

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: P196693

Luminaire Tested: **NAV-AF-01-D-UNV-SLL-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196693
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-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 3000K, 1050mA 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: 5219.3 lumens
Efficiency: N/A
Efficacy: 88.5 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

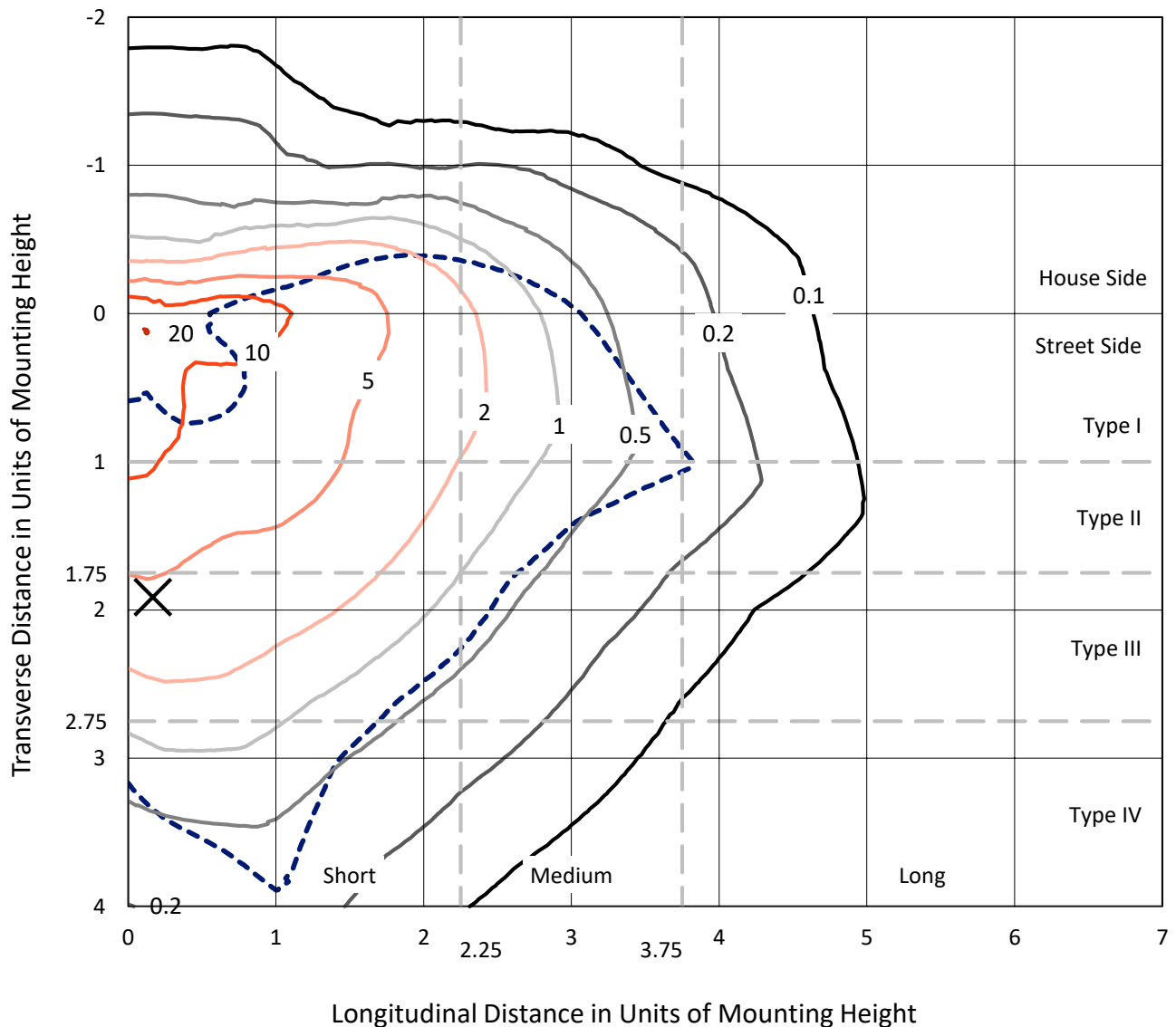
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

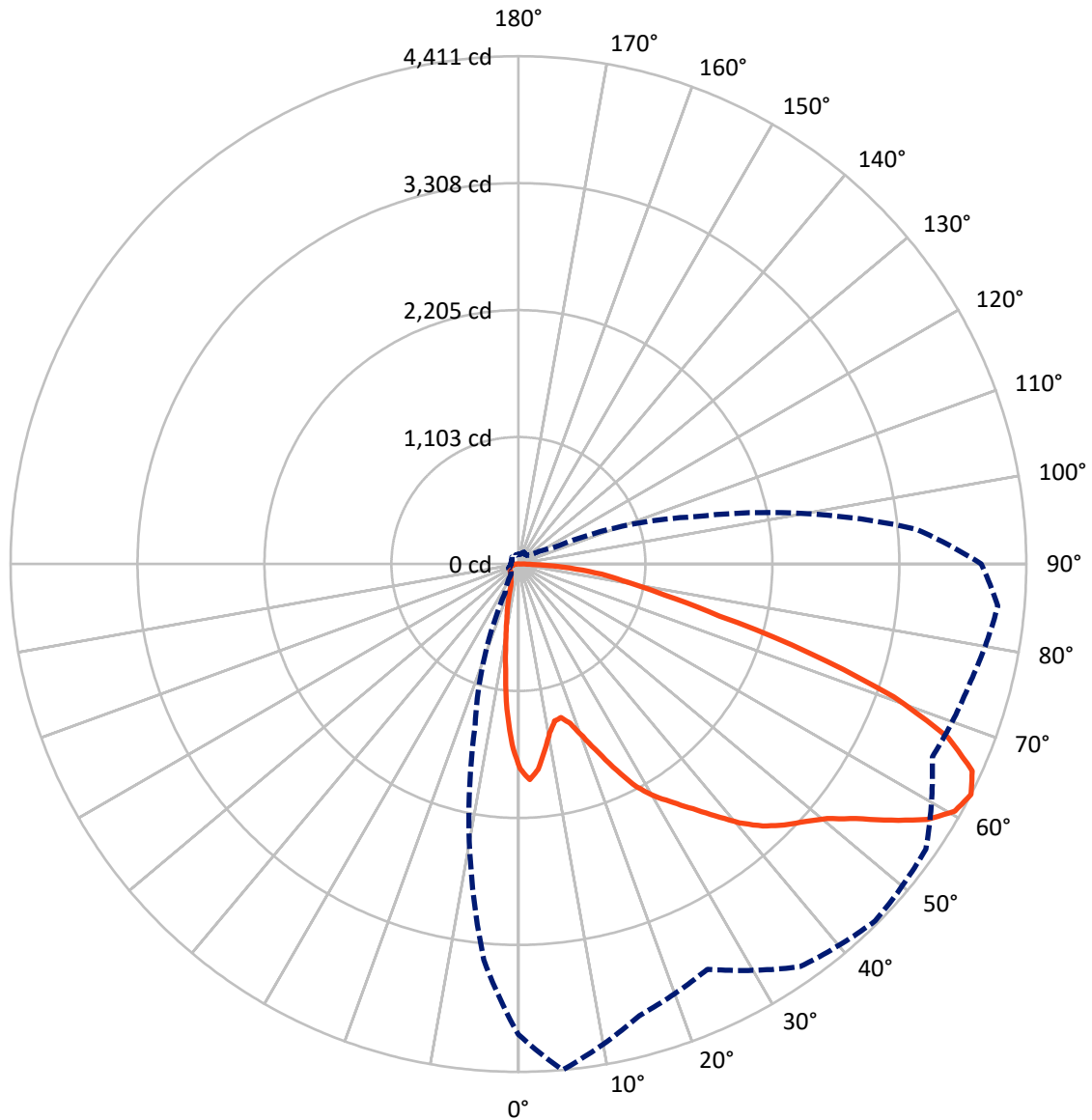
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 20.4 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	924.6	0.0	924.6
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	4294.7	0.0	4294.7
	% Fixture	82.3	0.0	82.3
Total	Lumens	5219.3	0.0	5219.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.4	2.5
10°-20°	236.4	4.5
20°-30°	339.9	6.5
30°-40°	520.7	10.0
40°-50°	761.2	14.6
50°-60°	1107.6	21.2
60°-70°	1283.3	24.6
70°-80°	668.9	12.8
80°-90°	172.0	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°	5219.3	100.0
0°-180°	5219.3	100.0



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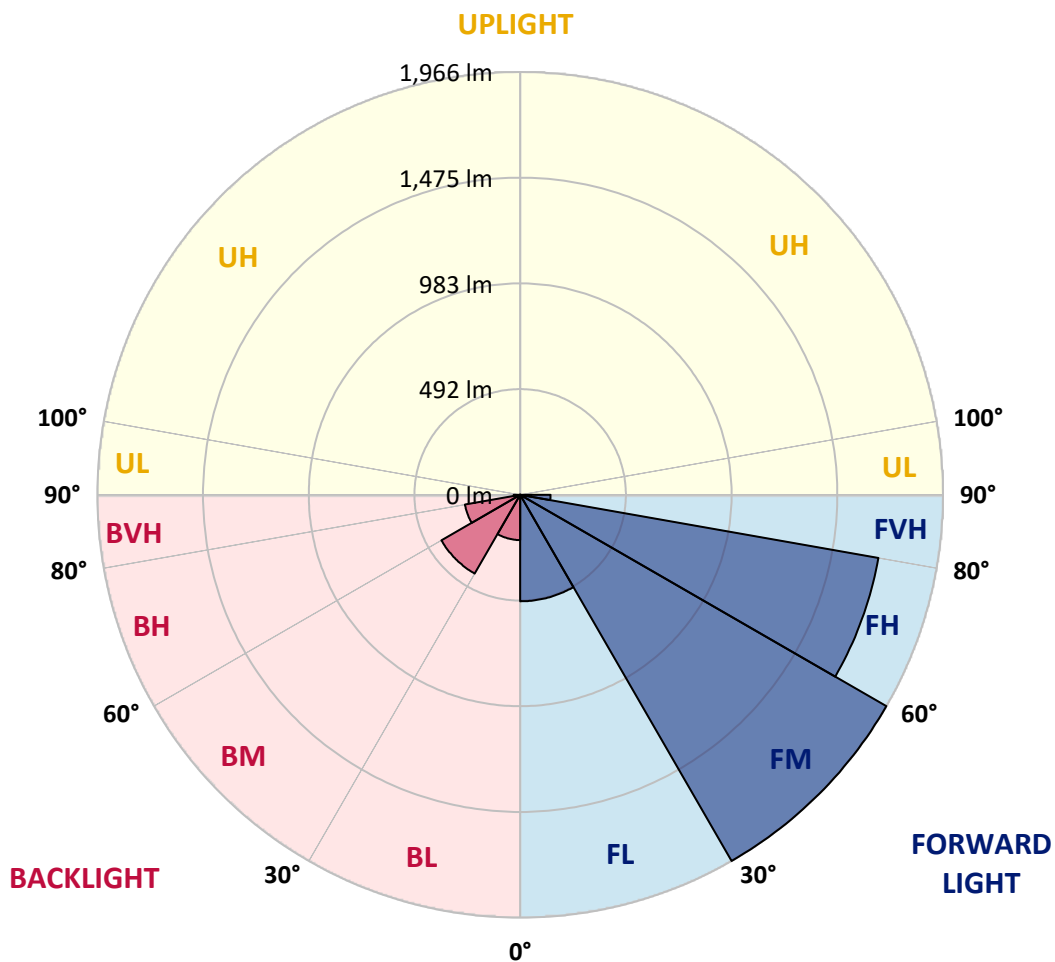
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	495.3	9.5			
FM	(30°-60°)	1966.4	37.7			
FH	(60°-80°)	1691.5	32.4			G1/1800
FVH	(80°-90°)	141.5	2.7			G2/225
BL	(0°-30°)	210.4	4.0	B1/500		
BM	(30°-60°)	423.0	8.1	B1/1000		
BH	(60°-80°)	260.7	5.0	B1/500		G1/500
BVH	(80°-90°)	30.5	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°	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4
2.5°	1836.8	1875.9	1920.6	1978.8	2018.6	2034.4	2047.6	2025.3	2003.9	1963.3	1948.8
5°	1715.8	1790.8	1913.6	2030.7	2133.7	2192.7	2210.8	2169.6	2096.1	1990.1	1934.1
7.5°	1536.0	1634.8	1807.8	1979.9	2127.5	2225.9	2233.2	2151.4	2006.8	1833.2	1742.2
10°	1379.0	1490.7	1690.8	1883.4	2039.8	2140.4	2120.7	2006.0	1831.6	1634.1	1531.5
12.5°	1287.8	1399.4	1603.4	1799.1	1946.2	1984.4	1944.4	1847.9	1682.5	1484.7	1381.2
15°	1268.5	1383.5	1572.4	1737.3	1828.6	1804.0	1764.2	1715.4	1597.7	1435.7	1335.8
17.5°	1326.7	1455.5	1613.6	1704.0	1700.3	1641.3	1608.0	1617.4	1597.4	1488.7	1384.4
20°	1446.7	1598.9	1718.4	1694.9	1598.1	1515.2	1496.0	1570.0	1662.8	1621.5	1506.9
22.5°	1604.6	1777.8	1861.4	1721.1	1544.7	1455.5	1451.6	1567.5	1782.0	1822.6	1682.9
25°	1782.8	1984.8	2005.7	1767.3	1539.0	1450.1	1446.7	1608.3	1925.4	2021.6	1880.1
27.5°	2000.7	2193.7	2125.9	1828.9	1564.0	1465.6	1467.9	1678.0	2075.0	2218.3	2102.1
30°	2165.0	2342.1	2200.2	1889.5	1604.2	1492.9	1498.6	1753.3	2155.5	2355.0	2279.7
32.5°	2318.6	2468.8	2271.3	1949.3	1662.8	1533.4	1553.1	1847.1	2252.4	2472.3	2447.3
35°	2488.5	2610.8	2350.3	2013.2	1746.8	1604.6	1632.9	1936.4	2348.5	2589.6	2613.4
37.5°	2681.1	2773.1	2436.4	2103.7	1867.9	1736.2	1752.1	2027.7	2415.5	2719.4	2791.7
40°	2881.7	2955.1	2530.1	2224.4	2043.9	1914.1	1921.7	2144.5	2468.0	2853.8	2964.6
42.5°	3053.9	3111.0	2624.4	2374.2	2246.0	2095.4	2101.8	2270.5	2518.4	2969.5	3103.1
45°	3191.7	3233.6	2713.4	2532.1	2461.7	2321.6	2320.1	2398.9	2585.8	3067.1	3209.5
47.5°	3320.0	3342.2	2812.5	2685.7	2685.4	2613.1	2559.0	2550.2	2675.4	3149.3	3302.2
50°	3466.8	3475.1	2943.5	2840.8	2958.5	2947.2	2847.3	2742.5	2791.7	3241.6	3399.4
52.5°	3671.1	3671.5	3105.8	2992.3	3260.2	3296.2	3179.9	2960.1	2963.4	3421.4	3567.5
55°	3911.5	3928.1	3317.3	3173.6	3575.7	3637.0	3527.7	3218.6	3210.2	3711.2	3839.9
57.5°	4097.2	4185.4	3563.7	3400.1	3870.5	3950.4	3862.2	3486.5	3513.3	4010.3	4064.7
60°	4149.4	4355.7	3809.3	3654.5	4119.9	4240.0	4150.2	3776.0	3810.0	4204.3	4129.5
62.5°	4087.1	4410.6	4059.4	3882.3	4267.8	4382.9	4318.6	3965.6	4051.9	4179.3	4020.0
65°	3901.9	4331.1	4276.6	3979.2	4182.8	4223.6	4206.6	3975.4	4183.1	3943.1	3717.6
67.5°	3469.8	4024.6	4179.7	3772.1	3785.1	3741.1	3718.8	3705.2	4035.6	3562.2	3240.8
70°	2821.9	3458.0	3717.6	3156.8	3061.5	3019.1	2945.6	3127.3	3627.2	3035.0	2667.1
72.5°	2173.7	2645.6	3049.4	2393.3	2194.9	2209.2	2125.9	2391.2	3004.7	2346.3	2036.4
75°	1543.7	1804.0	2434.1	1719.5	1457.0	1456.2	1449.8	1721.1	2370.8	1684.0	1489.9
77.5°	1112.6	1298.8	1906.9	1150.8	1033.8	1047.1	1026.0	1169.7	1848.2	1211.3	1103.8
80°	887.4	961.6	1232.6	767.4	769.7	800.8	796.2	800.0	1215.8	877.3	825.4
82.5°	637.6	730.0	942.3	588.1	509.0	541.9	548.4	593.4	857.9	620.3	544.2
85°	327.0	445.0	867.0	509.3	318.3	263.8	303.5	468.0	745.1	371.6	265.3
87.5°	63.6	123.4	635.4	283.1	143.0	72.3	119.2	198.3	433.3	67.4	32.9
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4
2.5°	1924.3	1875.9	1830.4	1783.5	1747.2	1703.0	1659.4	1621.5	1584.8	1560.7	1568.2
5°	1877.4	1759.3	1653.3	1555.0	1497.4	1428.2	1366.5	1314.6	1274.5	1248.9	1264.3
7.5°	1663.6	1503.9	1364.2	1234.4	1152.6	1063.0	991.1	940.4	909.4	892.0	917.3
10°	1444.9	1265.4	1108.8	973.7	893.0	817.0	751.9	698.1	656.5	636.9	647.2
12.5°	1288.1	1088.8	924.6	833.6	764.4	696.3	628.9	566.2	513.2	488.9	484.0
15°	1229.5	993.7	826.1	724.7	655.8	581.7	509.0	441.6	391.2	370.5	365.9
17.5°	1255.3	973.3	767.9	647.9	547.9	457.9	376.2	312.6	275.5	263.8	265.0
20°	1345.6	980.9	720.9	568.8	445.4	338.7	257.0	213.0	197.2	194.5	197.5
22.5°	1469.9	1012.0	686.8	500.6	355.0	246.4	191.1	170.3	166.2	165.7	168.8
25°	1633.7	1072.5	664.2	440.1	280.5	195.2	166.5	154.8	151.4	152.1	155.1
27.5°	1826.7	1149.3	649.4	387.9	230.4	174.0	155.5	145.4	141.9	142.7	145.0
30°	2003.0	1216.6	627.4	348.5	207.0	166.5	149.4	139.3	134.7	134.7	136.2
32.5°	2160.8	1274.9	601.7	319.0	185.4	149.4	135.5	127.5	124.1	125.2	125.9
35°	2300.9	1305.5	581.7	301.5	168.0	137.7	123.8	115.4	110.9	111.7	112.7
37.5°	2438.5	1317.3	568.3	292.2	155.5	130.6	117.7	110.9	106.0	105.2	104.8
40°	2569.6	1314.6	555.9	289.5	147.2	125.2	113.9	107.8	102.9	101.8	101.4
42.5°	2682.7	1305.9	544.2	282.3	141.5	121.5	110.9	105.6	100.6	99.1	98.5
45°	2786.0	1300.6	531.3	269.1	144.5	119.9	109.4	103.7	99.1	97.2	96.4
47.5°	2900.7	1319.6	516.9	254.7	143.7	120.3	109.4	102.9	98.5	96.4	95.7
50°	3037.3	1383.5	499.1	235.0	137.0	128.7	109.0	101.8	97.7	96.4	94.9
52.5°	3230.2	1487.2	474.5	209.7	131.6	137.3	108.6	99.9	96.4	94.6	92.8
55°	3494.7	1591.0	442.7	182.8	123.4	131.3	109.4	97.7	93.9	92.0	89.7
57.5°	3711.6	1669.6	402.6	160.5	115.9	124.1	108.2	94.9	90.8	88.9	87.1
60°	3697.7	1677.2	364.4	146.1	111.2	111.7	110.9	93.1	88.2	86.7	85.1
62.5°	3468.7	1583.7	328.9	138.9	107.8	101.8	113.2	90.8	85.5	84.0	82.9
65°	3087.5	1366.2	310.0	138.9	104.8	96.4	98.8	87.9	82.9	81.4	80.7
67.5°	2604.3	1097.8	292.2	141.9	100.6	92.8	89.7	84.7	80.2	78.6	77.9
70°	2087.4	863.9	279.7	140.4	96.9	88.5	84.7	80.7	76.1	75.7	75.0
72.5°	1637.5	694.1	274.0	140.4	91.2	83.6	79.9	76.8	72.3	71.9	70.8
75°	1311.9	521.0	250.5	137.7	85.5	77.2	73.8	71.1	66.6	66.9	66.2
77.5°	1016.1	368.6	209.2	124.1	78.3	70.0	67.4	65.4	60.2	60.5	60.5
80°	794.8	240.0	162.4	102.9	70.0	61.7	59.8	58.2	52.6	53.3	53.3
82.5°	544.5	142.7	117.7	82.9	60.2	52.6	52.2	49.9	43.9	44.2	45.1
85°	297.4	93.9	78.3	61.3	47.3	42.7	41.9	40.9	35.2	35.2	35.6
87.5°	54.8	50.4	46.2	40.5	31.8	30.7	29.5	30.7	26.4	25.7	25.7
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4
2.5°	1550.4	1524.2	1506.1	1490.3	1452.0	1454.7	1459.9	1467.6	1443.8	1456.2	1471.7
5°	1248.9	1227.2	1210.9	1185.6	1132.3	1113.4	1101.3	1096.0	1060.4	1067.9	1084.6
7.5°	920.7	920.3	914.6	886.3	821.9	783.0	757.2	749.3	727.3	735.7	761.0
10°	648.2	655.0	652.4	627.0	569.6	541.5	535.8	551.8	552.1	568.3	612.0
12.5°	468.5	464.7	461.3	440.6	397.3	392.8	405.7	427.6	432.8	450.3	495.7
15°	349.6	340.6	338.7	322.5	294.0	298.2	307.7	319.0	319.4	331.5	369.0
17.5°	262.2	262.2	265.3	254.7	234.3	232.4	227.5	224.4	219.8	224.7	245.2
20°	203.5	213.0	220.6	214.5	196.0	187.0	177.4	171.4	168.0	168.4	174.5
22.5°	174.5	182.0	191.9	188.8	173.2	161.6	155.5	151.4	148.7	148.7	152.1
25°	159.7	164.7	173.7	172.2	159.0	149.4	144.5	140.4	137.3	137.0	140.4
27.5°	147.9	151.0	157.0	156.2	142.7	136.6	133.7	130.9	129.0	128.7	132.1
30°	137.3	138.9	141.9	140.7	130.6	124.5	123.4	122.3	121.1	121.5	126.4
32.5°	128.0	129.0	130.9	129.5	119.5	114.2	112.4	110.9	109.7	110.9	116.6
35°	117.4	120.7	123.0	122.3	111.7	105.2	101.1	97.2	95.7	96.9	103.4
37.5°	108.2	113.9	116.9	116.2	105.2	97.7	92.4	91.6	91.6	93.1	99.5
40°	104.8	109.0	111.7	110.5	99.5	92.0	88.9	87.9	88.2	89.7	96.4
42.5°	101.8	105.6	106.3	104.1	93.1	88.2	86.4	84.7	85.5	87.4	94.2
45°	99.1	102.1	101.8	98.5	87.9	84.3	84.3	83.2	83.6	85.1	92.4
47.5°	97.2	98.8	98.0	94.6	84.0	81.4	82.5	82.5	83.2	84.3	91.6
50°	94.2	95.4	94.6	91.6	81.0	78.6	79.9	81.4	82.2	83.2	89.7
52.5°	91.2	92.0	91.6	88.5	77.9	76.5	76.5	77.9	79.4	81.0	86.7
55°	88.2	88.9	89.3	87.1	75.7	74.2	73.8	73.8	75.3	77.6	83.6
57.5°	85.9	85.9	86.7	85.1	73.4	71.6	69.6	70.0	71.9	73.8	79.9
60°	83.2	83.6	84.7	83.2	70.4	67.4	65.9	67.7	68.5	70.4	76.8
62.5°	81.0	81.0	81.7	80.7	67.7	64.7	63.6	65.4	65.4	67.4	73.8
65°	79.1	78.6	78.6	78.3	65.1	62.1	61.3	62.1	62.4	64.4	70.8
67.5°	77.6	75.7	75.7	76.5	62.4	59.4	59.0	59.0	59.4	61.7	67.4
70°	74.2	72.6	72.3	75.0	59.8	56.0	56.0	55.2	56.0	57.2	63.2
72.5°	70.4	69.3	68.9	72.6	57.2	52.2	51.5	51.2	51.5	52.6	58.2
75°	65.4	64.7	65.4	71.1	54.5	48.1	46.9	46.6	46.6	46.9	53.0
77.5°	59.8	59.0	64.7	66.2	53.0	43.1	41.9	41.3	40.5	40.5	47.3
80°	53.0	52.6	62.4	56.0	50.7	37.8	35.9	34.9	34.1	33.7	40.5
82.5°	46.2	45.5	53.3	43.9	41.9	31.0	28.4	26.1	25.0	25.0	31.0
85°	37.8	37.4	41.9	32.1	29.2	22.7	18.9	17.1	15.6	15.6	20.1
87.5°	27.7	26.9	26.1	19.3	14.7	10.3	7.2	6.8	6.0	5.7	8.3
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4	1779.4
2.5°	1494.7	1526.3	1585.6	1634.4	1699.5	1751.8	1811.2	1836.8
5°	1115.2	1164.8	1255.6	1333.2	1440.7	1540.2	1653.7	1715.8
7.5°	800.0	873.4	942.3	1039.2	1173.6	1307.1	1453.9	1536.0
10°	661.9	729.2	788.3	857.1	960.8	1111.0	1286.3	1379.0
12.5°	548.4	621.0	683.4	757.2	844.2	980.2	1179.9	1287.8
15°	420.4	499.6	574.4	663.4	770.1	925.2	1148.1	1268.5
17.5°	288.0	372.8	465.1	573.7	702.3	902.2	1178.5	1326.7
20°	195.7	257.8	358.1	486.6	641.5	891.2	1245.0	1446.7
22.5°	160.8	188.8	264.2	405.0	591.5	903.3	1353.2	1604.6
25°	147.6	162.7	205.5	333.0	553.3	935.5	1499.7	1782.8
27.5°	139.3	152.1	180.2	281.6	518.1	979.4	1678.0	2000.7
30°	134.4	146.4	169.9	255.0	485.8	1017.2	1831.1	2165.0
32.5°	123.4	132.4	151.8	240.0	462.8	1047.9	1966.3	2318.6
35°	110.2	121.1	137.0	230.1	462.0	1062.2	2093.5	2488.5
37.5°	105.2	115.9	127.5	224.7	466.6	1074.3	2249.0	2681.1
40°	102.1	111.7	121.1	224.0	470.4	1083.9	2401.1	2881.7
42.5°	99.5	109.0	119.9	218.7	468.8	1096.6	2535.8	3053.9
45°	98.8	108.2	122.6	210.8	468.5	1116.7	2643.0	3191.7
47.5°	98.0	112.4	121.9	202.1	467.0	1159.1	2763.7	3320.0
50°	97.2	119.9	116.6	190.0	455.6	1231.4	2926.0	3466.8
52.5°	96.9	121.1	110.9	173.2	435.2	1338.5	3163.7	3671.1
55°	95.4	115.0	101.1	151.4	405.7	1453.9	3418.4	3911.5
57.5°	92.0	102.6	95.4	129.8	363.3	1534.5	3606.4	4097.2
60°	100.3	88.2	91.6	118.9	312.6	1548.9	3614.8	4149.4
62.5°	95.7	80.2	87.9	115.0	277.0	1455.0	3449.5	4087.1
65°	76.5	76.1	84.3	118.9	271.7	1245.0	3170.0	3901.9
67.5°	69.6	72.9	81.0	123.4	275.2	980.9	2759.2	3469.8
70°	65.1	69.3	76.5	127.5	281.2	772.8	2221.3	2821.9
72.5°	60.5	63.9	71.9	131.6	277.0	609.6	1777.8	2173.7
75°	54.8	57.9	65.4	120.7	237.6	448.1	1412.7	1543.7
77.5°	48.4	51.2	57.5	95.4	178.6	311.8	1058.0	1112.6
80°	41.6	42.7	47.6	69.6	116.6	186.7	805.2	887.4
82.5°	32.9	33.4	36.4	51.2	72.6	119.2	558.6	637.6
85°	21.2	22.0	23.5	35.9	48.8	76.5	285.3	327.0
87.5°	7.2	8.3	8.3	17.4	23.8	42.4	87.4	63.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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