

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: P270370

Luminaire Tested: **NAV-AF-02-D-UNV-SLL-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270370
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-02-D-UNV-SLL-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6157.8 lumens
Efficiency: N/A
Efficacy: 93.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

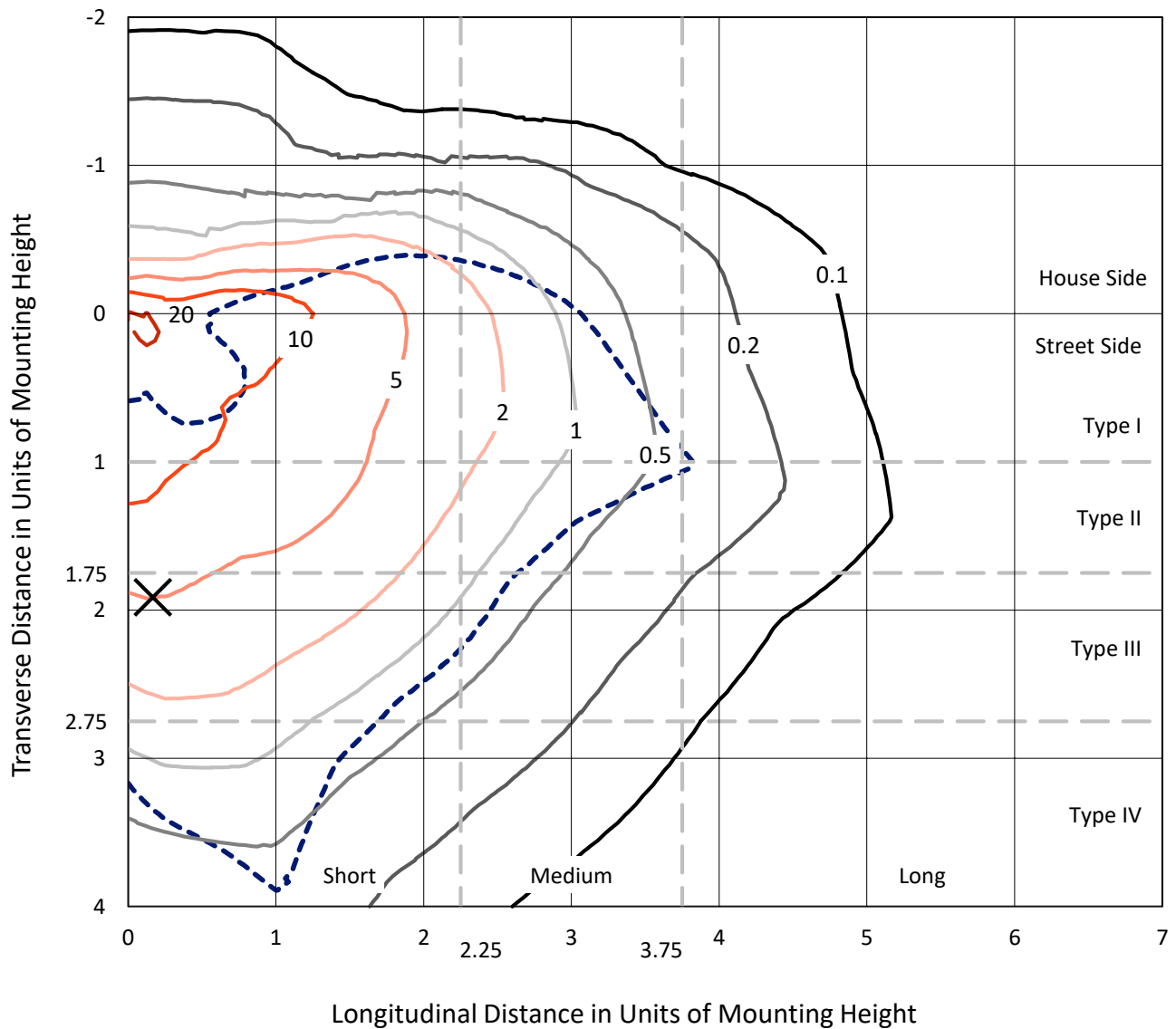
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

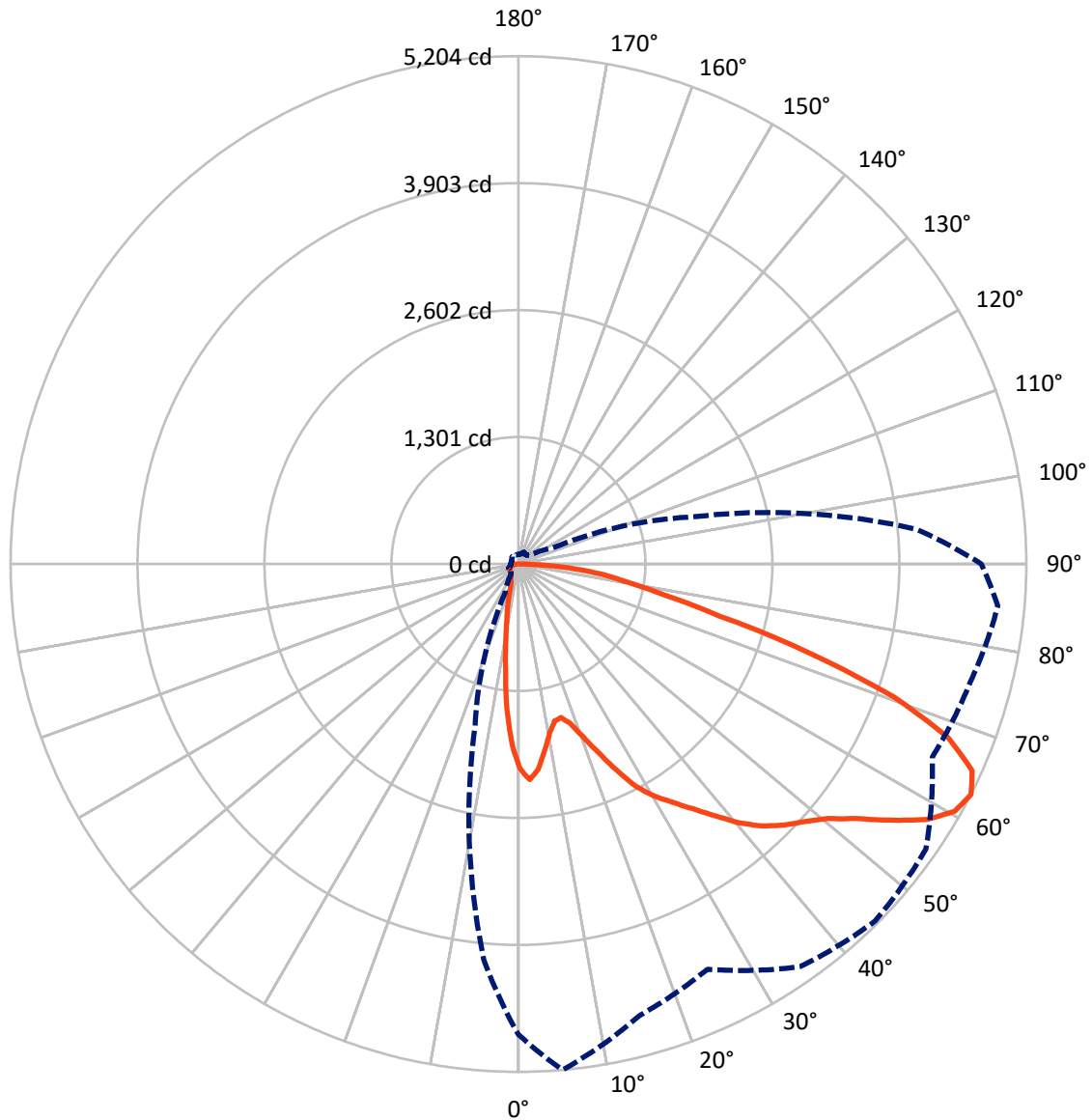
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 24.1 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	1090.9	0.0	1090.9
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	5066.9	0.0	5066.9
	% Fixture	82.3	0.0	82.3
Total	Lumens	6157.8	0.0	6157.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.7	2.5
10°-20°	278.9	4.5
20°-30°	401.1	6.5
30°-40°	614.3	10.0
40°-50°	898.1	14.6
50°-60°	1306.7	21.2
60°-70°	1514.0	24.6
70°-80°	789.2	12.8
80°-90°	202.9	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°	6157.8	100.0
0°-180°	6157.8	100.0

Coefficient of Utilization



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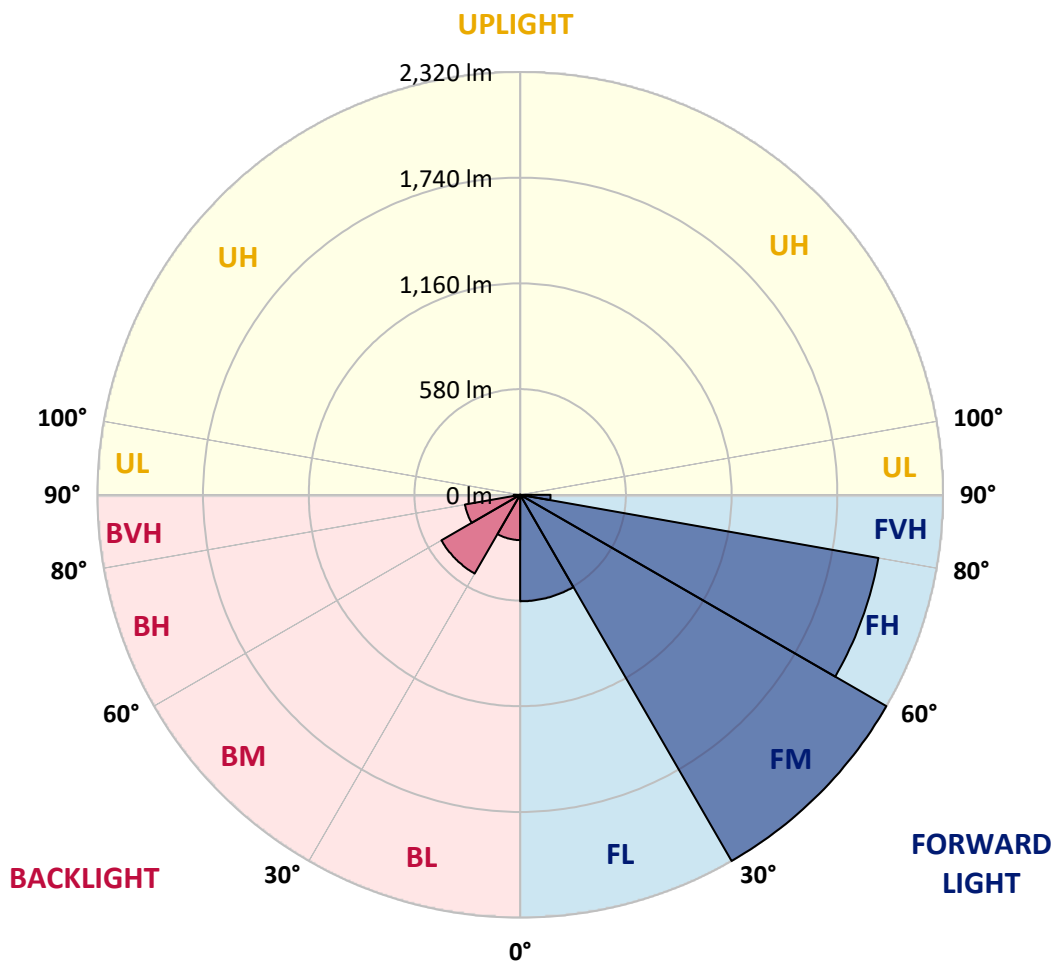
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	584.4	9.5			
FM	(30°-60°)	2320.0	37.7			
FH	(60°-80°)	1995.7	32.4			G2/5000
FVH	(80°-90°)	166.9	2.7			G2/225
BL	(0°-30°)	248.2	4.0	B1/500		
BM	(30°-60°)	499.1	8.1	B1/1000		
BH	(60°-80°)	307.6	5.0	B1/500		G1/500
BVH	(80°-90°)	36.0	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°	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2
2.5°	2167.3	2213.2	2265.9	2334.7	2381.4	2400.2	2415.9	2389.5	2364.1	2316.3	2299.3
5°	2024.3	2112.8	2257.8	2395.8	2517.2	2586.8	2608.3	2559.6	2473.0	2348.0	2282.0
7.5°	1812.2	1928.8	2132.8	2336.0	2510.0	2626.1	2634.6	2538.3	2367.7	2162.7	2055.6
10°	1626.9	1758.6	1994.9	2222.0	2406.5	2525.2	2502.0	2366.8	2161.0	1927.9	1806.9
12.5°	1519.4	1651.1	1891.7	2122.5	2296.2	2341.3	2294.0	2180.1	1985.1	1751.5	1629.6
15°	1496.5	1632.3	1855.1	2049.8	2157.4	2128.4	2081.5	2023.9	1885.1	1693.9	1576.0
17.5°	1565.3	1717.1	1903.8	2010.4	2006.1	1936.3	1897.1	1908.2	1884.6	1756.5	1633.2
20°	1706.9	1886.4	2027.5	1999.7	1885.5	1787.6	1764.9	1852.5	1961.8	1913.1	1777.8
22.5°	1893.1	2097.5	2196.1	2030.6	1822.5	1717.1	1712.7	1849.3	2102.5	2150.3	1985.4
25°	2103.3	2341.7	2366.3	2085.1	1815.8	1710.9	1706.9	1897.5	2271.6	2385.1	2218.1
27.5°	2360.4	2588.1	2508.2	2157.8	1845.3	1729.1	1731.9	1979.7	2448.1	2617.2	2480.2
30°	2554.3	2763.2	2595.8	2229.2	1892.5	1761.3	1768.0	2068.4	2543.1	2778.4	2689.5
32.5°	2735.6	2912.8	2679.7	2299.8	1961.8	1809.0	1832.4	2179.3	2657.5	2916.8	2887.3
35°	2936.0	3080.2	2773.1	2375.3	2060.9	1893.1	1926.5	2284.6	2770.8	3055.2	3083.3
37.5°	3163.3	3271.7	2874.3	2481.9	2203.8	2048.4	2067.2	2392.1	2849.9	3208.3	3293.6
40°	3399.9	3486.5	2985.1	2624.4	2411.4	2258.2	2267.2	2530.2	2911.9	3366.8	3497.7
42.5°	3603.0	3670.5	3096.3	2801.2	2649.8	2472.1	2479.7	2678.8	2971.2	3503.5	3661.1
45°	3765.5	3815.1	3201.2	2987.4	2904.3	2739.1	2737.3	2830.2	3050.7	3618.7	3786.5
47.5°	3916.9	3943.3	3318.2	3168.6	3168.2	3083.0	3019.1	3008.9	3156.6	3715.6	3895.9
50°	4090.2	4100.0	3472.7	3351.7	3490.5	3477.1	3359.3	3235.5	3293.6	3824.5	4010.8
52.5°	4331.3	4331.6	3664.1	3530.2	3846.4	3888.9	3751.7	3492.3	3496.4	4036.5	4208.9
55°	4614.8	4634.4	3913.7	3744.1	4218.7	4291.1	4162.0	3797.2	3787.4	4378.6	4530.4
57.5°	4834.0	4938.1	4204.4	4011.7	4566.5	4660.8	4556.7	4113.3	4145.0	4731.4	4795.6
60°	4895.7	5138.9	4494.2	4311.7	4860.8	5002.3	4896.5	4455.0	4495.1	4960.4	4871.9
62.5°	4821.9	5203.6	4789.4	4580.4	5035.3	5171.1	5095.1	4678.6	4780.4	4930.8	4743.0
65°	4603.6	5109.9	5045.6	4694.7	4934.8	4983.1	4963.0	4690.2	4935.3	4652.2	4386.2
67.5°	4093.8	4748.3	4931.3	4450.5	4465.7	4413.8	4387.5	4371.4	4761.1	4202.7	3823.5
70°	3329.4	4079.9	4386.2	3724.6	3611.9	3562.0	3475.4	3689.7	4279.4	3580.7	3146.8
72.5°	2564.5	3121.3	3597.7	2823.6	2589.5	2606.5	2508.2	2821.2	3545.0	2768.1	2402.4
75°	1821.1	2128.4	2871.7	2028.8	1718.9	1718.0	1710.5	2030.6	2797.1	1986.8	1757.8
77.5°	1312.7	1532.2	2249.7	1357.7	1219.8	1235.3	1210.3	1380.1	2180.5	1429.2	1302.4
80°	1047.0	1134.5	1454.1	905.4	908.1	944.7	939.4	943.8	1434.6	1034.9	973.8
82.5°	752.3	861.2	1111.7	693.9	600.4	639.4	646.9	700.0	1012.2	731.8	642.0
85°	385.7	525.1	1022.9	601.0	375.5	311.3	358.1	552.3	879.1	438.5	313.0
87.5°	75.0	145.5	749.6	334.0	168.8	85.2	140.7	234.0	511.2	79.5	38.8
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2
2.5°	2270.3	2213.2	2159.5	2104.2	2061.4	2009.1	1957.8	1913.1	1869.8	1841.3	1850.1
5°	2215.0	2075.7	1950.7	1834.6	1766.6	1685.0	1612.2	1551.1	1503.8	1473.4	1491.6
7.5°	1962.6	1774.3	1609.6	1456.4	1359.9	1254.2	1169.4	1109.4	1072.8	1052.4	1082.3
10°	1704.7	1493.1	1308.2	1148.8	1053.7	963.9	887.2	823.7	774.6	751.4	763.5
12.5°	1519.8	1284.4	1090.7	983.6	901.9	821.5	742.0	667.9	605.4	576.8	571.1
15°	1450.7	1172.5	974.7	854.9	773.7	686.2	600.4	521.0	461.6	437.0	431.7
17.5°	1480.9	1148.4	905.9	764.4	646.5	540.2	443.9	368.8	325.0	311.3	312.5
20°	1587.7	1157.2	850.5	671.0	525.5	399.6	303.2	251.3	232.7	229.4	233.1
22.5°	1734.1	1193.8	810.4	590.6	418.8	290.6	225.5	201.0	196.0	195.6	199.2
25°	1927.5	1265.4	783.5	519.2	330.8	230.3	196.5	182.6	178.7	179.5	183.1
27.5°	2155.2	1355.9	766.2	457.6	271.8	205.4	183.6	171.4	167.4	168.3	170.9
30°	2363.3	1435.4	740.3	411.2	244.2	196.5	176.3	164.3	158.9	158.9	160.7
32.5°	2549.4	1504.2	709.9	376.4	218.7	176.3	159.9	150.5	146.5	147.9	148.7
35°	2714.6	1540.4	686.2	355.9	198.3	162.6	146.1	136.2	130.9	131.7	133.0
37.5°	2877.1	1554.2	670.7	344.7	183.6	154.0	138.9	130.9	125.0	124.1	123.6
40°	3031.6	1551.1	655.9	341.5	173.7	147.9	134.3	127.2	121.5	120.2	119.7
42.5°	3165.1	1540.9	642.0	333.1	166.9	143.3	130.9	124.5	118.8	117.0	116.2
45°	3287.0	1534.6	626.8	317.5	170.6	141.6	129.0	122.3	117.0	114.8	113.8
47.5°	3422.3	1556.9	609.9	300.5	169.7	142.0	129.0	121.5	116.2	113.8	112.9
50°	3583.3	1632.3	588.8	277.2	161.7	151.9	128.5	120.2	115.3	113.8	112.1
52.5°	3811.1	1754.7	559.9	247.4	155.3	162.1	128.2	117.9	113.8	111.6	109.5
55°	4123.2	1877.0	522.4	215.7	145.5	154.9	129.0	115.3	110.8	108.4	105.8
57.5°	4379.0	1969.9	475.1	189.4	136.6	146.5	127.6	112.1	107.2	104.9	102.6
60°	4362.4	1978.7	430.0	172.4	131.2	131.7	130.9	109.9	104.1	102.2	100.5
62.5°	4092.4	1868.5	388.0	163.9	127.2	120.2	133.5	107.2	100.9	99.2	97.7
65°	3642.7	1611.7	365.7	163.9	123.6	113.8	116.5	103.6	97.7	95.9	95.1
67.5°	3072.7	1295.3	344.7	167.4	118.8	109.5	105.8	100.0	94.6	92.9	91.9
70°	2462.8	1019.2	329.9	165.6	114.4	104.5	100.0	95.1	89.7	89.3	88.5
72.5°	1931.8	818.9	323.2	165.6	107.5	98.6	94.2	90.5	85.2	84.8	83.5
75°	1547.9	614.8	295.5	162.6	100.9	91.1	87.0	83.9	78.6	79.1	78.2
77.5°	1198.8	434.9	246.9	146.5	92.4	82.6	79.5	77.3	71.0	71.4	71.4
80°	937.7	283.1	191.6	121.5	82.6	72.8	70.5	68.8	62.1	62.9	62.9
82.5°	642.5	168.3	138.9	97.7	71.0	62.1	61.7	58.8	51.8	52.2	53.1
85°	351.0	110.8	92.4	72.4	55.9	50.5	49.5	48.1	41.5	41.5	42.0
87.5°	64.8	59.4	54.4	47.8	37.5	36.1	34.9	36.1	31.3	30.4	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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2
2.5°	1829.2	1798.3	1776.9	1758.3	1713.1	1716.2	1722.5	1731.5	1703.2	1718.0	1736.3
5°	1473.4	1447.9	1428.8	1398.8	1335.9	1313.5	1299.3	1293.0	1251.0	1260.0	1279.5
7.5°	1086.3	1085.8	1079.1	1045.6	969.7	923.7	893.5	884.0	858.2	867.9	897.9
10°	764.7	772.8	769.7	739.8	671.9	639.0	632.1	650.9	651.5	670.7	722.0
12.5°	552.7	548.2	544.3	519.7	468.7	463.4	478.6	504.5	510.7	531.3	584.8
15°	412.5	401.8	399.6	380.4	346.9	351.9	362.9	376.4	376.7	391.1	435.3
17.5°	309.3	309.3	313.0	300.5	276.4	274.2	268.4	264.8	259.4	265.2	289.3
20°	240.1	251.3	260.2	253.1	231.3	220.5	209.3	202.3	198.3	198.6	205.8
22.5°	205.8	214.8	226.4	222.8	204.5	190.6	183.6	178.7	175.4	175.4	179.5
25°	188.5	194.3	205.0	203.1	187.6	176.3	170.6	165.6	162.1	161.7	165.6
27.5°	174.6	178.1	185.3	184.4	168.3	161.2	157.7	154.5	152.3	151.9	155.9
30°	162.1	163.9	167.4	166.0	154.0	147.0	145.5	144.2	142.9	143.3	149.1
32.5°	150.9	152.3	154.5	152.7	141.0	134.8	132.6	130.9	129.4	130.9	137.5
35°	138.3	142.4	145.0	144.2	131.7	124.1	119.3	114.8	112.9	114.4	121.9
37.5°	127.6	134.3	138.0	137.1	124.1	115.3	109.0	108.1	108.1	109.9	117.4
40°	123.6	128.5	131.7	130.3	117.4	108.4	104.9	103.6	104.1	105.8	113.8
42.5°	120.2	124.5	125.5	122.8	109.9	104.1	101.8	100.0	100.9	103.1	111.2
45°	117.0	120.6	120.2	116.2	103.6	99.5	99.5	98.3	98.6	100.5	109.0
47.5°	114.8	116.5	115.6	111.6	99.2	95.9	97.3	97.3	98.3	99.5	108.1
50°	111.2	112.5	111.6	108.1	95.5	92.9	94.2	95.9	96.8	98.3	105.8
52.5°	107.5	108.4	108.1	104.5	91.9	90.2	90.2	91.9	93.8	95.5	102.2
55°	104.1	104.9	105.5	102.6	89.3	87.6	87.0	87.0	88.8	91.5	98.6
57.5°	101.4	101.4	102.2	100.5	86.6	84.4	82.1	82.6	84.8	87.0	94.2
60°	98.3	98.6	100.0	98.3	83.1	79.5	77.8	79.9	80.8	83.1	90.5
62.5°	95.5	95.5	96.5	95.1	79.9	76.4	75.0	77.3	77.3	79.5	87.0
65°	93.3	92.9	92.9	92.4	76.7	73.2	72.4	73.2	73.8	75.8	83.5
67.5°	91.5	89.3	89.3	90.2	73.8	70.1	69.7	69.7	70.1	72.8	79.5
70°	87.6	85.7	85.2	88.5	70.5	66.0	66.0	65.1	66.0	67.5	74.6
72.5°	83.1	81.7	81.2	85.7	67.5	61.7	60.7	60.2	60.7	62.1	68.8
75°	77.3	76.4	77.3	83.9	64.3	56.8	55.3	54.9	54.9	55.3	62.5
77.5°	70.5	69.7	76.4	78.2	62.5	50.9	49.5	48.7	47.8	47.8	55.9
80°	62.5	62.1	73.8	66.0	59.8	44.6	42.4	41.1	40.2	39.7	47.8
82.5°	54.4	53.5	62.9	51.8	49.5	36.7	33.4	30.8	29.5	29.5	36.7
85°	44.6	44.1	49.5	38.0	34.3	26.8	22.3	20.1	18.3	18.3	23.6
87.5°	32.6	31.7	30.8	22.7	17.3	12.0	8.4	8.1	7.1	6.6	9.8
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2	2099.2
2.5°	1763.6	1800.7	1870.7	1928.3	2005.0	2066.7	2136.8	2167.3
5°	1315.7	1374.2	1481.5	1572.9	1699.8	1817.1	1951.1	2024.3
7.5°	943.8	1030.4	1111.7	1226.0	1384.5	1542.1	1715.4	1812.2
10°	780.8	860.3	930.0	1011.2	1133.7	1310.8	1517.5	1626.9
12.5°	646.9	732.7	806.3	893.5	996.1	1156.4	1392.2	1519.4
15°	496.0	589.4	677.7	782.7	908.5	1091.6	1354.6	1496.5
17.5°	339.7	439.8	548.8	676.9	828.6	1064.4	1390.3	1565.3
20°	230.9	304.0	422.4	574.1	756.8	1051.5	1468.9	1706.9
22.5°	189.7	222.8	311.6	477.7	697.9	1065.7	1596.6	1893.1
25°	174.1	192.0	242.5	392.9	652.8	1103.7	1769.4	2103.3
27.5°	164.3	179.5	212.4	332.2	611.2	1155.5	1979.7	2360.4
30°	158.6	172.7	200.4	300.9	573.3	1200.1	2160.6	2554.3
32.5°	145.5	156.2	179.0	283.1	546.0	1236.2	2320.0	2735.6
35°	130.0	142.9	161.7	271.5	545.1	1253.2	2469.9	2936.0
37.5°	124.1	136.6	150.5	265.2	550.5	1267.6	2653.5	3163.3
40°	120.6	131.7	142.9	264.3	555.0	1278.6	2832.8	3399.9
42.5°	117.4	128.5	141.6	258.1	553.1	1293.9	2991.9	3603.0
45°	116.5	127.6	144.6	248.7	552.7	1317.5	3118.1	3765.5
47.5°	115.6	132.6	143.8	238.4	550.9	1367.6	3260.6	3916.9
50°	114.8	141.6	137.5	224.1	537.5	1452.7	3452.1	4090.2
52.5°	114.4	142.9	130.9	204.5	513.4	1579.2	3732.5	4331.3
55°	112.5	135.7	119.3	178.7	478.6	1715.4	4033.0	4614.8
57.5°	108.4	121.0	112.5	153.2	428.6	1810.4	4254.9	4834.0
60°	118.2	104.1	108.1	140.1	368.8	1827.4	4264.8	4895.7
62.5°	112.9	94.6	103.6	135.7	326.9	1716.8	4069.6	4821.9
65°	90.2	89.7	99.5	140.1	320.5	1468.9	3740.2	4603.6
67.5°	82.1	86.1	95.5	145.5	324.6	1157.2	3255.3	4093.8
70°	76.7	81.7	90.2	150.5	331.7	911.7	2620.8	3329.4
72.5°	71.4	75.5	84.8	155.3	326.9	719.3	2097.5	2564.5
75°	64.8	68.4	77.3	142.4	280.5	528.7	1666.6	1821.1
77.5°	57.1	60.2	67.8	112.5	210.7	367.9	1248.4	1312.7
80°	49.0	50.5	56.2	82.1	137.5	220.2	950.0	1047.0
82.5°	38.8	39.3	42.8	60.2	85.7	140.7	658.9	752.3
85°	25.1	26.0	27.7	42.4	57.6	90.2	336.7	385.7
87.5°	8.4	9.8	9.8	20.5	28.1	49.9	103.1	75.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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