

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: P196759

Luminaire Tested: **NAV-AF-01-D-UNV-T2R-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196759
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-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 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: 5001.9 lumens
Efficiency: N/A
Efficacy: 113.7 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

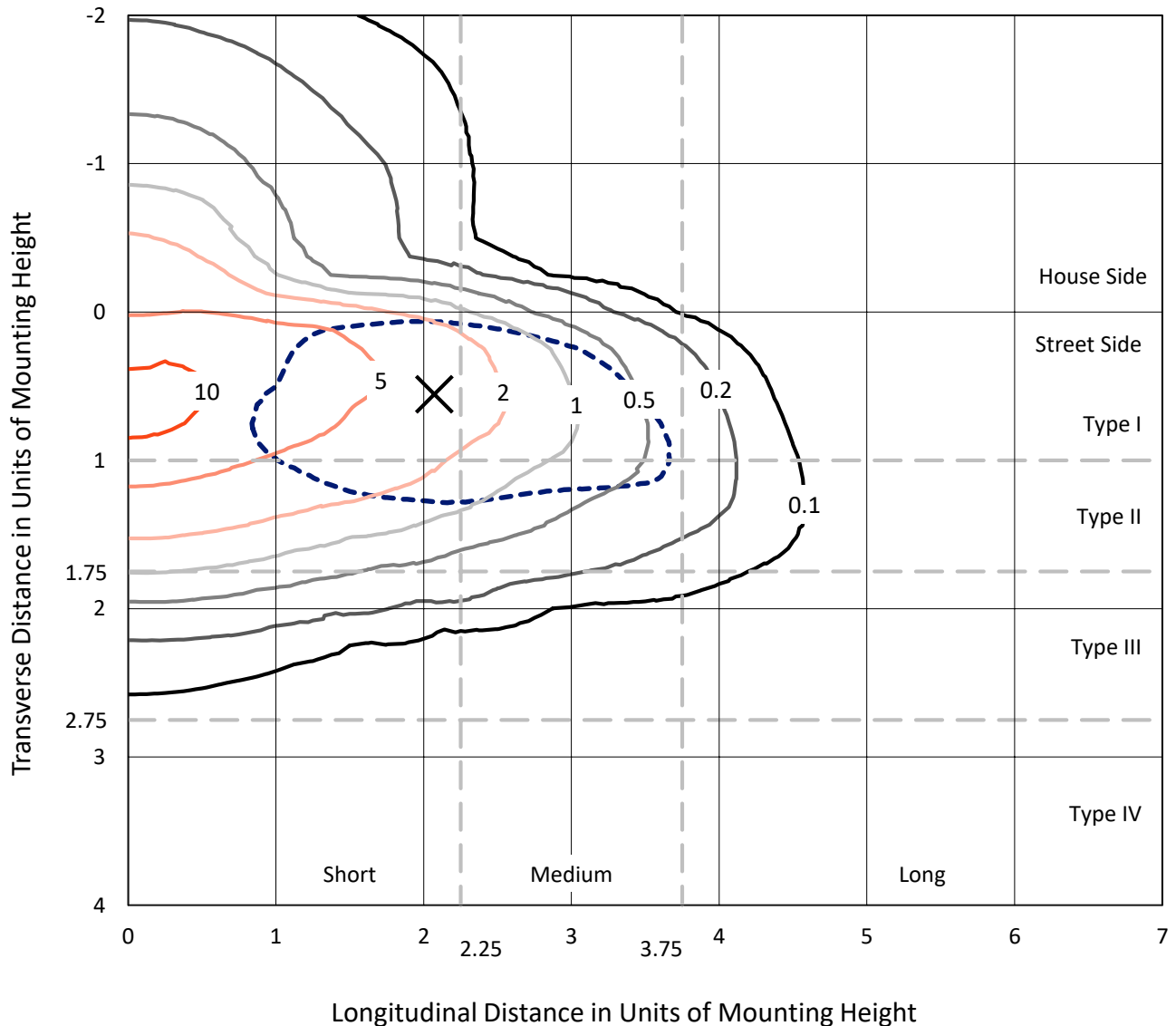


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Iso-Footcandle Lines of Horizontal Illumination

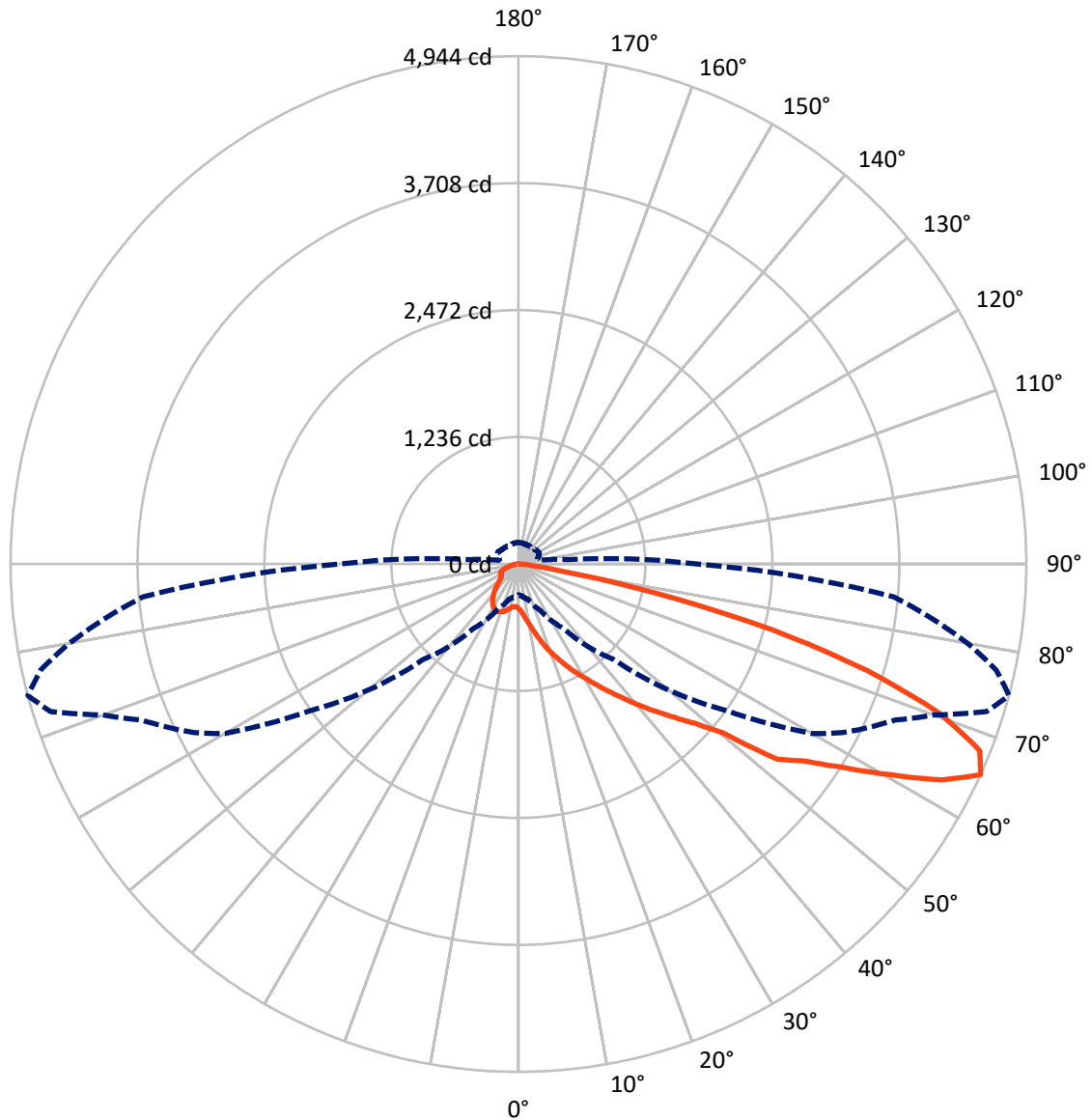
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.4 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	751.6	0.0	751.6
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	4250.3	0.0	4250.3
	% Fixture	85.0	0.0	85.0
Total	Lumens	5001.9	0.0	5001.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.2	1.0
10°-20°	195.4	3.9
20°-30°	394.4	7.9
30°-40°	669.8	13.4
40°-50°	934.2	18.7
50°-60°	1144.9	22.9
60°-70°	1077.2	21.5
70°-80°	472.3	9.4
80°-90°	62.5	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°	5001.9	100.0
0°-180°	5001.9	100.0



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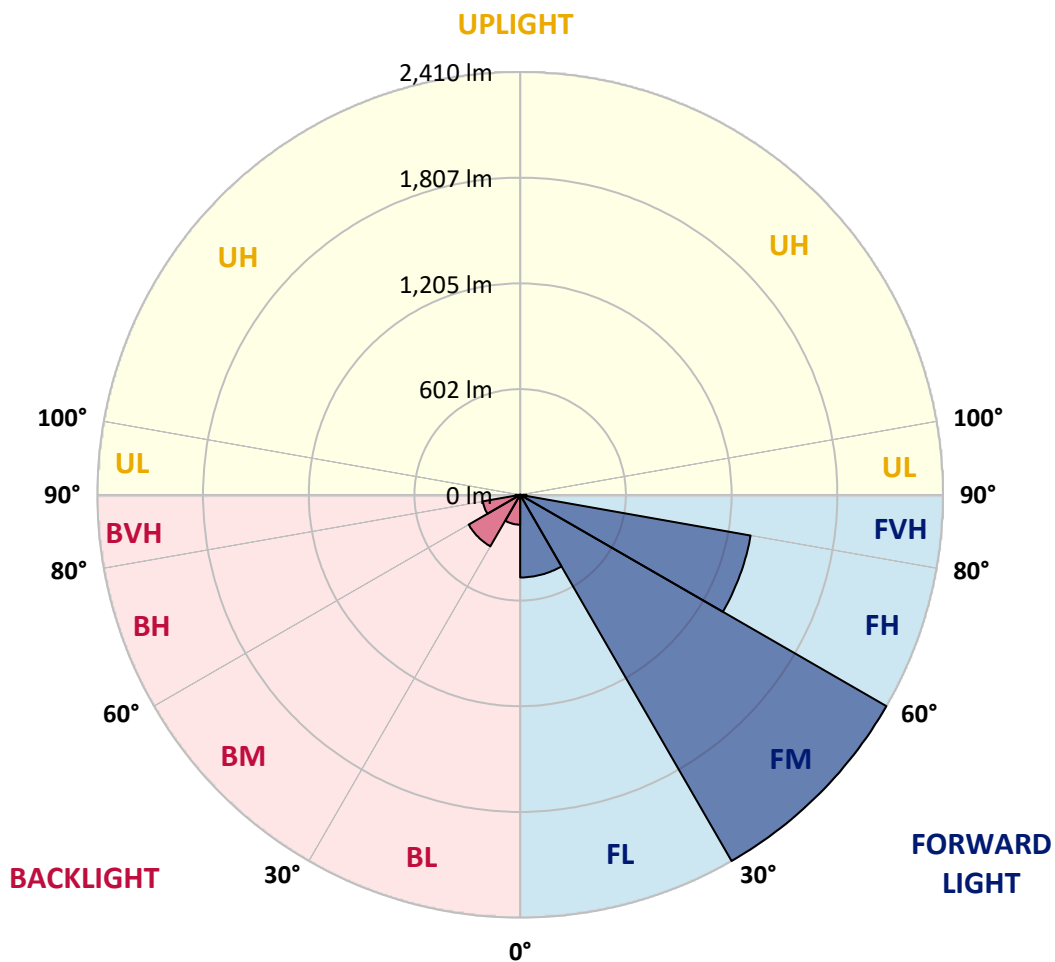
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	470.8	9.4			
FM (30°-60°)	2409.7	48.2			
FH (60°-80°)	1333.5	26.7			G1/1800
FVH (80°-90°)	36.2	0.7			G1/100
BL (0°-30°)	170.1	3.4	B1/500		
BM (30°-60°)	339.2	6.8	B1/1000		
BH (60°-80°)	216.0	4.3	B1/500		G1/500
BVH (80°-90°)	26.3	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°	433.4	433.4	433.4	433.4	433.4	433.4	433.4	433.4	433.4	433.4	433.4
2.5°	545.8	539.3	540.0	531.1	518.0	503.6	491.8	485.5	480.2	478.5	469.7
5°	713.7	705.7	702.9	682.6	651.9	615.6	579.7	565.8	554.3	547.3	530.1
7.5°	851.1	847.1	843.3	824.5	794.2	747.8	689.9	669.2	650.1	629.2	608.3
10°	944.8	943.1	941.6	928.4	903.3	862.9	800.6	778.0	754.1	727.4	700.4
12.5°	1015.3	1015.3	1016.6	1005.8	990.6	959.4	902.7	881.7	857.5	829.5	798.6
15°	1062.8	1064.0	1070.7	1073.9	1066.0	1045.9	996.2	977.9	954.9	927.2	896.7
17.5°	1094.2	1096.9	1106.7	1117.1	1127.3	1120.4	1083.5	1066.3	1045.6	1020.2	991.5
20°	1167.4	1164.2	1164.6	1161.4	1176.4	1181.7	1161.4	1147.1	1130.5	1107.4	1081.2
22.5°	1321.2	1315.2	1299.5	1259.8	1241.6	1239.6	1227.6	1220.0	1207.2	1192.6	1166.6
25°	1521.7	1514.7	1483.7	1418.1	1364.1	1314.2	1291.9	1287.1	1278.9	1268.9	1250.2
27.5°	1728.8	1721.2	1681.4	1598.6	1528.0	1427.2	1357.8	1351.4	1343.8	1339.6	1330.7
30°	1911.1	1902.9	1863.6	1779.8	1694.4	1574.1	1446.5	1424.2	1411.2	1412.5	1407.4
32.5°	2071.1	2063.8	2019.8	1934.3	1847.8	1731.0	1561.8	1527.0	1497.7	1486.9	1490.8
35°	2205.4	2198.8	2150.7	2064.5	1977.3	1880.3	1710.0	1657.8	1610.1	1580.1	1576.6
37.5°	2284.3	2280.5	2246.8	2173.6	2087.1	2015.8	1876.1	1818.2	1747.8	1704.2	1685.3
40°	2279.9	2284.1	2278.3	2245.2	2178.1	2126.1	2049.1	1991.9	1923.2	1858.3	1819.5
42.5°	2215.0	2220.7	2246.5	2263.7	2245.5	2214.0	2200.4	2157.7	2095.9	2027.2	1973.4
45°	2125.8	2131.0	2164.3	2226.3	2278.3	2287.3	2332.6	2311.4	2259.2	2200.6	2141.5
47.5°	1989.4	1999.2	2038.0	2136.7	2260.1	2346.1	2443.7	2453.6	2423.4	2375.0	2319.7
50°	1791.8	1804.9	1859.3	1999.6	2191.4	2406.6	2608.9	2646.5	2634.3	2585.3	2529.4
52.5°	1589.4	1602.4	1675.0	1824.2	2080.8	2431.3	2771.5	2867.6	2937.0	2987.5	2997.4
55°	1378.8	1393.4	1473.0	1644.8	1933.1	2399.9	2887.6	2996.8	3067.1	3119.9	3141.2
57.5°	1141.1	1157.6	1234.6	1408.4	1724.3	2273.1	3016.8	3171.5	3276.1	3357.6	3403.4
60°	868.4	889.1	968.9	1144.0	1450.0	2030.7	3074.4	3303.2	3469.6	3591.8	3664.3
62.5°	550.4	571.4	654.6	836.3	1137.8	1699.5	2911.5	3245.3	3529.1	3709.9	3842.8
65°	300.4	309.6	355.7	492.5	767.2	1318.6	2498.4	2892.1	3300.9	3557.2	3761.4
67.5°	225.3	226.6	231.3	264.7	408.5	890.4	1953.4	2313.9	2768.0	3097.6	3341.7
70°	197.3	197.3	197.9	198.2	221.8	482.4	1323.3	1655.3	2071.4	2404.9	2708.2
72.5°	176.9	175.1	174.4	170.6	173.7	247.3	720.3	1018.6	1369.6	1743.7	2026.5
75°	152.8	152.4	152.4	148.6	150.6	174.0	312.5	488.7	760.8	1109.2	1387.7
77.5°	132.1	129.8	130.1	128.0	134.0	133.3	148.3	201.4	331.3	582.6	813.7
80°	108.8	107.2	108.1	107.0	116.5	98.7	99.9	123.1	164.6	255.5	360.2
82.5°	80.6	81.2	87.2	86.6	98.0	66.5	73.2	92.0	110.7	127.3	138.4
85°	47.1	48.1	62.8	65.9	71.9	35.0	44.9	54.7	61.7	68.4	71.2
87.5°	5.1	6.7	35.0	35.9	32.1	10.5	18.1	23.0	24.5	26.1	23.0
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):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	433.4	433.4	433.4	433.4	433.4	433.4	433.4	433.4	433.4	433.4	433.4
2.5°	466.7	462.6	458.3	455.6	451.2	447.4	440.5	434.7	428.3	423.8	422.0
5°	521.5	511.7	501.2	493.6	484.0	475.8	459.8	440.8	434.7	422.0	418.8
7.5°	592.8	575.0	557.1	542.5	526.0	512.3	485.5	451.2	446.8	426.3	422.0
10°	676.6	650.4	624.0	601.4	577.2	556.2	516.8	468.4	463.6	437.5	433.1
12.5°	770.1	738.3	704.1	670.5	641.8	612.2	558.5	495.2	487.6	456.6	450.5
15°	866.4	832.1	792.6	751.9	716.6	677.4	609.6	530.1	516.1	479.8	471.6
17.5°	961.6	924.4	883.1	837.5	796.2	749.3	665.1	569.2	545.1	502.7	492.2
20°	1053.6	1015.7	972.1	927.5	876.0	822.5	721.6	607.7	570.9	521.8	508.2
22.5°	1137.3	1104.8	1061.2	1010.0	957.7	897.7	779.2	646.3	593.4	536.5	519.0
25°	1225.4	1195.8	1152.4	1103.2	1042.5	975.5	838.8	682.9	611.6	544.4	522.8
27.5°	1314.5	1289.0	1248.3	1196.4	1131.2	1057.1	899.2	716.6	626.2	547.0	520.8
30°	1409.7	1389.9	1352.3	1294.4	1228.5	1146.4	965.1	749.6	635.5	543.4	512.3
32.5°	1499.7	1499.0	1465.6	1405.5	1334.5	1244.1	1034.4	783.1	640.3	533.6	497.3
35°	1593.2	1606.2	1581.1	1523.8	1449.1	1348.8	1111.1	818.7	640.5	516.1	477.9
37.5°	1699.5	1722.7	1711.5	1657.1	1578.6	1468.1	1201.2	858.8	638.6	491.8	449.6
40°	1820.4	1852.3	1852.0	1806.0	1722.0	1601.8	1305.8	903.7	634.1	461.7	416.2
42.5°	1958.8	1996.7	2007.2	1962.0	1877.1	1747.8	1425.9	953.0	627.1	431.8	380.9
45°	2117.2	2150.7	2170.4	2128.4	2043.1	1906.9	1563.6	1009.0	618.6	393.4	340.5
47.5°	2286.9	2325.7	2355.3	2319.3	2228.4	2088.3	1726.9	1081.2	615.3	349.4	296.8
50°	2497.2	2537.3	2601.3	2585.1	2535.1	2422.4	2072.1	1251.8	616.7	307.7	260.2
52.5°	3019.1	3111.0	3191.8	3155.9	3037.2	2844.0	2352.8	1346.6	589.9	273.7	234.8
55°	3176.6	3280.9	3400.2	3385.3	3271.3	3076.6	2574.4	1425.9	564.3	248.8	218.3
57.5°	3452.1	3575.3	3742.0	3738.9	3599.1	3379.8	2860.0	1520.7	553.1	234.5	210.0
60°	3743.9	3900.8	4131.1	4167.1	4015.3	3787.2	3197.3	1637.1	554.6	226.6	205.2
62.5°	3957.1	4187.2	4522.2	4629.8	4450.9	4199.6	3547.2	1753.6	545.1	217.3	199.5
65°	3970.2	4301.4	4776.7	4944.1	4763.0	4440.1	3670.7	1730.6	487.9	205.0	190.3
67.5°	3652.0	4083.4	4660.9	4844.5	4659.4	4291.8	3454.3	1513.0	396.5	183.2	174.4
70°	3041.7	3542.5	4141.9	4346.6	4193.5	3821.6	3006.3	1208.5	296.2	154.6	150.6
72.5°	2350.5	2817.6	3362.0	3551.4	3434.2	3107.3	2371.2	880.7	211.6	125.3	122.2
75°	1680.4	2078.1	2473.3	2545.5	2430.0	2129.7	1538.5	550.1	148.3	102.8	98.4
77.5°	1040.4	1299.2	1441.1	1348.1	1200.9	998.2	626.2	271.7	98.7	83.7	79.2
80°	461.7	541.9	506.0	450.9	356.0	292.7	191.2	120.6	63.6	64.6	62.1
82.5°	155.2	164.2	159.7	158.8	143.2	125.3	81.2	52.2	35.6	41.4	40.4
85°	75.7	79.2	79.5	82.4	71.6	55.7	22.0	20.6	15.3	22.3	23.3
87.5°	23.0	23.3	21.0	23.0	18.5	12.7	4.2	5.7	2.8	5.5	5.5
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°	433.4	433.4	433.4	433.4	433.4	433.4	433.4	433.4	433.4	433.4	433.4
2.5°	418.5	417.2	414.9	412.4	411.8	408.5	407.6	406.0	405.1	403.5	402.2
5°	414.6	412.4	409.8	407.0	407.0	402.5	400.7	398.7	398.7	395.8	394.5
7.5°	418.5	415.5	412.7	410.2	411.2	406.0	404.2	402.2	401.8	399.1	397.7
10°	429.3	426.3	422.9	420.3	419.3	415.3	413.0	410.2	408.2	406.3	404.5
12.5°	445.8	442.0	437.5	432.1	429.9	426.3	422.9	419.1	414.6	412.7	409.8
15°	465.6	459.1	453.1	446.5	440.5	436.9	432.1	426.1	420.0	417.5	413.6
17.5°	481.8	475.1	466.4	458.6	447.8	444.8	438.1	430.8	420.9	420.0	414.3
20°	495.4	485.2	474.7	465.2	448.6	447.1	438.7	430.2	416.2	416.2	409.1
22.5°	503.0	489.1	476.7	464.0	443.3	442.0	432.4	422.3	405.1	405.7	397.1
25°	504.3	487.6	471.9	456.6	432.7	430.5	418.5	407.3	388.5	387.3	378.4
27.5°	499.2	479.5	461.4	442.9	417.2	412.4	399.1	385.6	367.2	364.1	354.4
30°	487.6	464.3	443.9	422.7	395.5	387.9	373.8	360.2	341.4	337.3	328.4
32.5°	468.7	442.3	419.7	398.4	368.4	358.9	344.9	331.3	313.1	310.0	301.7
35°	443.9	414.3	390.4	367.8	337.9	328.1	314.6	302.6	286.0	284.8	279.0
37.5°	412.7	381.9	356.4	334.8	306.5	301.3	287.7	278.7	265.1	266.4	263.5
40°	377.4	346.0	321.7	302.6	278.1	273.7	265.4	258.7	246.9	250.4	250.7
42.5°	341.8	310.2	288.3	271.1	250.1	247.3	241.5	237.6	228.8	235.8	238.6
45°	301.3	272.0	253.3	240.3	224.6	224.6	221.8	221.5	215.5	225.3	228.2
47.5°	262.2	239.3	226.2	218.3	207.5	212.5	211.6	214.1	209.7	219.8	222.5
50°	232.6	216.7	208.6	205.0	197.3	205.2	207.1	210.7	206.8	215.8	217.7
52.5°	213.8	203.3	198.9	197.9	192.6	202.3	205.5	208.6	204.4	212.5	212.3
55°	203.3	196.3	194.7	196.6	192.6	202.0	205.2	207.5	203.7	209.3	209.0
57.5°	199.5	195.7	196.6	199.5	196.6	204.7	206.2	208.6	205.0	207.5	208.6
60°	199.2	199.2	203.0	206.8	205.0	210.7	211.6	211.3	207.8	208.1	208.6
62.5°	197.3	202.0	208.4	214.4	213.8	220.8	221.5	217.3	214.4	211.3	210.4
65°	191.2	199.2	208.4	216.7	218.0	228.8	230.1	225.9	224.0	218.6	214.4
67.5°	177.9	188.0	198.9	209.0	211.3	225.9	228.8	230.4	231.3	227.8	222.5
70°	155.2	165.7	176.9	188.7	191.9	208.1	214.1	221.5	227.2	232.2	230.4
72.5°	126.3	135.9	145.5	156.2	161.0	177.9	185.8	198.6	207.5	220.4	225.9
75°	100.2	106.0	111.7	118.3	122.2	138.8	148.6	163.9	176.0	194.2	206.2
77.5°	78.8	81.7	84.6	87.5	89.0	98.4	106.3	121.5	135.6	158.4	176.2
80°	60.7	62.4	62.8	63.6	63.1	67.4	70.4	79.5	91.7	114.2	135.3
82.5°	39.2	40.4	41.1	42.6	39.5	45.3	47.1	48.1	54.4	70.9	85.9
85°	22.0	22.3	22.6	23.3	18.8	24.5	24.8	23.3	22.6	29.3	33.1
87.5°	5.5	5.1	5.5	5.5	2.1	5.1	5.1	3.5	2.5	4.8	3.9
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):

	135°	145°	155°	165°	175°	180°
0°	433.4	433.4	433.4	433.4	433.4	433.4
2.5°	399.4	398.7	399.1	397.3	396.8	397.1
5°	393.0	391.7	391.7	390.7	389.5	389.5
7.5°	395.8	393.4	392.3	390.4	388.5	388.9
10°	400.3	395.8	392.7	389.8	387.6	387.6
12.5°	403.1	395.2	390.4	386.6	384.0	384.0
15°	403.8	391.7	384.7	380.6	378.0	378.0
17.5°	400.0	384.7	375.8	370.4	367.5	368.2
20°	390.4	371.7	361.1	355.4	352.6	352.9
22.5°	375.6	353.8	341.8	335.1	332.1	332.1
25°	355.1	331.6	318.5	313.1	310.6	310.6
27.5°	331.9	307.7	296.2	292.0	290.5	290.5
30°	305.8	285.7	277.5	274.6	272.0	272.0
32.5°	283.8	269.6	266.7	262.9	256.1	255.7
35°	266.4	264.7	262.6	251.1	241.5	240.3
37.5°	256.8	266.4	252.3	232.6	225.0	224.6
40°	251.8	260.6	236.4	226.8	225.9	225.9
42.5°	239.6	246.0	235.5	230.1	230.1	230.4
45°	226.8	232.2	237.6	232.9	234.5	234.8
47.5°	218.0	228.8	237.6	233.6	236.8	238.6
50°	209.7	225.6	232.9	232.9	236.4	236.8
52.5°	207.8	221.1	228.5	231.9	232.2	230.6
55°	208.1	217.7	225.0	229.5	227.5	227.5
57.5°	207.8	215.8	222.2	223.7	224.6	224.6
60°	208.1	213.2	218.3	217.7	220.8	220.8
62.5°	209.0	209.7	212.3	211.6	216.4	216.4
65°	211.3	205.2	203.7	204.4	210.0	209.7
67.5°	215.5	199.2	194.2	194.4	202.6	201.4
70°	221.5	190.8	183.2	181.4	195.3	193.2
72.5°	223.3	181.4	169.3	167.3	175.7	169.3
75°	214.4	173.7	154.3	147.9	144.4	142.6
77.5°	191.2	169.0	138.8	125.3	119.9	118.6
80°	158.4	159.1	118.3	102.4	119.0	118.6
82.5°	119.6	137.4	94.8	88.8	86.2	71.9
85°	57.9	103.4	72.8	61.0	36.6	34.6
87.5°	5.1	43.2	41.9	27.4	12.4	11.8
90°	0.0	0.0	0.0	0.0	0.0	0.0

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