

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: INVUE

Report Number: P401924

Luminaire Tested: **ENT-SA1F-827-U-SLL**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401924
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-7)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1F-827-U-SLL
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 2700K, 1200mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5061 lumens
Efficiency: N/A
Efficacy: 76.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

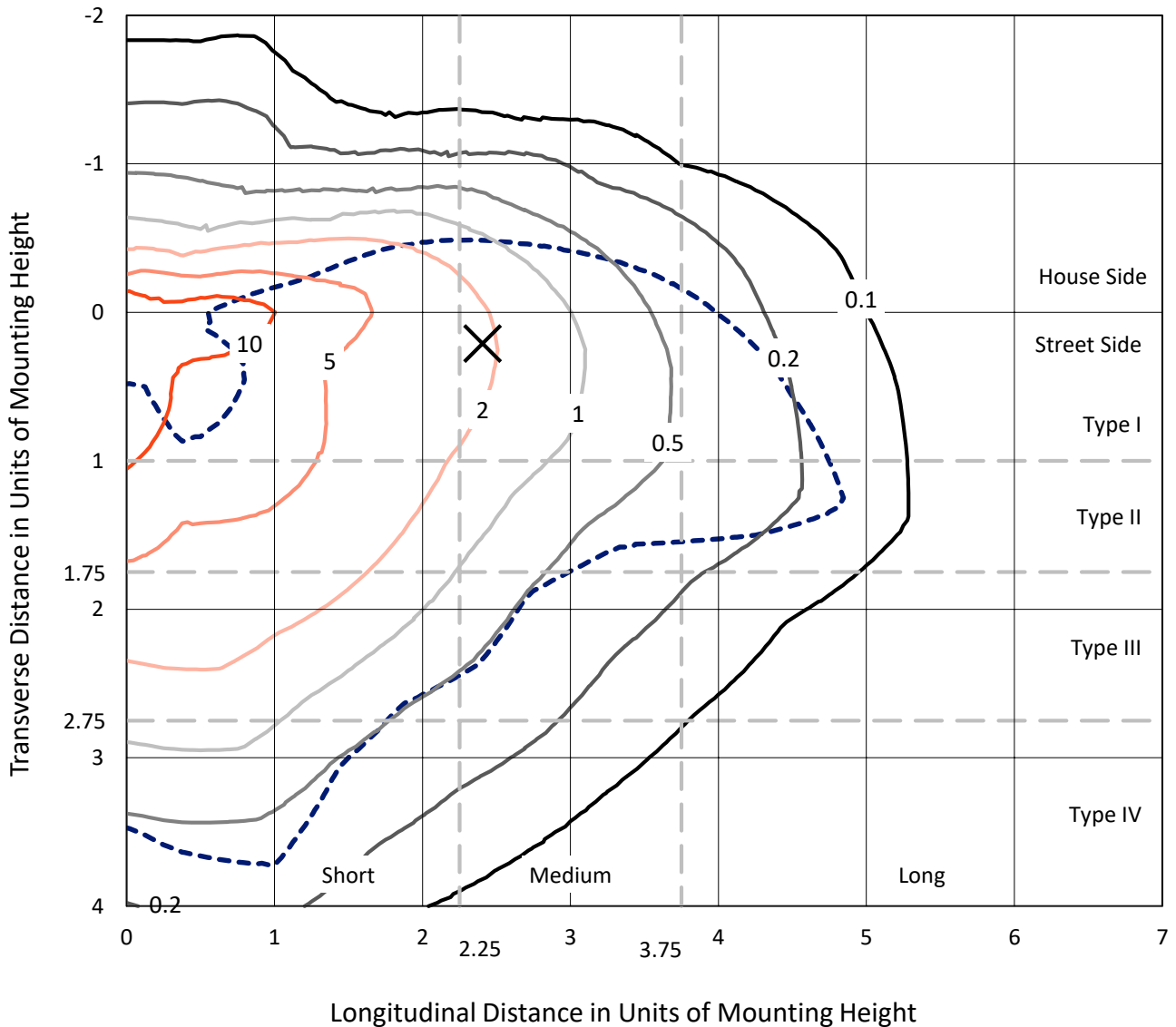
Input Watts (W): 66.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

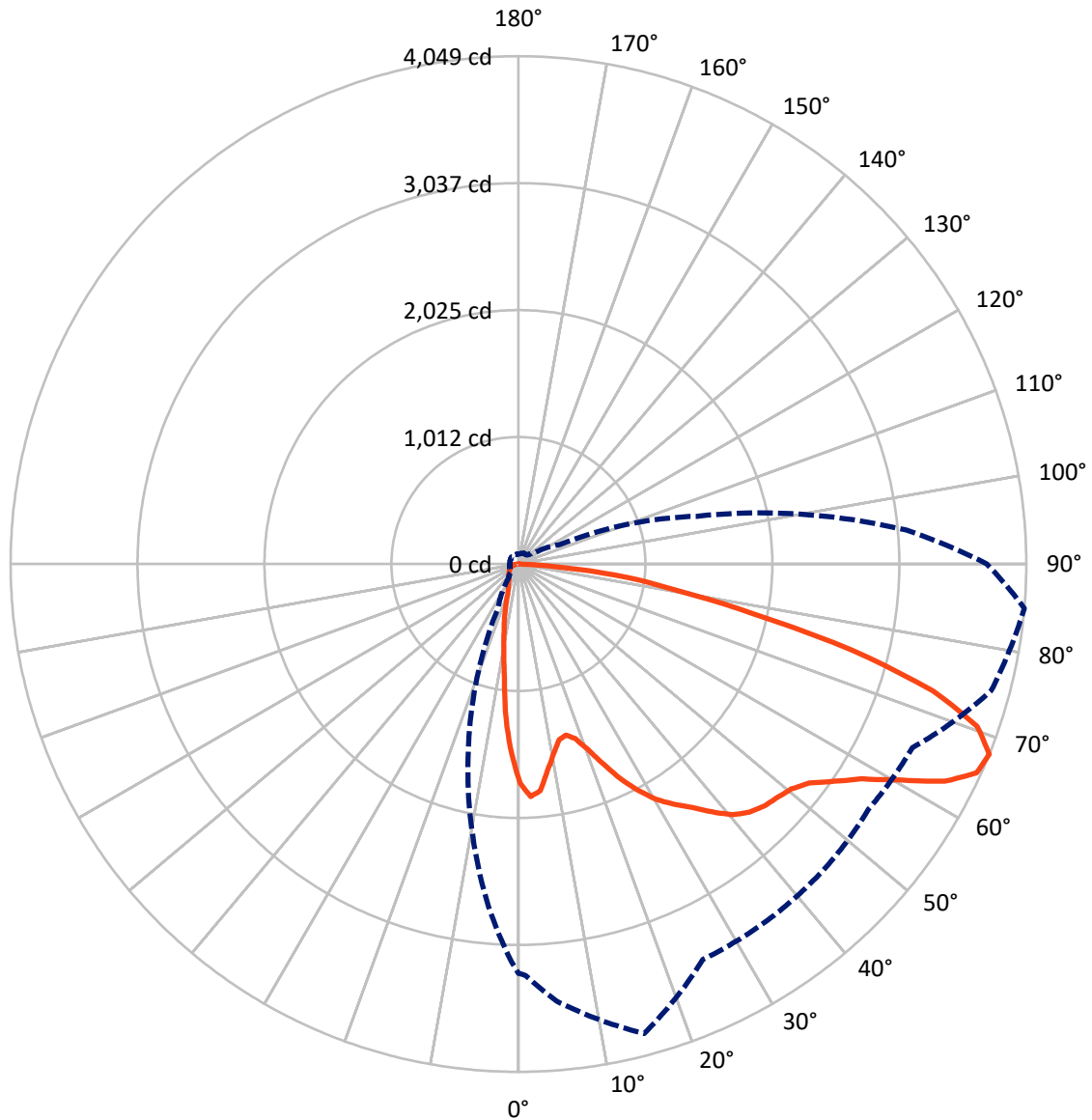
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 18.7 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 85-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1019.7	0.0	1019.7
	% Fixture	20.1	0.0	20.1
Street Side	Lumens	4041.3	0.0	4041.3
	% Fixture	79.9	0.0	79.9
Total	Lumens	5061.0	0.0	5061.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.9	2.6
10°-20°	262.2	5.2
20°-30°	366.3	7.2
30°-40°	516.4	10.2
40°-50°	715.5	14.1
50°-60°	1005.4	19.9
60°-70°	1229.2	24.3
70°-80°	722.4	14.3
80°-90°	110.6	2.2
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°	5061.0	100.0
0°-180°	5061.0	100.0



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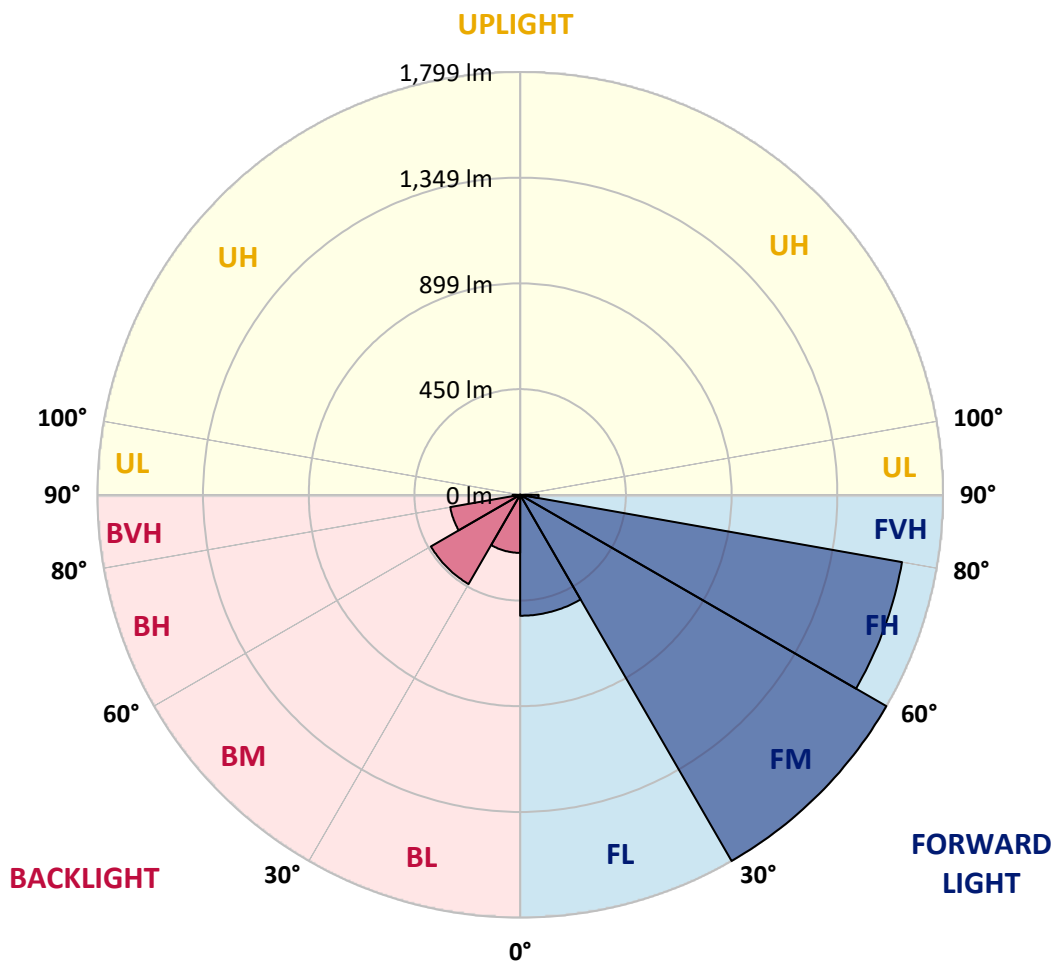
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	514.5	10.2			
FM	(30°-60°)	1799.0	35.5			
FH	(60°-80°)	1649.5	32.6			G1/1800
FVH	(80°-90°)	78.3	1.5			G1/100
BL	(0°-30°)	247.0	4.9	B1/500		
BM	(30°-60°)	438.4	8.7	B1/1000		
BH	(60°-80°)	302.1	6.0	B1/500		G1/500
BVH	(80°-90°)	32.3	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-G1

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5
2.5°	1796.5	1788.3	1816.0	1856.7	1884.4	1903.9	1910.4	1909.6	1903.9	1888.4	1855.9
5°	1716.7	1709.4	1765.6	1855.9	1934.8	1991.8	2008.0	1985.2	1956.8	1896.6	1816.8
7.5°	1565.4	1576.8	1648.4	1775.3	1902.3	1992.6	2014.5	1978.7	1920.2	1797.3	1663.0
10°	1450.7	1456.4	1536.9	1689.9	1825.0	1917.7	1956.0	1924.2	1847.7	1692.3	1536.9
12.5°	1379.9	1385.6	1463.7	1605.3	1749.3	1821.7	1833.1	1832.3	1768.8	1618.3	1438.5
15°	1389.7	1397.0	1475.1	1592.3	1673.6	1705.4	1706.2	1715.1	1696.4	1581.7	1414.9
17.5°	1484.1	1484.1	1558.9	1629.7	1611.0	1588.2	1605.3	1621.6	1654.1	1603.7	1462.9
20°	1632.9	1639.5	1708.6	1696.4	1582.5	1525.5	1505.2	1533.7	1634.6	1669.6	1576.0
22.5°	1794.0	1811.1	1883.5	1794.0	1577.6	1467.0	1444.2	1475.1	1637.0	1773.7	1731.4
25°	1972.2	1993.4	2042.2	1908.0	1592.3	1434.4	1419.0	1448.3	1643.5	1869.7	1899.0
27.5°	2135.0	2136.6	2184.6	2004.0	1630.5	1437.7	1411.6	1449.9	1661.4	1945.4	2047.1
30°	2250.5	2250.5	2271.6	2052.8	1677.7	1458.0	1418.1	1474.3	1686.6	1986.9	2181.3
32.5°	2356.3	2362.0	2351.4	2104.0	1722.4	1487.3	1433.6	1523.1	1726.5	2021.0	2284.7
35°	2490.5	2489.7	2442.5	2144.7	1763.9	1519.0	1471.8	1584.9	1784.3	2071.5	2383.1
37.5°	2656.5	2648.3	2548.3	2181.3	1814.4	1573.6	1544.3	1669.6	1861.6	2130.9	2507.6
40°	2807.0	2794.0	2645.1	2215.5	1854.3	1679.3	1662.2	1774.5	1959.2	2204.9	2628.8
42.5°	2924.2	2904.6	2727.3	2239.9	1914.5	1845.3	1859.9	1963.3	2057.7	2270.8	2704.5
45°	3022.6	3002.3	2789.1	2252.1	2060.1	2082.1	2110.5	2196.8	2162.6	2288.7	2750.9
47.5°	3093.4	3060.0	2816.0	2287.9	2257.0	2358.7	2446.6	2452.3	2310.7	2287.9	2779.3
50°	3134.9	3098.3	2841.2	2376.6	2485.6	2672.8	2766.3	2722.4	2464.5	2302.6	2820.0
52.5°	3218.7	3180.5	2946.1	2520.6	2719.9	2990.9	3041.3	2970.5	2623.9	2378.2	2901.4
55°	3429.4	3412.3	3149.5	2714.3	2950.2	3248.0	3270.8	3200.0	2790.7	2509.2	3056.8
57.5°	3667.8	3630.4	3424.5	2957.5	3170.7	3449.0	3485.6	3387.9	2965.7	2693.1	3230.1
60°	3734.5	3727.2	3657.2	3241.5	3398.5	3663.8	3666.2	3541.7	3169.9	2912.0	3494.5
62.5°	3636.9	3660.5	3754.1	3504.3	3589.7	3807.8	3787.4	3658.1	3383.9	3260.2	3815.9
65°	3466.9	3500.2	3688.2	3752.4	3633.6	3779.3	3736.2	3654.0	3518.9	3635.3	4015.2
67.5°	3262.6	3280.5	3499.4	3876.1	3479.9	3466.0	3445.7	3408.3	3465.2	3902.1	4049.4
70°	3050.3	3065.7	3267.5	3706.1	3018.5	2859.9	2842.8	2810.3	3032.4	3898.9	3881.8
72.5°	2571.1	2561.3	2747.6	3093.4	2305.0	2089.4	2234.2	2163.4	2453.1	3502.7	3457.9
75°	1597.1	1650.8	1884.4	2169.1	1579.2	1431.2	1631.3	1613.4	1991.8	3016.1	2753.3
77.5°	973.1	983.7	1115.5	1352.2	951.1	991.8	1048.8	1159.4	1476.7	2444.9	1919.3
80°	509.3	473.5	570.4	742.0	564.7	665.5	768.9	890.9	937.3	1593.9	1283.1
82.5°	147.3	146.5	192.8	310.8	267.7	327.1	388.1	559.8	614.3	947.9	878.7
85°	0.8	0.8	0.8	1.6	2.4	4.1	17.1	144.0	190.4	439.4	361.2
87.5°	0.0	0.0	0.8	1.6	1.6	3.3	4.9	6.5	8.1	9.8	35.8
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5
2.5°	1845.3	1833.1	1807.1	1772.1	1747.7	1705.4	1696.4	1669.6	1642.7	1620.7	1621.6
5°	1778.6	1737.1	1673.6	1600.4	1530.4	1467.8	1455.6	1419.0	1408.4	1397.8	1368.5
7.5°	1603.7	1554.8	1466.2	1357.9	1270.1	1210.7	1147.2	1109.0	1074.8	1035.7	1045.5
10°	1469.4	1399.4	1277.4	1150.5	1040.6	960.9	890.9	855.1	805.5	769.7	764.8
12.5°	1366.1	1290.4	1144.0	995.1	891.7	845.4	800.6	744.5	689.1	642.0	617.5
15°	1331.9	1246.5	1076.4	928.3	847.0	790.8	728.2	663.9	596.4	545.9	526.4
17.5°	1371.8	1270.9	1075.6	899.9	798.2	716.0	637.9	565.5	485.7	435.3	419.8
20°	1481.6	1355.5	1098.4	873.0	738.8	627.3	517.5	439.4	358.0	322.2	305.9
22.5°	1634.6	1470.2	1133.4	840.5	672.9	519.1	395.4	297.0	257.1	239.2	235.1
25°	1791.6	1615.9	1183.0	812.8	600.5	413.3	284.0	237.6	218.9	210.7	210.7
27.5°	1964.1	1761.5	1236.7	779.5	525.6	307.6	231.1	209.1	199.3	194.5	193.6
30°	2104.0	1880.3	1297.7	740.4	458.1	252.2	205.0	190.4	181.4	179.0	179.0
32.5°	2204.9	1969.0	1362.0	701.3	396.2	227.8	190.4	177.4	167.6	166.0	166.0
35°	2322.9	2053.6	1391.3	679.4	358.8	212.4	179.8	166.8	157.8	153.8	153.8
37.5°	2464.5	2154.5	1407.6	658.2	342.5	197.7	172.5	157.8	148.9	144.0	144.0
40°	2644.3	2269.2	1424.7	637.1	332.8	185.5	164.4	149.7	142.4	136.7	136.7
42.5°	2772.8	2375.0	1437.7	619.2	315.7	179.8	157.8	144.0	135.1	130.2	129.4
45°	2840.4	2473.4	1443.4	608.6	296.2	184.7	153.0	139.1	128.6	123.7	122.9
47.5°	2885.9	2554.8	1450.7	600.5	280.7	175.7	152.1	134.2	123.7	117.2	117.2
50°	2958.3	2662.2	1469.4	585.0	271.8	164.4	164.4	131.8	118.0	112.3	111.5
52.5°	3087.7	2816.0	1519.9	567.9	262.0	153.0	169.2	132.6	113.9	107.4	105.8
55°	3283.0	3060.9	1603.7	543.5	248.2	139.1	157.8	133.4	109.8	104.1	101.7
57.5°	3536.8	3357.0	1701.3	524.0	224.6	127.7	144.0	129.4	105.0	100.1	98.4
60°	3707.7	3554.7	1763.1	498.8	191.2	120.4	123.7	125.3	100.1	94.4	93.6
62.5°	3799.6	3558.0	1763.9	463.8	160.3	113.9	110.7	127.7	96.0	88.7	87.9
65°	3806.1	3384.7	1675.3	419.0	149.7	106.6	101.7	113.1	91.9	84.6	83.8
67.5°	3735.4	3102.4	1472.7	367.8	153.8	100.9	94.4	95.2	87.1	80.5	79.7
70°	3481.5	2737.0	1181.4	327.1	154.6	93.6	88.7	86.2	82.2	76.5	74.9
72.5°	3003.9	2287.1	895.0	314.1	157.0	87.9	82.2	79.7	76.5	71.6	70.0
75°	2266.8	1784.3	672.1	292.9	158.7	81.4	74.9	73.2	70.0	65.1	64.3
77.5°	1566.2	1323.0	467.0	247.3	141.6	74.0	67.5	65.9	63.5	58.6	57.8
80°	1057.7	907.2	286.4	185.5	107.4	65.1	58.6	58.6	56.1	51.3	51.3
82.5°	736.3	677.7	165.2	121.2	78.1	53.7	51.3	51.3	48.8	43.9	43.1
85°	307.6	410.1	74.0	65.9	54.5	42.3	42.3	43.1	40.7	36.6	35.8
87.5°	10.6	43.9	29.3	30.9	32.5	29.3	32.5	32.5	31.7	28.5	27.7
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5
2.5°	1598.0	1587.4	1554.8	1550.8	1526.4	1524.7	1535.3	1517.4	1519.0	1541.0	1537.8
5°	1375.0	1350.6	1349.8	1323.0	1292.9	1285.5	1259.5	1249.7	1245.7	1236.7	1269.3
7.5°	1075.6	1064.2	1074.0	1070.7	1043.1	1027.6	972.3	930.0	908.8	917.8	920.2
10°	764.8	781.9	807.9	833.2	813.6	762.4	738.8	704.6	700.5	698.1	714.4
12.5°	606.2	586.6	598.8	607.8	589.1	567.1	557.3	542.7	550.8	569.5	580.1
15°	503.6	469.5	454.0	443.4	448.3	435.3	440.2	435.3	441.0	446.7	466.2
17.5°	397.9	385.7	356.4	342.5	343.3	337.7	339.3	338.5	335.2	348.2	363.7
20°	299.4	296.2	289.7	279.9	281.5	277.4	275.0	261.2	255.5	259.5	272.6
22.5°	233.5	237.6	241.6	240.8	244.9	234.3	224.6	212.4	210.7	211.5	214.8
25°	209.1	210.7	214.0	218.1	220.5	210.7	196.9	189.6	188.8	190.4	190.4
27.5°	194.5	192.8	196.9	201.8	205.0	192.8	181.4	174.9	173.3	171.7	170.9
30°	179.0	179.0	182.3	187.1	189.6	179.0	169.2	162.7	158.7	156.2	155.4
32.5°	167.6	168.4	170.0	173.3	177.4	166.8	158.7	153.0	145.6	143.2	141.6
35°	154.6	157.8	160.3	161.1	164.4	157.0	148.9	139.9	133.4	131.0	131.0
37.5°	144.0	146.5	150.5	149.7	152.1	147.3	138.3	128.6	125.3	124.5	123.7
40°	135.9	135.9	139.1	142.4	145.6	136.7	126.1	121.2	118.8	117.2	118.0
42.5°	128.6	127.7	127.7	133.4	139.1	126.1	117.2	113.9	113.1	111.5	112.3
45°	122.0	121.2	118.8	121.2	129.4	115.5	109.8	107.4	106.6	106.6	106.6
47.5°	116.3	114.7	111.5	112.3	118.0	107.4	102.5	101.7	100.9	100.9	101.7
50°	109.8	108.2	105.8	105.0	106.6	101.7	97.6	96.0	96.0	96.0	97.6
52.5°	104.1	103.3	100.1	99.3	100.1	96.8	92.8	91.9	91.9	91.9	94.4
55°	100.1	98.4	96.8	95.2	96.8	92.8	89.5	87.9	87.9	89.5	91.1
57.5°	96.0	94.4	93.6	91.9	93.6	89.5	86.2	84.6	85.4	86.2	86.2
60°	91.9	90.3	89.5	87.9	90.3	86.2	83.0	82.2	82.2	81.4	81.4
62.5°	87.9	87.1	85.4	83.8	87.1	82.2	79.7	78.1	77.3	77.3	77.3
65°	83.0	82.2	81.4	80.5	82.2	78.1	75.7	74.9	73.2	72.4	73.2
67.5°	78.9	78.9	77.3	75.7	78.1	73.2	71.6	70.8	68.3	67.5	68.3
70°	74.0	74.0	72.4	71.6	74.9	68.3	66.7	65.9	64.3	63.5	63.5
72.5°	69.2	69.2	67.5	66.7	70.8	63.5	61.8	61.0	58.6	57.8	57.8
75°	64.3	63.5	62.6	61.8	66.7	58.6	56.1	54.5	52.1	51.3	50.4
77.5°	58.6	57.8	56.1	57.0	60.2	52.1	48.8	48.0	45.6	44.7	43.9
80°	51.3	50.4	49.6	51.3	51.3	45.6	41.5	39.9	37.4	35.8	35.0
82.5°	43.9	43.1	43.1	44.7	42.3	39.9	35.0	31.7	27.7	25.2	24.4
85°	35.8	37.4	35.8	37.4	31.7	31.7	24.4	18.7	13.0	10.6	9.8
87.5°	27.7	28.5	27.7	28.5	22.0	21.2	11.4	6.5	0.8	0.0	0.0
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):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5	1748.5
2.5°	1562.2	1563.8	1598.8	1633.8	1654.9	1707.8	1733.8	1763.1	1778.6	1796.5
5°	1253.8	1284.7	1313.2	1383.2	1419.0	1502.8	1563.8	1661.4	1692.3	1716.7
7.5°	947.1	993.4	1028.4	1115.5	1183.0	1287.2	1393.7	1510.1	1543.4	1565.4
10°	752.6	794.9	860.8	929.2	1004.8	1130.9	1246.5	1366.9	1425.5	1450.7
12.5°	632.2	699.7	777.0	840.5	900.7	993.4	1139.9	1292.0	1353.1	1379.9
15°	521.5	597.2	676.1	754.2	829.1	934.0	1087.8	1285.5	1362.8	1389.7
17.5°	414.1	476.0	555.7	650.1	759.1	892.5	1097.6	1354.7	1449.1	1484.1
20°	294.5	354.7	436.1	552.5	681.8	849.4	1120.4	1458.8	1593.1	1632.9
22.5°	222.1	255.5	330.3	445.1	612.7	815.3	1156.2	1601.2	1758.2	1794.0
25°	195.3	206.7	244.9	355.6	543.5	784.3	1203.4	1742.8	1933.2	1972.2
27.5°	173.3	179.8	199.3	285.6	492.2	752.6	1259.5	1895.7	2083.7	2135.0
30°	156.2	164.4	180.6	239.2	442.6	707.0	1310.7	2033.2	2211.4	2250.5
32.5°	143.2	152.1	166.8	216.4	400.3	672.9	1340.0	2135.8	2320.5	2356.3
35°	134.2	142.4	157.0	196.1	362.9	649.3	1349.0	2237.5	2453.9	2490.5
37.5°	126.1	134.2	147.3	175.7	336.8	618.4	1362.8	2358.7	2608.5	2656.5
40°	120.4	126.9	139.1	161.9	301.0	585.0	1379.1	2500.3	2759.0	2807.0
42.5°	114.7	122.0	132.6	162.7	265.2	556.5	1389.7	2609.3	2878.6	2924.2
45°	109.8	118.0	130.2	159.5	238.4	530.5	1384.8	2700.4	2987.6	3022.6
47.5°	105.0	114.7	136.7	153.0	230.3	506.9	1388.9	2788.3	3065.7	3093.4
50°	101.7	113.9	146.5	143.2	231.9	496.3	1427.9	2893.3	3124.3	3134.9
52.5°	99.3	116.3	138.3	129.4	231.9	491.4	1502.8	3062.5	3226.0	3218.7
55°	95.2	115.5	129.4	117.2	222.1	493.9	1573.6	3286.2	3470.1	3429.4
57.5°	91.9	110.7	116.3	108.2	199.3	494.7	1678.5	3475.0	3662.1	3667.8
60°	87.9	118.8	100.9	100.9	170.9	490.6	1771.3	3471.7	3697.1	3734.5
62.5°	83.8	116.3	90.3	93.6	151.3	475.2	1827.4	3269.1	3567.7	3636.9
65°	78.9	91.9	83.0	87.1	143.2	436.9	1747.7	3017.7	3392.8	3466.9
67.5°	73.2	75.7	75.7	80.5	139.9	379.1	1546.7	2740.3	3173.1	3262.6
70°	66.7	67.5	69.2	76.5	130.2	326.3	1259.5	2444.9	2937.2	3050.3
72.5°	60.2	61.0	61.0	69.2	122.0	281.5	891.7	1937.2	2452.3	2571.1
75°	52.9	53.7	52.9	60.2	106.6	210.7	529.7	1225.3	1462.9	1597.1
77.5°	44.7	44.7	43.1	47.2	73.2	133.4	289.7	744.5	890.1	973.1
80°	36.6	33.4	27.7	28.5	39.9	76.5	129.4	427.2	488.2	509.3
82.5°	24.4	18.7	11.4	10.6	13.0	21.2	30.1	169.2	155.4	147.3
85°	4.9	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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