

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: P197179

Luminaire Tested: **NAV-AF-01-D-UNV-SLL-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197179
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)
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-SLL-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 80 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4831 lumens
Efficiency: N/A
Efficacy: 72.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 67
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

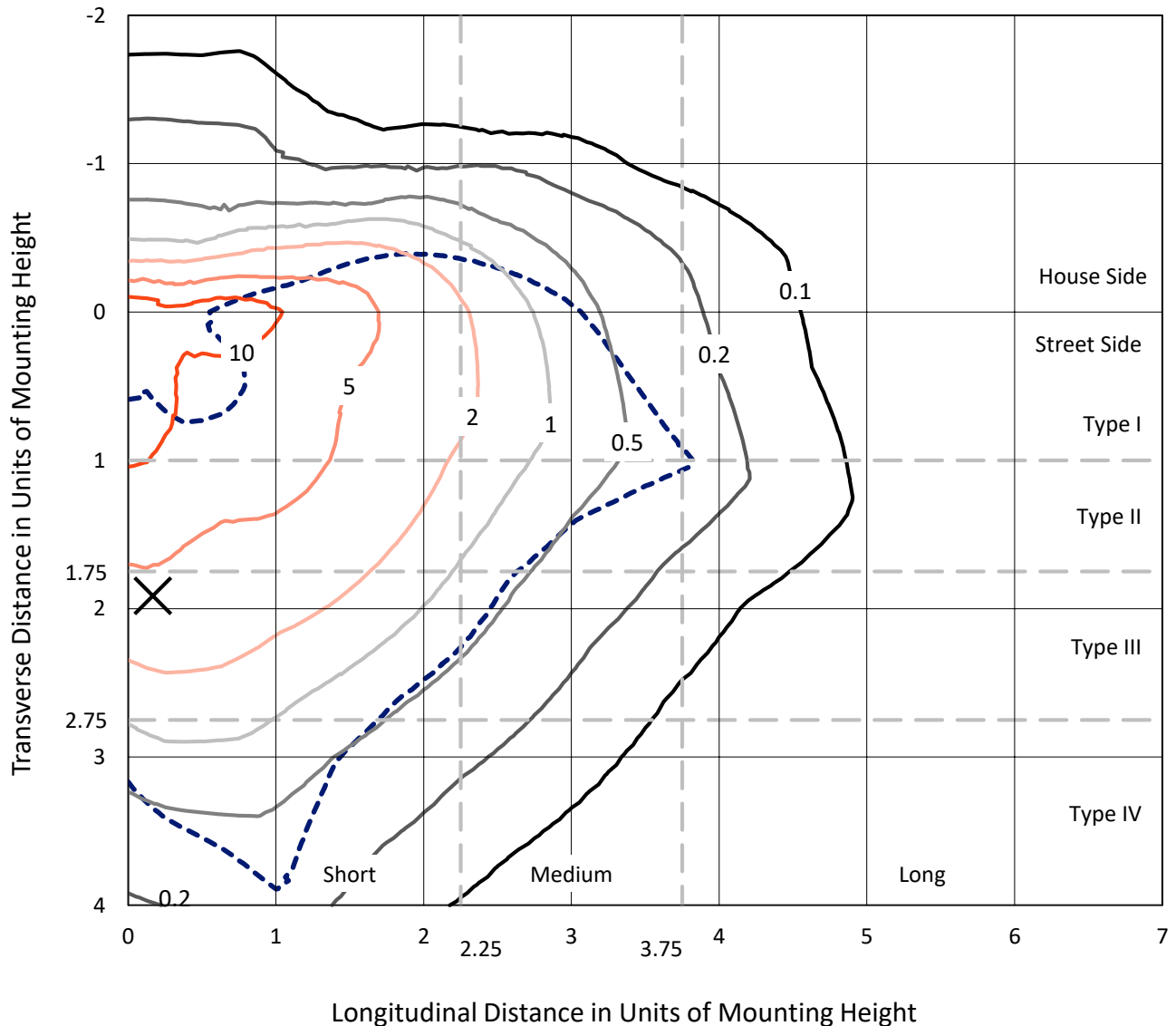


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Iso-Footcandle Lines of Horizontal Illumination

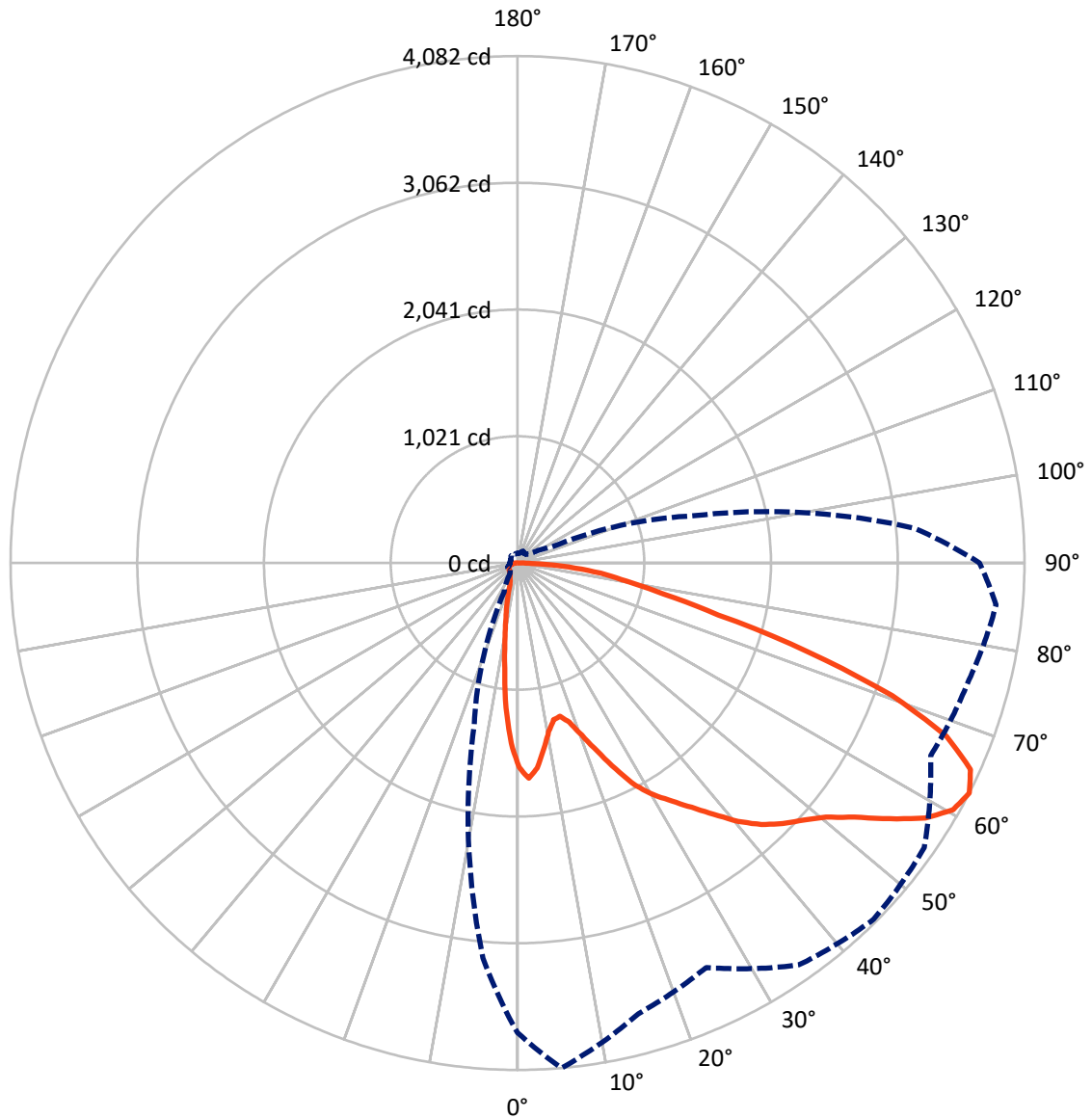
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 18.9 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	855.8	0.0	855.8
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	3975.2	0.0	3975.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	4831.0	0.0	4831.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.8	2.5
10°-20°	218.8	4.5
20°-30°	314.7	6.5
30°-40°	481.9	10.0
40°-50°	704.6	14.6
50°-60°	1025.2	21.2
60°-70°	1187.8	24.6
70°-80°	619.2	12.8
80°-90°	159.2	3.3
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°	4831.0	100.0
0°-180°	4831.0	100.0



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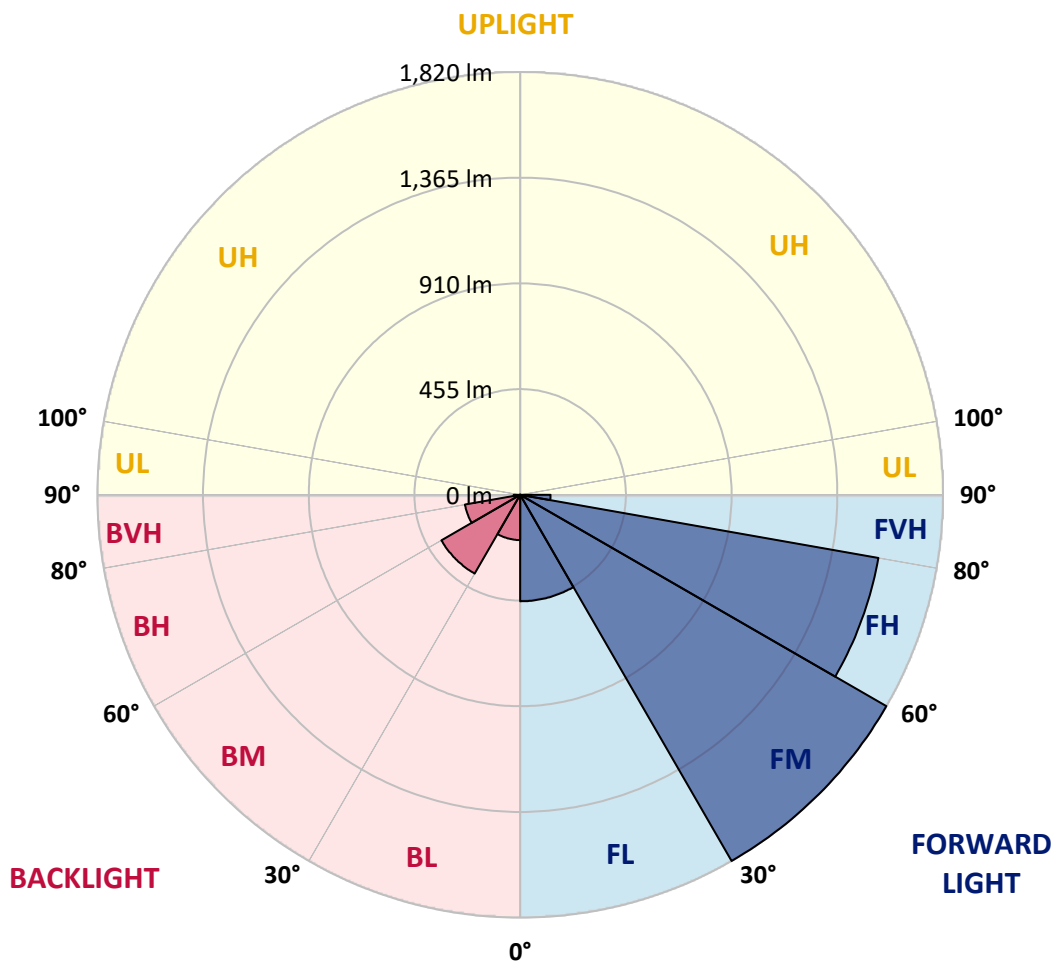
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	458.5	9.5			
FM	(30°-60°)	1820.1	37.7			
FH	(60°-80°)	1565.7	32.4			G1/1800
FVH	(80°-90°)	130.9	2.7			G2/225
BL	(0°-30°)	194.7	4.0	B1/500		
BM	(30°-60°)	391.6	8.1	B1/1000		
BH	(60°-80°)	241.3	5.0	B1/500		G1/500
BVH	(80°-90°)	28.2	0.6			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°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0
2.5°	1700.2	1736.3	1777.6	1831.6	1868.4	1883.1	1895.3	1874.7	1854.7	1817.2	1803.9
5°	1588.1	1657.5	1771.3	1879.6	1974.8	2029.5	2046.3	2008.1	1940.2	1842.1	1790.2
7.5°	1421.8	1513.2	1673.3	1832.6	1969.2	2060.3	2067.0	1991.3	1857.5	1696.7	1612.7
10°	1276.4	1379.7	1565.0	1743.3	1888.0	1981.1	1962.9	1856.8	1695.3	1512.5	1417.6
12.5°	1192.0	1295.3	1484.1	1665.2	1801.5	1836.8	1799.7	1710.4	1557.3	1374.1	1278.5
15°	1174.1	1280.6	1455.4	1608.1	1692.5	1669.8	1633.0	1587.8	1478.9	1328.9	1236.5
17.5°	1228.1	1347.2	1493.6	1577.3	1573.8	1519.1	1488.3	1497.1	1478.5	1378.0	1281.3
20°	1339.1	1479.9	1590.6	1568.9	1479.2	1402.5	1384.6	1453.3	1539.1	1500.9	1394.8
22.5°	1485.2	1645.6	1723.0	1593.0	1429.8	1347.2	1343.6	1450.8	1649.4	1686.9	1557.7
25°	1650.1	1837.2	1856.4	1635.8	1424.6	1342.2	1339.1	1488.7	1782.2	1871.2	1740.2
27.5°	1851.9	2030.5	1967.8	1692.9	1447.7	1356.6	1358.7	1553.1	1920.5	2053.3	1945.8
30°	2003.9	2167.8	2036.5	1748.9	1484.8	1381.8	1387.1	1622.8	1995.2	2179.7	2110.0
32.5°	2146.1	2285.2	2102.3	1804.3	1539.1	1419.3	1437.5	1709.7	2084.8	2288.3	2265.2
35°	2303.4	2416.5	2175.5	1863.5	1616.9	1485.2	1511.4	1792.3	2173.8	2396.9	2419.0
37.5°	2481.7	2566.8	2255.1	1947.2	1728.9	1607.1	1621.8	1876.8	2235.8	2517.1	2584.0
40°	2667.3	2735.3	2341.9	2058.9	1891.8	1771.7	1778.7	1985.0	2284.5	2641.4	2744.0
42.5°	2826.7	2879.6	2429.1	2197.6	2078.9	1939.5	1945.4	2101.6	2331.1	2748.6	2872.2
45°	2954.2	2993.1	2511.5	2343.7	2278.5	2148.9	2147.5	2220.4	2393.4	2839.0	2970.7
47.5°	3072.9	3093.6	2603.2	2485.9	2485.5	2418.6	2368.5	2360.5	2476.4	2915.0	3056.5
50°	3208.9	3216.6	2724.4	2629.5	2738.4	2727.9	2635.5	2538.4	2584.0	3000.4	3146.5
52.5°	3398.0	3398.3	2874.7	2769.6	3017.6	3050.9	2943.3	2739.8	2743.0	3166.8	3302.0
55°	3620.4	3635.8	3070.5	2937.4	3309.7	3366.5	3265.2	2979.1	2971.4	3435.1	3554.2
57.5°	3792.4	3874.0	3298.5	3147.2	3582.6	3656.5	3574.9	3227.1	3251.9	3711.8	3762.3
60°	3840.7	4031.6	3525.8	3382.6	3813.4	3924.5	3841.4	3495.0	3526.5	3891.5	3822.2
62.5°	3782.9	4082.4	3757.4	3593.5	3950.4	4056.9	3997.3	3670.5	3750.4	3868.4	3721.0
65°	3611.7	4008.9	3958.4	3683.1	3871.6	3909.4	3893.6	3679.6	3871.9	3649.8	3441.1
67.5°	3211.7	3725.2	3868.8	3491.5	3503.4	3462.8	3442.1	3429.5	3735.3	3297.1	2999.7
70°	2612.0	3200.8	3441.1	2922.0	2833.7	2794.5	2726.5	2894.7	3357.4	2809.2	2468.7
72.5°	2012.0	2448.8	2822.5	2215.1	2031.6	2044.9	1967.8	2213.4	2781.2	2171.7	1884.8
75°	1428.8	1669.8	2253.0	1591.6	1348.6	1347.9	1341.9	1593.0	2194.5	1558.7	1379.0
77.5°	1029.8	1202.1	1765.0	1065.2	956.9	969.2	949.6	1082.7	1710.7	1121.2	1021.7
80°	821.4	890.0	1140.8	710.4	712.5	741.2	737.0	740.5	1125.4	811.9	763.9
82.5°	590.2	675.7	872.2	544.3	471.1	501.6	507.5	549.2	794.1	574.1	503.7
85°	302.6	411.9	802.5	471.5	294.6	244.1	280.9	433.3	689.7	344.0	245.5
87.5°	58.8	114.2	588.1	262.0	132.4	66.9	110.3	183.5	401.1	62.3	30.5
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0
2.5°	1781.1	1736.3	1694.3	1650.8	1617.2	1576.2	1535.9	1500.9	1466.9	1444.5	1451.5
5°	1737.7	1628.4	1530.3	1439.3	1386.0	1321.9	1264.8	1216.8	1179.7	1155.9	1170.3
7.5°	1539.8	1392.0	1262.7	1142.6	1066.9	983.9	917.4	870.4	841.7	825.6	849.1
10°	1337.3	1171.3	1026.3	901.3	826.6	756.2	696.0	646.3	607.7	589.5	599.0
12.5°	1192.3	1007.7	855.7	771.7	707.6	644.5	582.2	524.0	475.0	452.6	448.0
15°	1138.0	919.8	764.6	670.8	607.0	538.4	471.1	408.8	362.2	342.9	338.7
17.5°	1161.9	900.9	710.7	599.7	507.2	423.8	348.2	289.3	255.0	244.1	245.2
20°	1245.6	907.9	667.3	526.5	412.3	313.5	237.8	197.2	182.5	180.0	182.8
22.5°	1360.5	936.6	635.7	463.4	328.6	228.0	176.9	157.6	153.8	153.4	156.2
25°	1512.1	992.7	614.7	407.4	259.6	180.7	154.1	143.3	140.1	140.8	143.6
27.5°	1690.8	1063.8	601.1	359.0	213.3	161.1	144.0	134.5	131.4	132.1	134.2
30°	1854.0	1126.1	580.8	322.6	191.6	154.1	138.4	128.9	124.7	124.7	126.1
32.5°	2000.1	1180.1	556.9	295.3	171.6	138.4	125.4	118.0	114.9	115.9	116.6
35°	2129.7	1208.4	538.4	279.2	155.5	127.5	114.5	106.8	102.6	103.3	104.4
37.5°	2257.2	1219.3	526.1	270.4	144.0	120.8	108.9	102.6	98.1	97.4	97.0
40°	2378.4	1216.8	514.6	268.0	136.3	115.9	105.4	99.8	95.3	94.2	93.9
42.5°	2483.1	1208.8	503.7	261.3	131.0	112.4	102.6	97.7	93.2	91.8	91.1
45°	2578.7	1203.9	491.8	249.0	133.8	111.0	101.2	96.0	91.8	90.0	89.3
47.5°	2684.8	1221.4	478.5	235.7	133.1	111.4	101.2	95.3	91.1	89.3	88.6
50°	2811.3	1280.6	462.0	217.5	126.8	119.1	100.9	94.2	90.4	89.3	87.9
52.5°	2989.9	1376.6	439.2	194.1	121.9	127.1	100.5	92.5	89.3	87.6	85.8
55°	3234.8	1472.5	409.8	169.2	114.2	121.5	101.2	90.4	86.9	85.1	83.0
57.5°	3435.5	1545.4	372.7	148.5	107.2	114.9	100.2	87.9	84.1	82.3	80.6
60°	3422.5	1552.4	337.3	135.2	103.0	103.3	102.6	86.2	81.6	80.2	78.8
62.5°	3210.6	1465.9	304.4	128.6	99.8	94.2	104.7	84.1	79.2	77.8	76.7
65°	2857.9	1264.5	286.9	128.6	97.0	89.3	91.4	81.3	76.7	75.3	74.6
67.5°	2410.6	1016.1	270.4	131.4	93.2	85.8	83.0	78.5	74.3	72.9	72.2
70°	1932.1	799.7	258.9	130.0	89.7	82.0	78.5	74.6	70.4	70.1	69.4
72.5°	1515.6	642.4	253.6	130.0	84.4	77.4	73.9	71.1	66.9	66.6	65.5
75°	1214.4	482.3	231.9	127.5	79.2	71.5	68.3	65.9	61.6	62.0	61.3
77.5°	940.5	341.2	193.7	114.9	72.5	64.8	62.3	60.6	55.7	56.0	56.0
80°	735.6	222.1	150.3	95.3	64.8	57.1	55.3	53.9	48.7	49.4	49.4
82.5°	504.0	132.1	108.9	76.7	55.7	48.7	48.3	46.2	40.6	41.0	41.7
85°	275.3	86.9	72.5	56.7	43.8	39.6	38.9	37.8	32.6	32.6	32.9
87.5°	50.8	46.6	42.7	37.5	29.4	28.4	27.3	28.4	24.5	23.8	23.8
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0
2.5°	1435.1	1410.9	1394.1	1379.4	1344.0	1346.4	1351.4	1358.4	1336.3	1347.9	1362.2
5°	1155.9	1135.9	1120.9	1097.4	1048.0	1030.5	1019.3	1014.4	981.5	988.5	1003.9
7.5°	852.2	851.9	846.6	820.3	760.8	724.7	700.9	693.5	673.2	680.9	704.4
10°	600.0	606.3	603.9	580.4	527.2	501.2	496.0	510.7	511.0	526.1	566.4
12.5°	433.6	430.1	427.0	407.7	367.8	363.6	375.5	395.8	400.7	416.8	458.9
15°	323.7	315.2	313.5	298.4	272.2	276.0	284.8	295.3	295.6	306.8	341.5
17.5°	242.7	242.7	245.5	235.7	216.8	215.1	210.5	207.7	203.5	208.1	227.0
20°	188.4	197.2	204.2	198.6	181.4	173.0	164.3	158.7	155.5	155.9	161.5
22.5°	161.5	168.5	177.6	174.8	160.4	149.6	144.0	140.1	137.7	137.7	140.8
25°	147.8	152.4	160.8	159.4	147.1	138.4	133.8	130.0	127.1	126.8	130.0
27.5°	137.0	139.8	145.4	144.7	132.1	126.4	123.6	121.2	119.4	119.1	122.2
30°	127.1	128.6	131.4	130.3	120.8	115.2	114.2	113.1	112.1	112.4	117.0
32.5°	118.4	119.4	121.2	119.8	110.7	105.8	104.0	102.6	101.6	102.6	107.9
35°	108.6	111.7	113.8	113.1	103.3	97.4	93.5	90.0	88.6	89.7	95.6
37.5°	100.2	105.4	108.2	107.5	97.4	90.4	85.5	84.8	84.8	86.2	92.1
40°	97.0	100.9	103.3	102.3	92.1	85.1	82.3	81.3	81.6	83.0	89.3
42.5°	94.2	97.7	98.4	96.3	86.2	81.6	79.9	78.5	79.2	80.9	87.2
45°	91.8	94.6	94.2	91.1	81.3	78.1	78.1	77.1	77.4	78.8	85.5
47.5°	90.0	91.4	90.7	87.6	77.8	75.3	76.4	76.4	77.1	78.1	84.8
50°	87.2	88.3	87.6	84.8	75.0	72.9	73.9	75.3	76.0	77.1	83.0
52.5°	84.4	85.1	84.8	82.0	72.2	70.8	70.8	72.2	73.6	75.0	80.2
55°	81.6	82.3	82.7	80.6	70.1	68.7	68.3	68.3	69.7	71.8	77.4
57.5°	79.5	79.5	80.2	78.8	68.0	66.2	64.5	64.8	66.6	68.3	73.9
60°	77.1	77.4	78.5	77.1	65.2	62.3	60.9	62.7	63.4	65.2	71.1
62.5°	75.0	75.0	75.7	74.6	62.7	59.9	58.8	60.6	60.6	62.3	68.3
65°	73.2	72.9	72.9	72.5	60.2	57.4	56.7	57.4	57.8	59.5	65.5
67.5°	71.8	70.1	70.1	70.8	57.8	55.0	54.6	54.6	55.0	57.1	62.3
70°	68.7	67.3	66.9	69.4	55.3	51.8	51.8	51.1	51.8	52.9	58.5
72.5°	65.2	64.1	63.7	67.3	52.9	48.3	47.6	47.3	47.6	48.7	53.9
75°	60.6	59.9	60.6	65.9	50.4	44.5	43.4	43.1	43.1	43.4	49.0
77.5°	55.3	54.6	59.9	61.3	49.0	39.9	38.9	38.2	37.5	37.5	43.8
80°	49.0	48.7	57.8	51.8	46.9	35.0	33.3	32.2	31.5	31.2	37.5
82.5°	42.7	42.0	49.4	40.6	38.9	28.7	26.3	24.2	23.1	23.1	28.7
85°	35.0	34.7	38.9	29.8	27.0	21.0	17.5	15.8	14.4	14.4	18.6
87.5°	25.6	24.9	24.2	17.9	13.7	9.5	6.7	6.3	5.6	5.3	7.7
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0	1647.0
2.5°	1383.6	1412.7	1467.6	1512.8	1573.1	1621.4	1676.4	1700.2
5°	1032.3	1078.1	1162.2	1234.0	1333.5	1425.6	1530.7	1588.1
7.5°	740.5	808.4	872.2	961.8	1086.2	1209.8	1345.7	1421.8
10°	612.6	675.0	729.6	793.4	889.3	1028.4	1190.6	1276.4
12.5°	507.5	574.8	632.6	700.9	781.5	907.2	1092.2	1192.0
15°	389.2	462.4	531.7	614.0	712.8	856.4	1062.7	1174.1
17.5°	266.6	345.0	430.5	531.0	650.1	835.1	1090.8	1228.1
20°	181.1	238.5	331.4	450.5	593.7	824.9	1152.4	1339.1
22.5°	148.9	174.8	244.5	374.8	547.5	836.1	1252.6	1485.2
25°	136.6	150.6	190.2	308.2	512.1	865.9	1388.1	1650.1
27.5°	128.9	140.8	166.7	260.6	479.5	906.5	1553.1	1851.9
30°	124.3	135.6	157.3	236.1	449.8	941.5	1695.0	2003.9
32.5°	114.2	122.6	140.5	222.1	428.4	969.9	1820.0	2146.1
35°	101.9	112.1	126.8	213.0	427.7	983.2	1937.7	2303.4
37.5°	97.4	107.2	118.0	208.1	431.9	994.4	2081.7	2481.7
40°	94.6	103.3	112.1	207.4	435.4	1003.2	2222.5	2667.3
42.5°	92.1	100.9	111.0	202.5	434.0	1015.1	2347.2	2826.7
45°	91.4	100.2	113.5	195.1	433.6	1033.7	2446.3	2954.2
47.5°	90.7	104.0	112.8	187.0	432.2	1072.9	2558.0	3072.9
50°	90.0	111.0	107.9	175.8	421.7	1139.8	2708.3	3208.9
52.5°	89.7	112.1	102.6	160.4	402.8	1238.9	2928.3	3398.0
55°	88.3	106.5	93.5	140.1	375.5	1345.7	3164.0	3620.4
57.5°	85.1	94.9	88.3	120.1	336.3	1420.4	3338.1	3792.4
60°	92.8	81.6	84.8	110.0	289.3	1433.7	3345.8	3840.7
62.5°	88.6	74.3	81.3	106.5	256.4	1346.8	3192.7	3782.9
65°	70.8	70.4	78.1	110.0	251.5	1152.4	2934.2	3611.7
67.5°	64.5	67.6	75.0	114.2	254.6	907.9	2553.8	3211.7
70°	60.2	64.1	70.8	118.0	260.3	715.3	2056.1	2612.0
72.5°	56.0	59.2	66.6	121.9	256.4	564.3	1645.6	2012.0
75°	50.8	53.6	60.6	111.7	220.0	414.7	1307.6	1428.8
77.5°	44.8	47.3	53.2	88.3	165.3	288.6	979.4	1029.8
80°	38.5	39.6	44.1	64.5	107.9	172.7	745.4	821.4
82.5°	30.5	30.8	33.6	47.3	67.3	110.3	517.0	590.2
85°	19.6	20.3	21.7	33.3	45.2	70.8	264.1	302.6
87.5°	6.7	7.7	7.7	16.1	22.1	39.2	80.9	58.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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