

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: P197239

Luminaire Tested: **NAV-AF-01-D-UNV-T2R-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197239
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-T2R-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 80 CRI, 3000K, 800mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4220 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 44
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

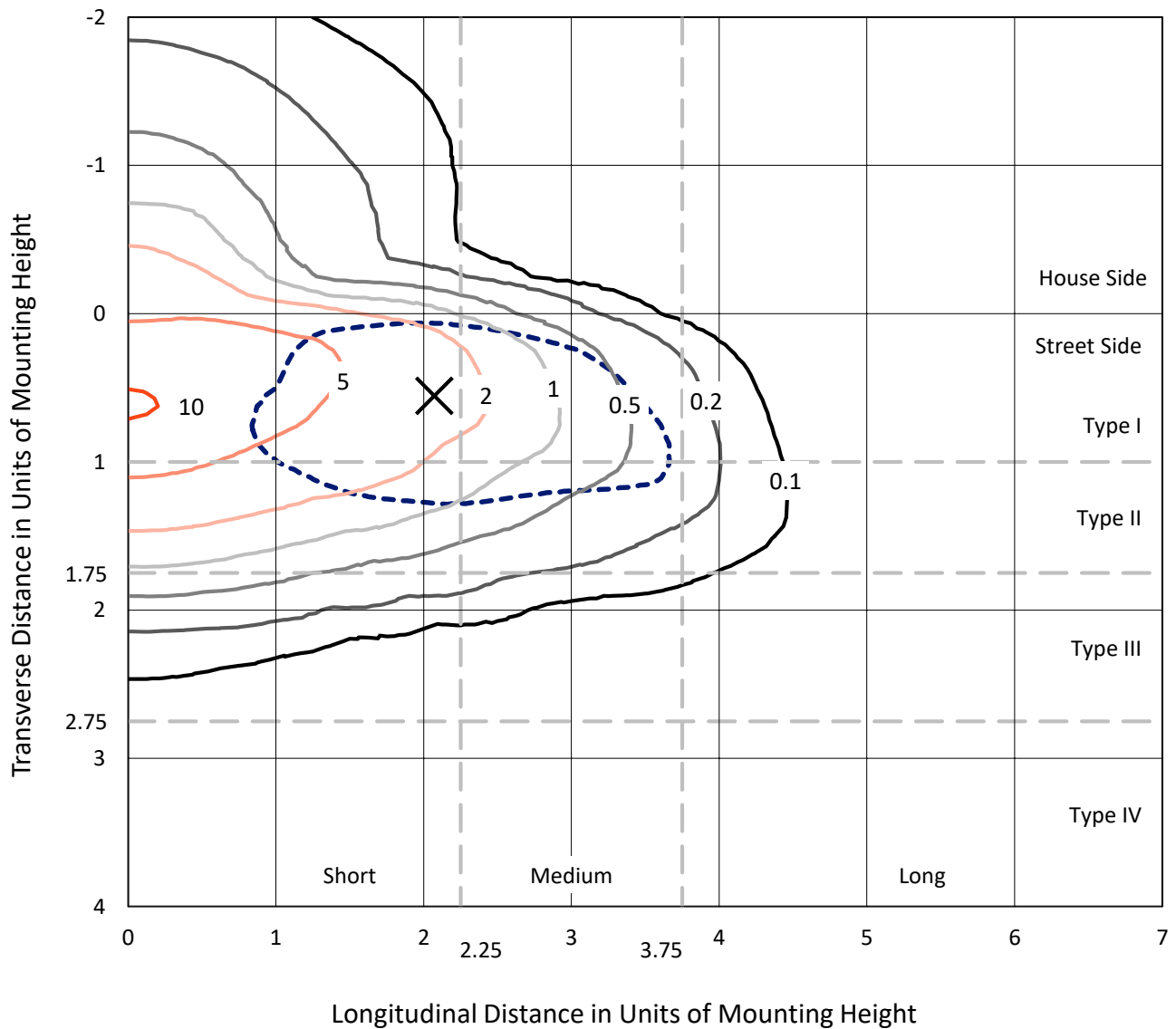


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Iso-Footcandle Lines of Horizontal Illumination

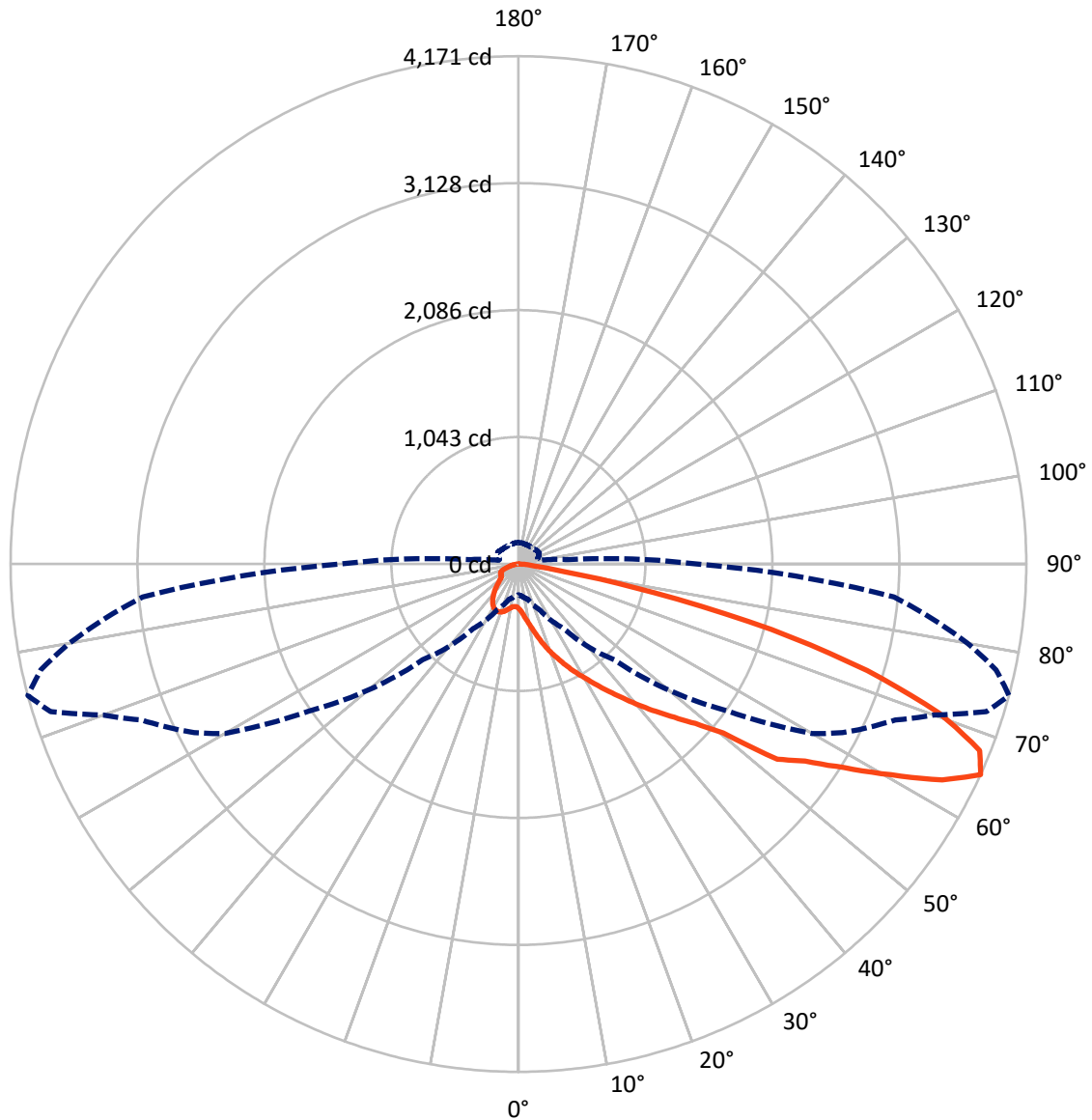
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.5 fc
 Type II - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	634.1	0.0	634.1
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	3585.9	0.0	3585.9
	% Fixture	85.0	0.0	85.0
Total	Lumens	4220.0	0.0	4220.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.2	1.0
10°-20°	164.9	3.9
20°-30°	332.7	7.9
30°-40°	565.1	13.4
40°-50°	788.1	18.7
50°-60°	966.0	22.9
60°-70°	908.8	21.5
70°-80°	398.5	9.4
80°-90°	52.7	1.2
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°	4220.0	100.0
0°-180°	4220.0	100.0

Coefficient of Utilization



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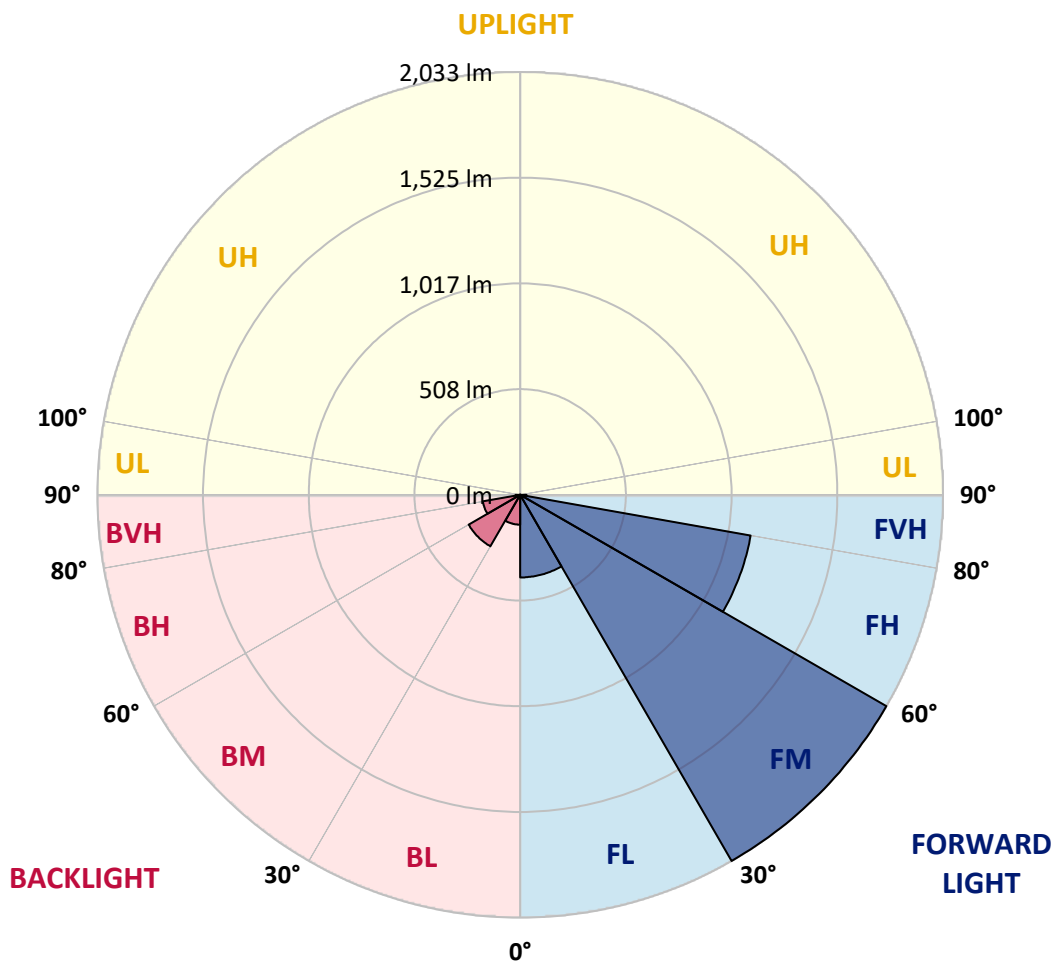
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	397.2	9.4			
FM	(30°-60°)	2033.0	48.2			
FH	(60°-80°)	1125.1	26.7			G1/1800
FVH	(80°-90°)	30.6	0.7			G1/100
BL	(0°-30°)	143.6	3.4	B1/500		
BM	(30°-60°)	286.1	6.8	B1/1000		
BH	(60°-80°)	182.3	4.3	B1/500		G1/500
BVH	(80°-90°)	22.2	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	365.6	365.6	365.6	365.6	365.6	365.6	365.6	365.6	365.6	365.6	365.6
2.5°	460.4	455.0	455.6	448.1	437.0	425.0	415.0	409.7	405.1	403.8	396.2
5°	602.1	595.4	593.0	575.8	550.1	519.5	489.1	477.3	467.7	461.7	447.2
7.5°	718.1	714.6	711.4	695.6	670.1	630.9	582.0	564.6	548.5	530.7	513.3
10°	797.0	795.7	794.4	783.4	762.1	728.1	675.4	656.4	636.2	613.7	590.9
12.5°	856.6	856.6	857.7	848.6	835.7	809.4	761.6	743.9	723.5	699.9	673.8
15°	896.6	897.7	903.4	906.0	899.3	882.4	840.5	825.0	805.6	782.3	756.5
17.5°	923.2	925.4	933.7	942.5	951.1	945.2	914.1	899.6	882.1	860.7	836.5
20°	985.0	982.3	982.5	979.9	992.5	997.0	979.9	967.8	953.8	934.2	912.2
22.5°	1114.6	1109.5	1096.4	1062.8	1047.5	1045.9	1035.7	1029.3	1018.5	1006.2	984.2
25°	1283.8	1277.9	1251.8	1196.5	1150.9	1108.7	1089.9	1085.9	1078.9	1070.6	1054.8
27.5°	1458.5	1452.1	1418.5	1348.7	1289.1	1204.0	1145.5	1140.1	1133.7	1130.2	1122.7
30°	1612.3	1605.4	1572.3	1501.5	1429.5	1328.1	1220.4	1201.6	1190.6	1191.7	1187.4
32.5°	1747.4	1741.2	1704.2	1631.9	1558.9	1460.4	1317.6	1288.3	1263.6	1254.5	1257.7
35°	1860.7	1855.0	1814.5	1741.7	1668.2	1586.3	1442.7	1398.7	1358.4	1333.2	1330.2
37.5°	1927.2	1924.0	1895.6	1833.8	1760.8	1700.7	1582.8	1534.0	1474.6	1437.9	1421.7
40°	1923.5	1927.0	1922.1	1894.2	1837.6	1793.8	1728.9	1680.5	1622.5	1567.8	1535.0
42.5°	1868.7	1873.6	1895.3	1909.8	1894.5	1867.9	1856.4	1820.4	1768.3	1710.3	1665.0
45°	1793.6	1797.9	1826.0	1878.4	1922.1	1929.7	1968.1	1950.1	1906.0	1856.6	1806.7
47.5°	1678.4	1686.7	1719.5	1802.7	1906.8	1979.3	2061.7	2070.1	2044.6	2003.8	1957.0
50°	1511.7	1522.7	1568.6	1687.0	1848.9	2030.3	2201.1	2232.7	2222.5	2181.2	2134.0
52.5°	1340.9	1351.9	1413.2	1539.1	1755.4	2051.3	2338.3	2419.3	2477.8	2520.5	2528.9
55°	1163.2	1175.6	1242.7	1387.6	1630.9	2024.7	2436.2	2528.3	2587.6	2632.2	2650.2
57.5°	962.7	976.6	1041.6	1188.2	1454.8	1917.9	2545.2	2675.7	2764.0	2832.7	2871.4
60°	732.6	750.1	817.4	965.1	1223.4	1713.3	2593.8	2786.8	2927.2	3030.3	3091.5
62.5°	464.4	482.1	552.2	705.5	960.0	1433.8	2456.4	2738.0	2977.4	3129.9	3242.1
65°	253.4	261.2	300.1	415.6	647.2	1112.5	2107.9	2440.0	2785.0	3001.1	3173.4
67.5°	190.1	191.1	195.2	223.4	344.7	751.1	1648.1	1952.2	2335.3	2613.4	2819.3
70°	166.4	166.4	167.0	167.2	187.1	407.0	1116.5	1396.5	1747.6	2029.0	2284.8
72.5°	149.3	147.7	147.1	143.9	146.6	208.6	607.8	859.3	1155.4	1471.1	1709.8
75°	128.9	128.6	128.6	125.4	127.0	146.8	263.6	412.3	641.9	935.8	1170.7
77.5°	111.4	109.5	109.8	107.9	113.0	112.5	125.1	169.9	279.5	491.5	686.4
80°	91.8	90.5	91.3	90.2	98.3	83.2	84.3	103.9	138.8	215.6	303.9
82.5°	67.9	68.5	73.6	73.0	82.7	56.1	61.7	77.6	93.4	107.4	116.8
85°	39.7	40.5	52.9	55.6	60.7	29.5	37.9	46.2	52.1	57.7	60.1
87.5°	4.3	5.6	29.5	30.3	27.1	8.9	15.3	19.3	20.7	22.0	19.3
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):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	365.6	365.6	365.6	365.6	365.6	365.6	365.6	365.6	365.6	365.6	365.6
2.5°	393.8	390.3	386.6	384.4	380.7	377.4	371.5	366.7	361.3	357.6	356.0
5°	440.0	431.7	422.8	416.4	408.3	401.3	387.9	371.8	366.7	356.0	353.3
7.5°	500.1	485.1	470.1	457.7	443.8	432.2	409.7	380.7	376.9	359.7	356.0
10°	570.7	548.7	526.4	507.4	487.0	469.3	436.0	395.2	391.1	369.1	365.4
12.5°	649.7	622.8	594.1	565.6	541.5	516.5	471.1	417.7	411.3	385.2	380.1
15°	731.0	702.0	668.7	634.4	604.6	571.5	514.4	447.2	435.4	404.8	397.9
17.5°	811.3	779.9	745.0	706.6	671.7	632.2	561.1	480.3	459.9	424.2	415.3
20°	888.9	856.9	820.1	782.5	739.1	694.0	608.9	512.8	481.6	440.3	428.7
22.5°	959.5	932.1	895.3	852.1	808.1	757.3	657.4	545.2	500.7	452.6	437.9
25°	1033.8	1008.9	972.3	930.7	879.5	823.1	707.7	576.1	516.0	459.3	441.1
27.5°	1109.0	1087.5	1053.2	1009.4	954.4	891.8	758.7	604.6	528.3	461.5	439.5
30°	1189.3	1172.6	1140.9	1092.1	1036.5	967.2	814.2	632.5	536.1	458.5	432.2
32.5°	1265.2	1264.7	1236.5	1185.8	1125.9	1049.7	872.8	660.7	540.1	450.2	419.6
35°	1344.2	1355.2	1334.0	1285.6	1222.5	1138.0	937.4	690.7	540.4	435.4	403.2
37.5°	1433.8	1453.4	1444.0	1398.1	1331.8	1238.7	1013.4	724.6	538.8	415.0	379.3
40°	1535.8	1562.7	1562.4	1523.8	1452.9	1351.4	1101.7	762.4	535.0	389.5	351.1
42.5°	1652.6	1684.6	1693.4	1655.3	1583.6	1474.6	1203.0	804.0	529.1	364.3	321.3
45°	1786.3	1814.5	1831.1	1795.7	1723.8	1608.9	1319.2	851.3	521.9	331.8	287.2
47.5°	1929.4	1962.1	1987.1	1956.8	1880.0	1761.9	1456.9	912.2	519.2	294.8	250.5
50°	2106.8	2140.7	2194.6	2180.9	2138.8	2043.8	1748.2	1056.1	520.3	259.6	219.6
52.5°	2547.1	2624.7	2692.9	2662.5	2562.4	2399.5	1985.0	1136.1	497.7	230.9	198.1
55°	2680.0	2768.1	2868.7	2856.1	2760.0	2595.7	2172.1	1203.0	476.0	209.9	184.2
57.5°	2912.5	3016.4	3157.0	3154.4	3036.5	2851.5	2412.9	1283.0	466.6	197.9	177.2
60°	3158.7	3291.0	3485.4	3515.7	3387.6	3195.2	2697.4	1381.2	467.9	191.1	173.2
62.5°	3338.5	3532.6	3815.3	3906.0	3755.2	3543.1	2992.7	1479.5	459.9	183.4	168.3
65°	3349.5	3629.0	4030.1	4171.3	4018.5	3746.0	3096.9	1460.1	411.5	172.9	160.5
67.5°	3081.1	3445.1	3932.3	4087.2	3931.0	3620.9	2914.4	1276.5	334.5	154.6	147.1
70°	2566.2	2988.7	3494.5	3667.1	3538.0	3224.2	2536.4	1019.6	249.9	130.5	127.0
72.5°	1983.1	2377.2	2836.5	2996.2	2897.4	2621.5	2000.5	743.1	178.5	105.8	103.1
75°	1417.7	1753.3	2086.7	2147.6	2050.2	1796.8	1298.0	464.2	125.1	86.7	83.0
77.5°	877.9	1096.1	1215.8	1137.4	1013.2	842.1	528.3	229.3	83.2	70.6	66.8
80°	389.5	457.2	426.8	380.4	300.4	247.0	161.3	101.7	53.7	54.5	52.3
82.5°	131.0	138.5	134.8	134.0	120.8	105.8	68.5	44.0	30.1	34.9	34.1
85°	63.9	66.8	67.1	69.5	60.4	47.0	18.5	17.4	12.9	18.8	19.6
87.5°	19.3	19.6	17.7	19.3	15.6	10.7	3.5	4.8	2.4	4.6	4.6
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):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	365.6	365.6	365.6	365.6	365.6	365.6	365.6	365.6	365.6	365.6	365.6
2.5°	353.0	351.9	350.1	347.9	347.4	344.7	343.9	342.5	341.7	340.4	339.3
5°	349.8	347.9	345.8	343.4	343.4	339.6	338.0	336.4	336.4	334.0	332.9
7.5°	353.0	350.6	348.2	346.0	346.8	342.5	340.9	339.3	339.1	336.6	335.6
10°	362.1	359.7	356.8	354.6	353.8	350.3	348.5	346.0	344.4	342.8	341.2
12.5°	376.1	372.9	369.1	364.6	362.7	359.7	356.8	353.6	349.8	348.2	345.8
15°	392.8	387.4	382.3	376.6	371.5	368.6	364.6	359.5	354.4	352.2	349.0
17.5°	406.4	400.8	393.6	386.8	377.7	375.3	369.7	363.5	355.2	354.4	349.5
20°	418.0	409.4	400.5	392.5	378.5	377.2	370.2	363.0	351.1	351.1	345.2
22.5°	424.4	412.6	402.1	391.4	374.0	372.9	364.8	356.2	341.7	342.3	335.0
25°	425.5	411.3	398.1	385.2	365.1	363.2	353.0	343.6	327.8	326.7	319.2
27.5°	421.2	404.6	389.3	373.7	351.9	347.9	336.6	325.4	309.8	307.1	299.1
30°	411.3	391.7	374.5	356.5	333.7	327.2	315.4	303.9	288.1	284.6	277.0
32.5°	395.4	373.2	354.1	336.1	310.9	302.8	291.0	279.5	264.2	261.5	254.5
35°	374.5	349.5	329.4	310.3	285.1	276.8	265.5	255.3	241.3	240.3	235.4
37.5°	348.2	322.1	300.7	282.4	258.5	254.2	242.7	235.2	223.6	224.7	222.3
40°	318.4	291.8	271.4	255.3	234.6	230.9	223.9	218.3	208.3	211.3	211.5
42.5°	288.3	261.7	243.2	228.7	211.0	208.6	203.8	200.5	193.0	198.9	201.3
45°	254.2	229.5	213.7	202.7	189.5	189.5	187.1	186.8	181.7	190.1	192.5
47.5°	221.2	201.9	190.9	184.2	175.0	179.3	178.5	180.7	176.9	185.5	187.7
50°	196.2	182.8	176.1	172.9	166.4	173.2	174.8	177.7	174.5	182.0	183.6
52.5°	180.4	171.5	167.8	167.0	162.4	170.7	173.4	176.1	172.3	179.3	179.1
55°	171.5	165.6	164.3	165.9	162.4	170.5	173.2	175.0	171.8	176.6	176.4
57.5°	168.3	165.1	165.9	168.3	165.9	172.6	174.0	176.1	172.9	175.0	176.1
60°	168.1	168.1	171.3	174.5	172.9	177.7	178.5	178.3	175.3	175.6	176.1
62.5°	166.4	170.5	175.8	180.9	180.4	186.3	186.8	183.4	180.9	178.3	177.4
65°	161.3	168.1	175.8	182.8	183.9	193.0	194.1	190.6	189.0	184.4	180.9
67.5°	150.1	158.7	167.8	176.4	178.3	190.6	193.0	194.4	195.2	192.2	187.7
70°	131.0	139.9	149.3	159.2	161.9	175.6	180.7	186.8	191.7	196.0	194.4
72.5°	106.6	114.6	122.7	131.8	135.8	150.1	156.8	167.5	175.0	186.0	190.6
75°	84.6	89.4	94.2	99.9	103.1	117.0	125.4	138.3	148.5	163.8	174.0
77.5°	66.6	69.0	71.4	73.8	75.2	83.0	89.7	102.6	114.4	133.7	148.7
80°	51.3	52.6	52.9	53.7	53.2	56.9	59.3	67.1	77.3	96.4	114.1
82.5°	33.0	34.1	34.6	36.0	33.3	38.1	39.7	40.5	45.9	59.9	72.5
85°	18.5	18.8	19.1	19.6	15.8	20.7	20.9	19.6	19.1	24.7	27.9
87.5°	4.6	4.3	4.6	4.6	1.9	4.3	4.3	3.0	2.1	4.0	3.2
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):

	135°	145°	155°	165°	175°	180°
0°	365.6	365.6	365.6	365.6	365.6	365.6
2.5°	336.9	336.4	336.6	335.3	334.8	335.0
5°	331.5	330.5	330.5	329.7	328.6	328.6
7.5°	334.0	331.8	331.0	329.4	327.8	328.1
10°	337.7	334.0	331.3	328.9	327.0	327.0
12.5°	340.1	333.4	329.4	326.2	324.0	324.0
15°	340.7	330.5	324.6	321.1	318.9	318.9
17.5°	337.4	324.6	317.0	312.5	310.1	310.6
20°	329.4	313.6	304.7	299.9	297.4	297.7
22.5°	316.8	298.5	288.3	282.7	280.3	280.3
25°	299.6	279.7	268.7	264.2	262.0	262.0
27.5°	280.0	259.6	249.9	246.4	245.1	245.1
30°	258.0	241.1	234.1	231.7	229.5	229.5
32.5°	239.5	227.4	225.0	221.7	216.1	215.8
35°	224.7	223.4	221.5	211.8	203.8	202.7
37.5°	216.6	224.7	212.9	196.2	189.8	189.5
40°	212.3	219.9	199.5	191.4	190.6	190.6
42.5°	202.1	207.5	198.7	194.1	194.1	194.4
45°	191.4	196.0	200.5	196.5	197.9	198.1
47.5°	183.9	193.0	200.5	197.0	199.7	201.3
50°	176.9	190.3	196.5	196.5	199.5	199.7
52.5°	175.3	186.6	192.8	195.7	196.0	194.6
55°	175.6	183.6	189.8	193.6	191.9	191.9
57.5°	175.3	182.0	187.4	188.7	189.5	189.5
60°	175.6	179.9	184.2	183.6	186.3	186.3
62.5°	176.4	176.9	179.1	178.5	182.6	182.6
65°	178.3	173.2	171.8	172.3	177.2	176.9
67.5°	181.7	168.1	163.8	164.0	171.0	169.9
70°	186.8	161.1	154.6	153.0	164.8	163.0
72.5°	188.5	153.0	142.8	141.2	148.2	142.8
75°	180.9	146.6	130.2	124.8	121.9	120.3
77.5°	161.3	142.6	117.0	105.8	101.2	100.1
80°	133.7	134.2	99.9	86.4	100.4	100.1
82.5°	100.9	116.0	80.0	74.9	72.8	60.7
85°	48.9	87.2	61.5	51.5	30.9	29.3
87.5°	4.3	36.5	35.4	23.1	10.5	9.9
90°	0.0	0.0	0.0	0.0	0.0	0.0

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