65.2	68.9	72.2	72.9	73.3
82.5°	48.6	52.0	51.7	51.3	53.0	55.0	56.4	57.7	59.1	59.8	60.8
85°	42.9	42.2	42.5	43.5	42.2	40.8	40.5	40.5	42.5	44.9	45.9
87.5°	39.2	33.4	25.0	23.6	23.6	23.0	21.6	21.6	23.6	25.7	26.7
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°	1006.0	1006.0	1006.0	1006.0	1006.0
2.5°	1000.0	1000.3	1000.0	1000.0	1001.6
5°	992.5	993.9	993.2	994.2	995.2
7.5°	977.3	980.7	981.4	984.1	983.1
10°	955.4	957.8	961.1	963.8	962.8
12.5°	920.6	926.4	931.4	934.5	933.8
15°	876.4	884.5	891.3	893.6	890.9
17.5°	829.1	834.2	842.3	844.0	846.7
20°	769.4	769.0	776.1	776.1	774.8
22.5°	691.4	696.5	696.5	691.7	689.4
25°	611.7	613.4	608.3	609.4	602.9
27.5°	531.7	527.3	523.3	525.0	520.2
30°	455.4	446.0	441.9	442.6	437.5
32.5°	382.2	371.0	367.0	361.6	357.2
35°	315.7	298.1	287.6	284.9	288.0
37.5°	250.5	238.0	225.5	216.4	217.4
40°	198.2	185.3	177.2	173.5	172.8
42.5°	163.7	156.3	154.6	155.0	155.0
45°	148.5	148.9	150.2	151.6	151.9
47.5°	145.5	147.5	149.9	151.6	151.9
50°	145.2	147.2	148.9	150.9	151.6
52.5°	144.8	146.2	147.2	148.2	149.2
55°	143.5	144.2	143.8	144.5	145.5
57.5°	140.1	140.4	139.8	140.1	142.1
60°	137.1	137.4	136.1	137.7	138.1
62.5°	133.4	133.0	132.3	133.4	133.4
65°	127.9	125.9	126.6	127.6	127.9
67.5°	121.5	119.5	119.5	120.2	121.2
70°	113.4	112.4	112.4	113.8	115.1
72.5°	104.3	105.0	107.0	109.0	111.1
75°	96.9	98.6	100.6	105.7	108.7
77.5°	87.4	87.8	89.5	94.5	99.9
80°	74.3	73.9	74.3	74.9	76.0
82.5°	58.7	58.1	56.0	56.7	55.4
85°	43.2	42.2	39.8	38.1	37.8
87.5°	25.0	25.0	24.0	22.6	21.3
90°	0.0	0.0	0.0	0.0	0.0

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