

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: P197245

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197245
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 80 CRI, 3000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5224 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 II - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

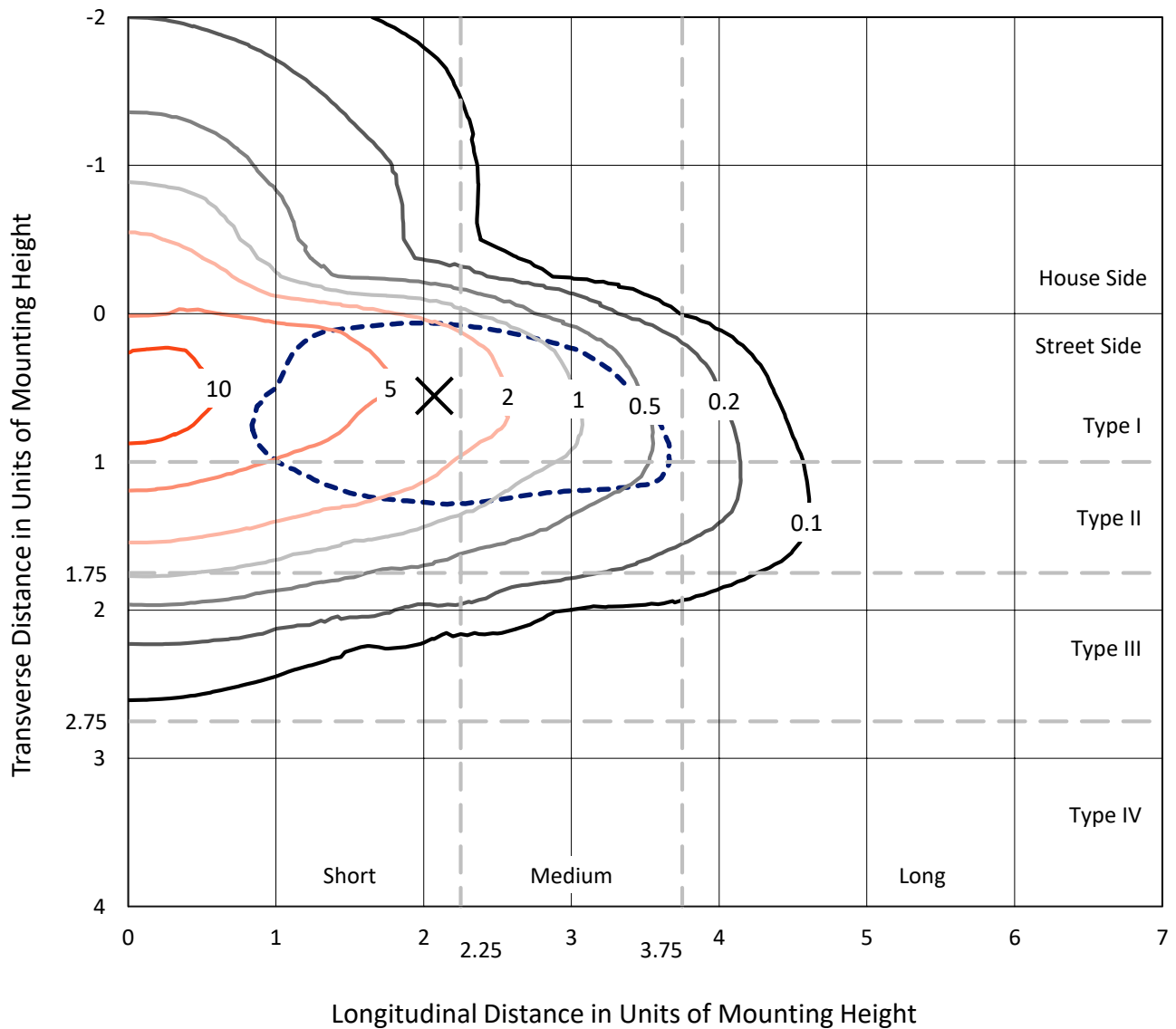
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

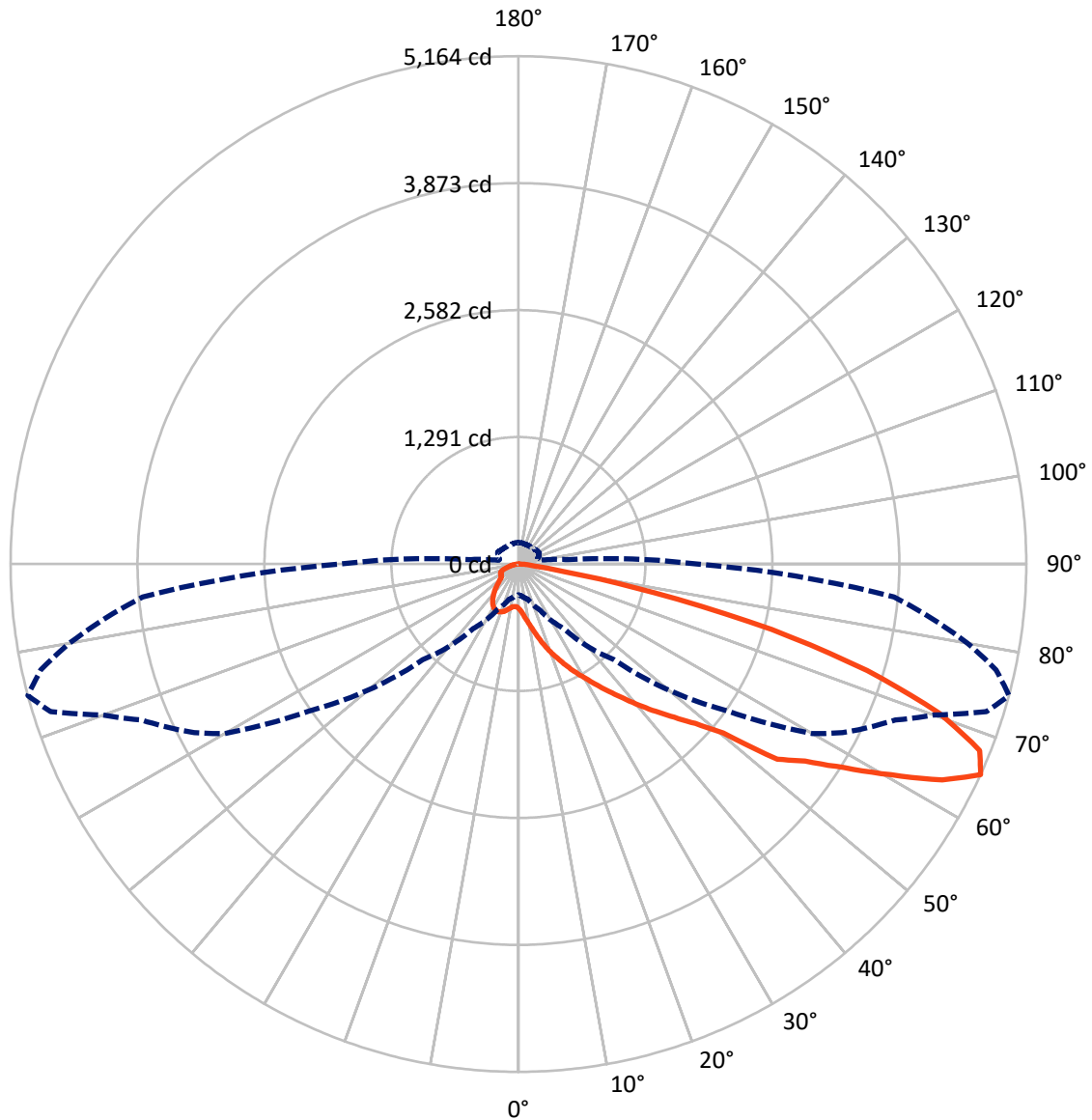
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13 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	785.0	0.0	785.0
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	4439.0	0.0	4439.0
	% Fixture	85.0	0.0	85.0
Total	Lumens	5224.0	0.0	5224.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.4	1.0
10°-20°	204.1	3.9
20°-30°	411.9	7.9
30°-40°	699.5	13.4
40°-50°	975.6	18.7
50°-60°	1195.8	22.9
60°-70°	1125.1	21.5
70°-80°	493.3	9.4
80°-90°	65.3	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°	5224.0	100.0
0°-180°	5224.0	100.0



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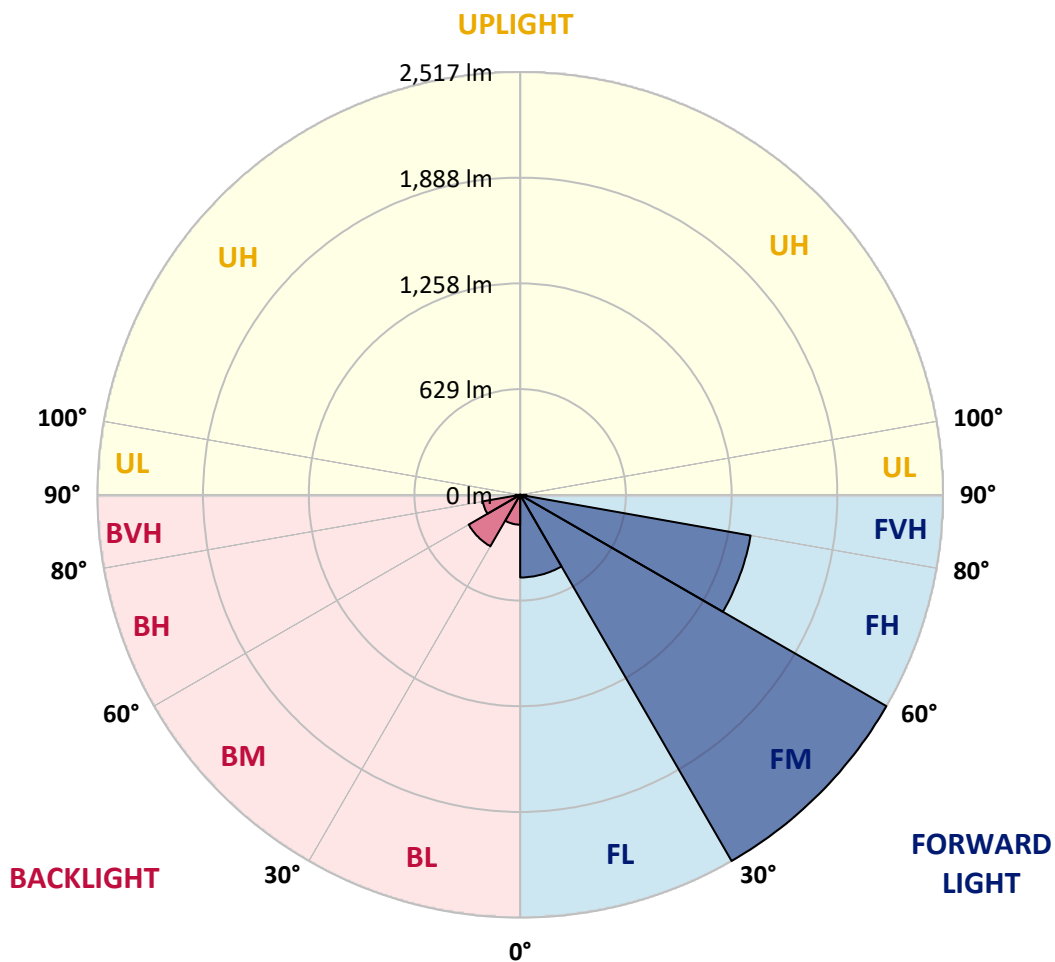
CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	491.7	9.4			
FM (30°-60°)	2516.7	48.2			
FH (60°-80°)	1392.8	26.7			G1/1800
FVH (80°-90°)	37.8	0.7			G1/100
BL (0°-30°)	177.7	3.4	B1/500		
BM (30°-60°)	354.2	6.8	B1/1000		
BH (60°-80°)	225.6	4.3	B1/500		G1/500
BVH (80°-90°)	27.4	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°	452.6	452.6	452.6	452.6	452.6	452.6	452.6	452.6	452.6	452.6	452.6
2.5°	569.9	563.3	564.0	554.7	541.0	526.1	513.8	507.1	501.5	499.8	490.5
5°	745.4	737.1	734.1	712.8	680.9	643.1	605.5	590.9	578.9	571.6	553.7
7.5°	889.0	884.7	880.7	861.1	829.5	781.0	720.5	698.9	678.9	657.0	635.4
10°	986.7	985.0	983.4	969.7	943.5	901.3	836.1	812.5	787.6	759.7	731.4
12.5°	1060.5	1060.5	1061.8	1050.5	1034.5	1002.0	942.8	920.9	895.6	866.4	834.1
15°	1110.0	1111.3	1118.3	1121.6	1113.3	1092.4	1040.5	1021.2	997.3	968.4	936.5
17.5°	1142.9	1145.5	1155.8	1166.8	1177.4	1170.1	1131.6	1113.6	1092.0	1065.4	1035.5
20°	1219.3	1216.0	1216.3	1213.0	1228.6	1234.3	1213.0	1198.0	1180.8	1156.5	1129.2
22.5°	1379.8	1373.5	1357.2	1315.7	1296.7	1294.7	1282.1	1274.1	1260.8	1245.6	1218.3
25°	1589.2	1581.9	1549.6	1481.2	1424.7	1372.5	1349.2	1344.3	1335.6	1325.3	1305.7
27.5°	1805.5	1797.5	1756.0	1669.6	1595.8	1490.5	1418.0	1411.4	1403.4	1399.1	1389.8
30°	1995.9	1987.3	1946.4	1858.7	1769.6	1644.0	1510.8	1487.5	1473.9	1475.2	1469.9
32.5°	2163.1	2155.5	2109.6	2020.2	1929.8	1807.9	1631.1	1594.8	1564.3	1553.0	1556.9
35°	2303.3	2296.4	2246.2	2156.1	2065.1	1963.7	1785.9	1731.4	1681.6	1650.3	1646.7
37.5°	2385.8	2381.8	2346.6	2270.1	2179.7	2105.3	1959.4	1898.9	1825.5	1779.9	1760.0
40°	2381.1	2385.4	2379.5	2344.9	2274.8	2220.6	2140.2	2080.4	2008.6	1940.8	1900.2
42.5°	2313.3	2319.3	2346.2	2364.2	2345.2	2312.3	2298.0	2253.5	2189.0	2117.2	2061.1
45°	2220.3	2225.6	2260.5	2325.3	2379.5	2388.8	2436.3	2414.0	2359.5	2298.4	2236.6
47.5°	2077.7	2088.0	2128.5	2231.6	2360.5	2450.2	2552.3	2562.6	2531.0	2480.5	2422.7
50°	1871.3	1885.0	1941.8	2088.3	2288.7	2513.4	2724.7	2764.0	2751.3	2700.1	2641.7
52.5°	1660.0	1673.6	1749.4	1905.2	2173.1	2539.3	2894.6	2994.9	3067.4	3120.2	3130.5
55°	1440.0	1455.3	1538.3	1717.8	2018.9	2506.4	3015.9	3129.8	3203.3	3258.5	3280.7
57.5°	1191.7	1209.0	1289.4	1470.9	1800.9	2374.1	3150.8	3312.3	3421.6	3506.7	3554.6
60°	906.9	928.5	1011.9	1194.7	1514.4	2120.9	3210.9	3449.9	3623.7	3751.3	3827.1
62.5°	574.9	596.9	683.6	873.4	1188.4	1775.0	3040.8	3389.4	3685.8	3874.6	4013.5
65°	313.7	323.4	371.5	514.4	801.2	1377.2	2609.4	3020.5	3447.5	3715.1	3928.4
67.5°	235.3	236.6	241.6	276.5	426.7	929.8	2040.1	2416.7	2890.9	3235.2	3490.1
70°	206.0	206.0	206.7	207.0	231.6	503.8	1382.1	1728.8	2163.4	2511.7	2828.4
72.5°	184.8	182.8	182.1	178.1	181.4	258.2	752.4	1063.8	1430.3	1821.1	2116.6
75°	159.5	159.2	159.2	155.2	157.2	181.8	326.3	510.5	794.6	1158.5	1449.3
77.5°	137.9	135.6	135.9	133.6	139.9	139.2	154.9	210.4	346.0	608.5	849.8
80°	113.7	112.0	113.0	111.7	121.6	103.0	104.4	128.6	171.8	266.9	376.2
82.5°	84.1	84.7	91.1	90.4	102.4	69.5	76.4	96.0	115.6	132.9	144.6
85°	49.2	50.2	65.5	68.8	75.1	36.6	46.9	57.2	64.5	71.5	74.4
87.5°	5.3	7.0	36.6	37.6	33.6	11.0	18.9	23.9	25.6	27.3	23.9
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):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	452.6	452.6	452.6	452.6	452.6	452.6	452.6	452.6	452.6	452.6	452.6
2.5°	487.5	483.2	478.5	475.9	471.2	467.2	459.9	454.0	447.3	442.7	440.7
5°	544.7	534.4	523.4	515.4	505.5	496.8	480.2	460.3	454.0	440.7	437.3
7.5°	619.1	600.5	581.9	566.6	549.3	535.0	507.1	471.2	466.6	445.3	440.7
10°	706.5	679.3	651.7	628.1	602.8	580.9	539.7	489.2	484.2	456.9	452.3
12.5°	804.2	771.0	735.4	700.2	670.3	639.4	583.2	517.1	509.1	476.9	470.6
15°	904.9	869.0	827.8	785.3	748.4	707.5	636.7	553.7	539.0	501.1	492.5
17.5°	1004.3	965.4	922.2	874.7	831.5	782.6	694.6	594.5	569.3	525.1	514.1
20°	1100.3	1060.8	1015.3	968.7	914.9	859.1	753.7	634.7	596.2	545.0	530.7
22.5°	1187.7	1153.8	1108.3	1054.8	1000.3	937.5	813.9	675.0	619.8	560.3	542.0
25°	1279.8	1248.9	1203.7	1152.2	1088.7	1018.9	876.0	713.2	638.7	568.6	546.0
27.5°	1372.8	1346.3	1303.7	1249.5	1181.4	1104.0	939.2	748.4	654.0	571.3	544.0
30°	1472.2	1451.6	1412.4	1351.9	1283.1	1197.4	1007.9	783.0	663.7	567.6	535.0
32.5°	1566.3	1565.6	1530.7	1467.9	1393.8	1299.4	1080.4	817.9	668.6	557.3	519.4
35°	1664.0	1677.6	1651.3	1591.5	1513.4	1408.7	1160.5	855.1	669.0	539.0	499.2
37.5°	1775.0	1799.2	1787.6	1730.8	1648.7	1533.4	1254.5	896.9	667.0	513.8	469.6
40°	1901.2	1934.5	1934.1	1886.3	1798.5	1672.9	1363.9	943.8	662.3	482.2	434.7
42.5°	2045.8	2085.3	2096.3	2049.1	1960.4	1825.5	1489.2	995.3	655.0	451.0	397.8
45°	2211.3	2246.2	2266.8	2222.9	2133.9	1991.6	1633.0	1053.8	646.0	410.8	355.6
47.5°	2388.4	2429.0	2459.9	2422.3	2327.3	2181.1	1803.5	1129.2	642.7	364.9	310.1
50°	2608.1	2650.0	2716.8	2699.8	2647.6	2530.0	2164.1	1307.4	644.0	321.4	271.8
52.5°	3153.1	3249.1	3333.6	3296.0	3172.0	2970.3	2457.2	1406.4	616.1	285.8	245.3
55°	3317.6	3426.6	3551.2	3535.6	3416.6	3213.3	2688.8	1489.2	589.2	259.9	228.0
57.5°	3605.4	3734.0	3908.2	3904.8	3758.9	3530.0	2986.9	1588.2	577.6	244.9	219.3
60°	3910.1	4074.0	4314.6	4352.1	4193.6	3955.3	3339.2	1709.8	579.2	236.6	214.4
62.5°	4132.8	4373.1	4723.0	4835.3	4648.6	4386.0	3704.8	1831.4	569.3	227.0	208.4
65°	4146.4	4492.4	4988.9	5163.7	4974.6	4637.3	3833.7	1807.5	509.5	214.0	198.7
67.5°	3814.1	4264.7	4867.9	5059.7	4866.2	4482.4	3607.7	1580.2	414.1	191.4	182.1
70°	3176.7	3699.8	4325.9	4539.6	4379.7	3991.2	3139.8	1262.2	309.4	161.5	157.2
72.5°	2454.9	2942.7	3511.4	3709.1	3586.8	3245.2	2476.5	919.9	221.0	130.9	127.6
75°	1755.0	2170.4	2583.2	2658.6	2538.0	2224.3	1606.8	574.6	154.9	107.3	102.7
77.5°	1086.7	1356.9	1505.1	1408.1	1254.2	1042.5	654.0	283.8	103.0	87.4	82.7
80°	482.2	566.0	528.4	470.9	371.9	305.7	199.7	126.0	66.5	67.5	64.8
82.5°	162.2	171.5	166.8	165.8	149.5	130.9	84.7	54.5	37.2	43.2	42.2
85°	79.1	82.7	83.1	86.1	74.8	58.2	22.9	21.6	16.0	23.3	24.3
87.5°	23.9	24.3	21.9	23.9	19.3	13.3	4.3	6.0	3.0	5.6	5.6
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°	452.6	452.6	452.6	452.6	452.6	452.6	452.6	452.6	452.6	452.6	452.6
2.5°	437.0	435.7	433.4	430.7	430.0	426.7	425.7	424.0	423.1	421.4	420.1
5°	433.0	430.7	428.0	425.0	425.0	420.4	418.4	416.4	416.4	413.4	412.1
7.5°	437.0	434.0	431.0	428.4	429.4	424.0	422.1	420.1	419.7	416.7	415.4
10°	448.3	445.3	441.7	439.0	438.0	433.7	431.4	428.4	426.4	424.4	422.4
12.5°	465.6	461.6	456.9	451.3	449.0	445.3	441.7	437.7	433.0	431.0	428.0
15°	486.2	479.5	473.2	466.3	459.9	456.3	451.3	445.0	438.7	436.0	432.0
17.5°	503.1	496.2	487.2	478.9	467.6	464.6	457.6	450.0	439.7	438.7	432.7
20°	517.4	506.8	495.8	485.9	468.6	466.9	458.3	449.3	434.7	434.7	427.4
22.5°	525.4	510.8	497.8	484.5	462.9	461.6	451.6	441.0	423.1	423.7	414.7
25°	526.7	509.1	492.8	476.9	452.0	449.6	437.0	425.4	405.8	404.4	395.1
27.5°	521.4	500.8	481.9	462.6	435.7	430.7	416.7	402.8	383.5	380.2	370.2
30°	509.1	484.9	463.6	441.3	413.1	405.1	390.5	376.2	356.6	352.3	343.0
32.5°	489.5	461.9	438.3	416.1	384.8	374.9	360.2	346.0	327.0	323.7	315.0
35°	463.6	432.7	407.8	384.2	352.9	342.6	328.7	316.0	298.8	297.4	291.4
37.5°	431.0	398.8	372.2	349.6	320.0	314.7	300.4	291.1	276.8	278.2	275.2
40°	394.1	361.2	336.0	316.0	290.5	285.8	277.2	270.2	257.9	261.5	261.9
42.5°	356.9	324.0	301.1	283.1	261.2	258.2	252.2	248.2	238.9	246.3	249.2
45°	314.7	284.1	264.5	250.9	234.6	234.6	231.6	231.3	225.0	235.3	238.3
47.5°	273.8	249.9	236.3	228.0	216.7	222.0	221.0	223.7	219.0	229.6	232.3
50°	242.9	226.3	218.0	214.0	206.0	214.4	216.3	220.0	216.0	225.3	227.3
52.5°	223.3	212.4	207.7	206.7	201.1	211.4	214.7	218.0	213.4	222.0	221.7
55°	212.4	205.0	203.4	205.4	201.1	211.0	214.4	216.7	212.7	218.7	218.3
57.5°	208.4	204.4	205.4	208.4	205.4	213.7	215.3	218.0	214.0	216.7	218.0
60°	208.0	208.0	212.0	216.0	214.0	220.0	221.0	220.7	217.0	217.3	218.0
62.5°	206.0	211.0	217.7	224.0	223.3	230.6	231.3	227.0	224.0	220.7	219.7
65°	199.7	208.0	217.7	226.3	227.6	238.9	240.3	236.0	234.0	228.3	224.0
67.5°	185.8	196.4	207.7	218.3	220.7	236.0	238.9	240.6	241.6	237.9	232.3
70°	162.2	173.1	184.8	197.1	200.4	217.3	223.7	231.3	237.3	242.6	240.6
72.5°	131.9	141.9	151.9	163.2	168.2	185.8	194.1	207.4	216.7	230.3	236.0
75°	104.7	110.7	116.6	123.6	127.6	144.9	155.2	171.1	183.8	202.7	215.3
77.5°	82.4	85.4	88.4	91.4	93.1	102.7	111.0	126.9	141.6	165.5	184.1
80°	63.5	65.1	65.5	66.5	65.8	70.5	73.4	83.1	95.7	119.3	141.2
82.5°	40.9	42.2	42.9	44.5	41.2	47.2	49.2	50.2	56.8	74.1	89.7
85°	22.9	23.3	23.6	24.3	19.6	25.6	25.9	24.3	23.6	30.6	34.6
87.5°	5.6	5.3	5.6	5.6	2.3	5.3	5.3	3.7	2.7	5.0	4.0
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):

	135°	145°	155°	165°	175°	180°
0°	452.6	452.6	452.6	452.6	452.6	452.6
2.5°	417.1	416.4	416.7	415.1	414.4	414.7
5°	410.4	409.1	409.1	408.1	406.8	406.8
7.5°	413.4	410.8	409.8	407.8	405.8	406.1
10°	418.1	413.4	410.1	407.1	404.8	404.8
12.5°	421.1	412.7	407.8	403.8	401.1	401.1
15°	421.7	409.1	401.8	397.5	394.8	394.8
17.5°	417.7	401.8	392.5	386.8	383.8	384.5
20°	407.8	388.2	377.2	371.2	368.2	368.5
22.5°	392.1	369.5	356.9	349.9	346.9	346.9
25°	370.9	346.3	332.7	327.0	324.3	324.3
27.5°	346.6	321.4	309.4	305.1	303.4	303.4
30°	319.4	298.4	289.8	286.8	284.1	284.1
32.5°	296.4	281.5	278.5	274.5	267.5	267.2
35°	278.2	276.5	274.2	262.2	252.2	250.9
37.5°	268.2	278.2	263.5	242.9	235.0	234.6
40°	262.9	272.2	246.9	236.9	236.0	236.0
42.5°	250.2	256.9	245.9	240.3	240.3	240.6
45°	236.9	242.6	248.2	243.3	244.9	245.3
47.5°	227.6	238.9	248.2	243.9	247.3	249.2
50°	219.0	235.6	243.3	243.3	246.9	247.3
52.5°	217.0	231.0	238.6	242.3	242.6	240.9
55°	217.3	227.3	235.0	239.6	237.6	237.6
57.5°	217.0	225.3	232.0	233.6	234.6	234.6
60°	217.3	222.7	228.0	227.3	230.6	230.6
62.5°	218.3	219.0	221.7	221.0	226.0	226.0
65°	220.7	214.4	212.7	213.4	219.3	219.0
67.5°	225.0	208.0	202.7	203.1	211.7	210.4
70°	231.3	199.4	191.4	189.4	204.0	201.7
72.5°	233.3	189.4	176.8	174.8	183.4	176.8
75°	224.0	181.4	161.2	154.5	150.9	148.9
77.5°	199.7	176.5	144.9	130.9	125.3	124.0
80°	165.5	166.2	123.6	107.0	124.3	124.0
82.5°	125.0	143.6	99.0	92.7	90.1	75.1
85°	60.5	108.0	76.1	63.8	38.2	36.2
87.5°	5.3	45.2	43.9	28.6	13.0	12.3
90°	0.0	0.0	0.0	0.0	0.0	0.0

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