

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: P401402

Luminaire Tested: **ENT-SA1C-830-U-SLL**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401402
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-SA1C-830-U-SLL
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 615mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3170 lumens
Efficiency: N/A
Efficacy: 95.2 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

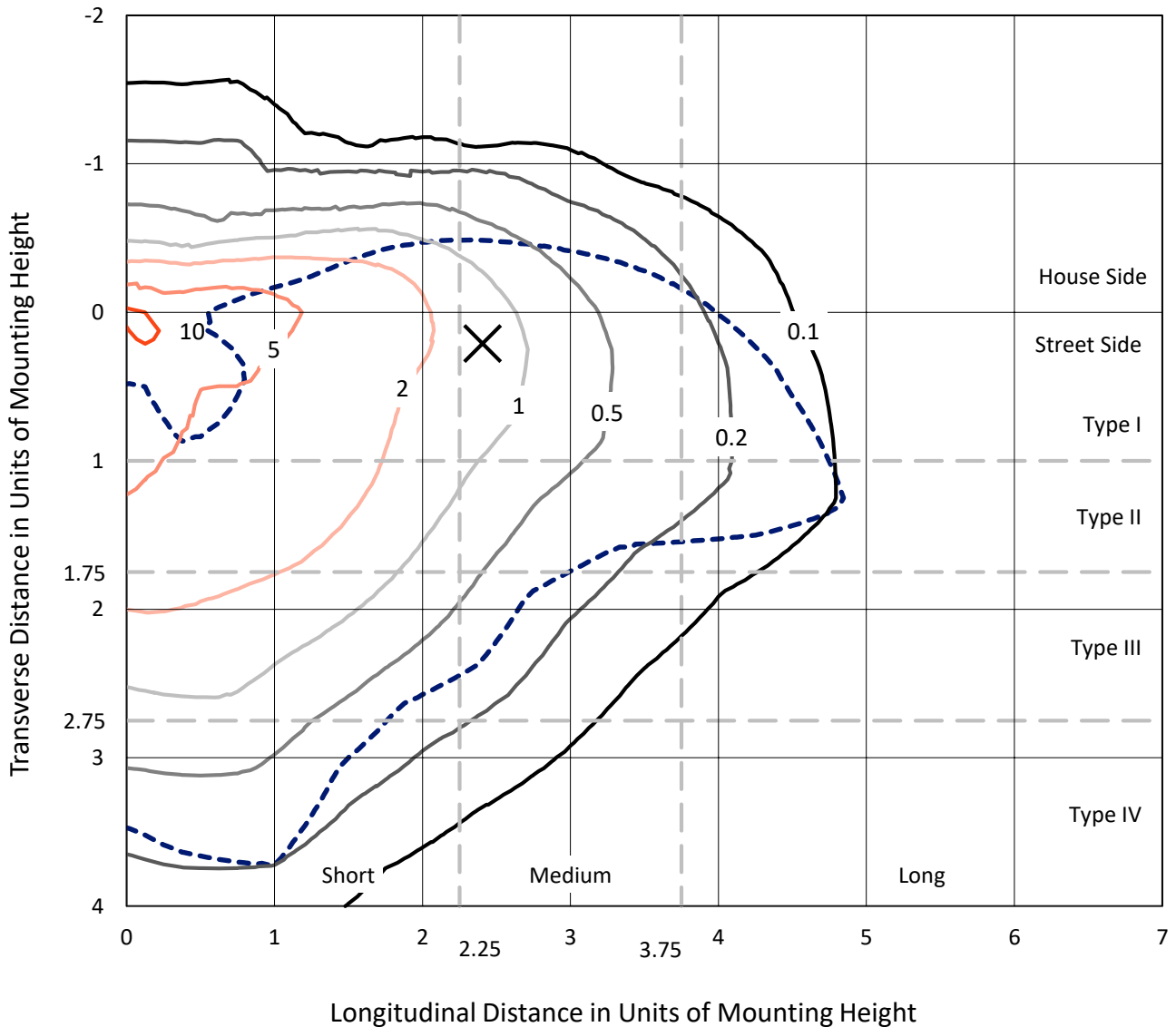
Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

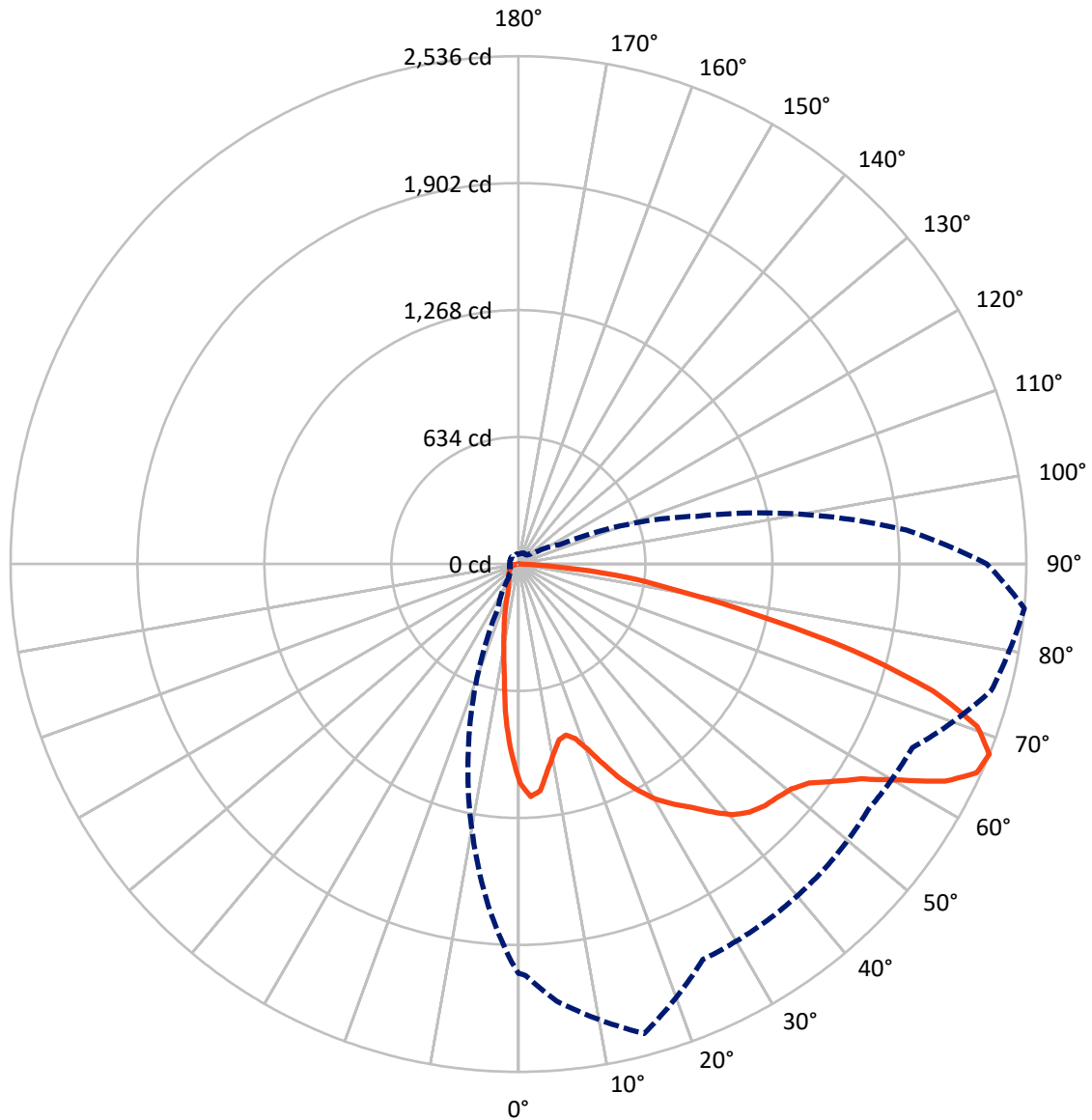
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.7 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	638.7	0.0	638.7
	% Fixture	20.1	0.0	20.1
Street Side	Lumens	2531.3	0.0	2531.3
	% Fixture	79.9	0.0	79.9
Total	Lumens	3170.0	0.0	3170.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.3	2.6
10°-20°	164.2	5.2
20°-30°	229.4	7.2
30°-40°	323.4	10.2
40°-50°	448.2	14.1
50°-60°	629.8	19.9
60°-70°	769.9	24.3
70°-80°	452.5	14.3
80°-90°	69.3	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°	3170.0	100.0
0°-180°	3170.0	100.0



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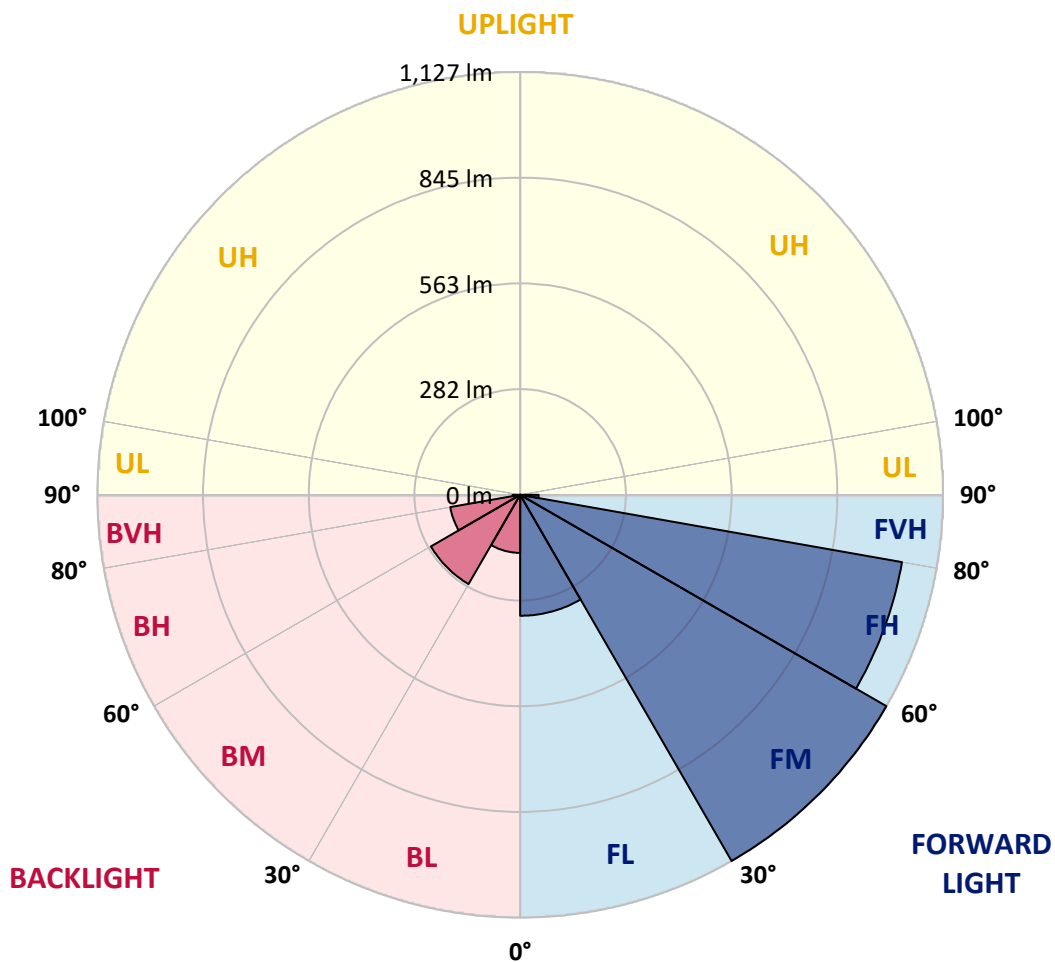
CATALOG NUMBER: ENT-SA1C-830-U-SLL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	322.3	10.2			
FM	(30°-60°)	1126.8	35.5			
FH	(60°-80°)	1033.2	32.6			G1/1800
FVH	(80°-90°)	49.0	1.5			G1/100
BL	(0°-30°)	154.7	4.9	B1/500		
BM	(30°-60°)	274.6	8.7	B1/1000		
BH	(60°-80°)	189.2	6.0	B1/500		G1/500
BVH	(80°-90°)	20.2	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-G1

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2
2.5°	1125.2	1120.1	1137.5	1163.0	1180.3	1192.5	1196.6	1196.1	1192.5	1182.8	1162.4
5°	1075.3	1070.7	1105.9	1162.4	1211.9	1247.6	1257.7	1243.5	1225.6	1187.9	1138.0
7.5°	980.5	987.6	1032.5	1112.0	1191.5	1248.1	1261.8	1239.4	1202.7	1125.8	1041.7
10°	908.7	912.2	962.7	1058.5	1143.1	1201.2	1225.1	1205.3	1157.3	1060.0	962.7
12.5°	864.3	867.9	916.8	1005.5	1095.7	1141.0	1148.2	1147.7	1107.9	1013.6	901.0
15°	870.4	875.0	923.9	997.3	1048.3	1068.2	1068.7	1074.3	1062.6	990.7	886.2
17.5°	929.5	929.5	976.4	1020.8	1009.0	994.8	1005.5	1015.7	1036.1	1004.5	916.3
20°	1022.8	1026.9	1070.2	1062.6	991.2	955.5	942.8	960.6	1023.8	1045.7	987.1
22.5°	1123.7	1134.4	1179.8	1123.7	988.2	918.8	904.6	923.9	1025.4	1111.0	1084.5
25°	1235.3	1248.6	1279.1	1195.1	997.3	898.5	888.8	907.1	1029.4	1171.1	1189.5
27.5°	1337.2	1338.3	1368.3	1255.2	1021.3	900.5	884.2	908.1	1040.6	1218.5	1282.2
30°	1409.6	1409.6	1422.9	1285.8	1050.8	913.2	888.3	923.4	1056.4	1244.5	1366.3
32.5°	1475.9	1479.4	1472.8	1317.9	1078.9	931.6	898.0	954.0	1081.4	1265.9	1431.0
35°	1559.9	1559.4	1529.9	1343.4	1104.9	951.5	921.9	992.7	1117.6	1297.5	1492.7
37.5°	1663.9	1658.8	1596.1	1366.3	1136.5	985.6	967.3	1045.7	1166.0	1334.7	1570.7
40°	1758.2	1750.0	1656.8	1387.7	1161.4	1051.9	1041.2	1111.5	1227.2	1381.1	1646.6
42.5°	1831.6	1819.3	1708.2	1403.0	1199.1	1155.8	1165.0	1229.7	1288.8	1422.4	1694.0
45°	1893.2	1880.5	1747.0	1410.6	1290.4	1304.1	1322.0	1376.0	1354.6	1433.6	1723.0
47.5°	1937.6	1916.7	1763.8	1433.1	1413.7	1477.4	1532.4	1536.0	1447.3	1433.1	1740.9
50°	1963.6	1940.6	1779.6	1488.6	1556.9	1674.1	1732.7	1705.2	1543.6	1442.2	1766.3
52.5°	2016.1	1992.1	1845.3	1578.8	1703.7	1873.4	1905.0	1860.6	1643.5	1489.6	1817.3
55°	2148.1	2137.4	1972.7	1700.1	1847.9	2034.4	2048.7	2004.3	1748.0	1571.7	1914.6
57.5°	2297.4	2273.9	2145.0	1852.5	1986.0	2160.3	2183.2	2122.1	1857.6	1686.8	2023.2
60°	2339.2	2334.6	2290.7	2030.3	2128.7	2294.8	2296.4	2218.4	1985.5	1823.9	2188.8
62.5°	2278.0	2292.8	2351.4	2194.9	2248.4	2385.0	2372.3	2291.3	2119.5	2042.1	2390.1
65°	2171.5	2192.4	2310.1	2350.4	2276.0	2367.2	2340.2	2288.7	2204.1	2277.0	2515.0
67.5°	2043.6	2054.8	2191.9	2427.8	2179.6	2171.0	2158.2	2134.8	2170.5	2444.1	2536.4
70°	1910.6	1920.3	2046.6	2321.3	1890.7	1791.3	1780.6	1760.2	1899.4	2442.1	2431.4
72.5°	1610.4	1604.3	1721.0	1937.6	1443.8	1308.7	1399.4	1355.1	1536.5	2193.9	2165.9
75°	1000.4	1034.0	1180.3	1358.6	989.2	896.4	1021.8	1010.6	1247.6	1889.2	1724.6
77.5°	609.5	616.1	698.7	847.0	595.7	621.2	656.9	726.2	925.0	1531.4	1202.2
80°	319.0	296.6	357.2	464.8	353.7	416.9	481.6	558.0	587.1	998.3	803.7
82.5°	92.2	91.7	120.8	194.7	167.7	204.9	243.1	350.6	384.8	593.7	550.4
85°	0.5	0.5	0.5	1.0	1.5	2.5	10.7	90.2	119.3	275.2	226.3
87.5°	0.0	0.0	0.5	1.0	1.0	2.0	3.1	4.1	5.1	6.1	22.4
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2
2.5°	1155.8	1148.2	1131.9	1110.0	1094.7	1068.2	1062.6	1045.7	1028.9	1015.2	1015.7
5°	1114.0	1088.0	1048.3	1002.4	958.6	919.4	911.7	888.8	882.2	875.5	857.2
7.5°	1004.5	973.9	918.3	850.6	795.5	758.3	718.6	694.6	673.2	648.7	654.9
10°	920.4	876.5	800.1	720.6	651.8	601.9	558.0	535.6	504.5	482.1	479.0
12.5°	855.7	808.3	716.5	623.3	558.5	529.5	501.5	466.3	431.6	402.1	386.8
15°	834.2	780.7	674.2	581.5	530.5	495.4	456.1	415.9	373.6	342.0	329.7
17.5°	859.2	796.0	673.7	563.6	499.9	448.5	399.5	354.2	304.2	272.6	263.0
20°	928.0	849.0	688.0	546.8	462.7	392.9	324.1	275.2	224.2	201.8	191.6
22.5°	1023.8	920.9	709.9	526.4	421.5	325.1	247.7	186.0	161.0	149.8	147.3
25°	1122.2	1012.1	741.0	509.1	376.1	258.9	177.9	148.8	137.1	132.0	132.0
27.5°	1230.2	1103.3	774.6	488.2	329.2	192.6	144.7	131.0	124.9	121.8	121.3
30°	1317.9	1177.7	812.8	463.8	286.9	158.0	128.4	119.3	113.6	112.1	112.1
32.5°	1381.1	1233.3	853.1	439.3	248.2	142.7	119.3	111.1	105.0	104.0	104.0
35°	1455.0	1286.3	871.5	425.5	224.7	133.0	112.6	104.5	98.9	96.3	96.3
37.5°	1543.6	1349.5	881.6	412.3	214.6	123.8	108.0	98.9	93.3	90.2	90.2
40°	1656.3	1421.3	892.3	399.0	208.4	116.2	102.9	93.8	89.2	85.6	85.6
42.5°	1736.8	1487.6	900.5	387.8	197.7	112.6	98.9	90.2	84.6	81.5	81.0
45°	1779.1	1549.2	904.1	381.2	185.5	115.7	95.8	87.1	80.5	77.5	77.0
47.5°	1807.6	1600.2	908.7	376.1	175.8	110.1	95.3	84.1	77.5	73.4	73.4
50°	1853.0	1667.5	920.4	366.4	170.2	102.9	102.9	82.6	73.9	70.3	69.8
52.5°	1934.0	1763.8	952.0	355.7	164.1	95.8	106.0	83.1	71.3	67.3	66.3
55°	2056.3	1917.2	1004.5	340.4	155.4	87.1	98.9	83.6	68.8	65.2	63.7
57.5°	2215.3	2102.7	1065.6	328.2	140.7	80.0	90.2	81.0	65.7	62.7	61.7
60°	2322.3	2226.5	1104.3	312.4	119.8	75.4	77.5	78.5	62.7	59.1	58.6
62.5°	2379.9	2228.6	1104.9	290.5	100.4	71.3	69.3	80.0	60.1	55.5	55.0
65°	2384.0	2120.0	1049.3	262.5	93.8	66.8	63.7	70.8	57.6	53.0	52.5
67.5°	2339.7	1943.2	922.4	230.3	96.3	63.2	59.1	59.6	54.5	50.5	49.9
70°	2180.7	1714.4	740.0	204.9	96.8	58.6	55.5	54.0	51.5	47.9	46.9
72.5°	1881.5	1432.5	560.6	196.7	98.4	55.0	51.5	49.9	47.9	44.8	43.8
75°	1419.8	1117.6	420.9	183.5	99.4	51.0	46.9	45.9	43.8	40.8	40.3
77.5°	981.0	828.6	292.5	154.9	88.7	46.4	42.3	41.3	39.8	36.7	36.2
80°	662.5	568.2	179.4	116.2	67.3	40.8	36.7	36.7	35.2	32.1	32.1
82.5°	461.2	424.5	103.5	75.9	48.9	33.6	32.1	32.1	30.6	27.5	27.0
85°	192.6	256.8	46.4	41.3	34.1	26.5	26.5	27.0	25.5	22.9	22.4
87.5°	6.6	27.5	18.3	19.4	20.4	18.3	20.4	20.4	19.9	17.8	17.3
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2
2.5°	1000.9	994.3	973.9	971.3	956.0	955.0	961.7	950.4	951.5	965.2	963.2
5°	861.3	846.0	845.5	828.6	809.8	805.2	788.9	782.8	780.2	774.6	795.0
7.5°	673.7	666.6	672.7	670.7	653.3	643.7	609.0	582.5	569.2	574.9	576.4
10°	479.0	489.7	506.1	521.9	509.6	477.5	462.7	441.3	438.8	437.3	447.4
12.5°	379.7	367.4	375.1	380.7	369.0	355.2	349.1	339.9	345.0	356.7	363.4
15°	315.5	294.1	284.4	277.7	280.8	272.6	275.7	272.6	276.2	279.8	292.0
17.5°	249.2	241.6	223.2	214.6	215.1	211.5	212.5	212.0	210.0	218.1	227.8
20°	187.5	185.5	181.4	175.3	176.3	173.8	172.3	163.6	160.0	162.6	170.7
22.5°	146.3	148.8	151.4	150.8	153.4	146.8	140.7	133.0	132.0	132.5	134.5
25°	131.0	132.0	134.0	136.6	138.1	132.0	123.3	118.7	118.2	119.3	119.3
27.5°	121.8	120.8	123.3	126.4	128.4	120.8	113.6	109.6	108.5	107.5	107.0
30°	112.1	112.1	114.2	117.2	118.7	112.1	106.0	101.9	99.4	97.8	97.3
32.5°	105.0	105.5	106.5	108.5	111.1	104.5	99.4	95.8	91.2	89.7	88.7
35°	96.8	98.9	100.4	100.9	102.9	98.4	93.3	87.7	83.6	82.0	82.0
37.5°	90.2	91.7	94.3	93.8	95.3	92.2	86.6	80.5	78.5	78.0	77.5
40°	85.1	85.1	87.1	89.2	91.2	85.6	79.0	75.9	74.4	73.4	73.9
42.5°	80.5	80.0	80.0	83.6	87.1	79.0	73.4	71.3	70.8	69.8	70.3
45°	76.4	75.9	74.4	75.9	81.0	72.4	68.8	67.3	66.8	66.8	66.8
47.5°	72.9	71.9	69.8	70.3	73.9	67.3	64.2	63.7	63.2	63.2	63.7
50°	68.8	67.8	66.3	65.7	66.8	63.7	61.2	60.1	60.1	60.1	61.2
52.5°	65.2	64.7	62.7	62.2	62.7	60.6	58.1	57.6	57.6	57.6	59.1
55°	62.7	61.7	60.6	59.6	60.6	58.1	56.1	55.0	55.0	56.1	57.1
57.5°	60.1	59.1	58.6	57.6	58.6	56.1	54.0	53.0	53.5	54.0	54.0
60°	57.6	56.6	56.1	55.0	56.6	54.0	52.0	51.5	51.5	51.0	51.0
62.5°	55.0	54.5	53.5	52.5	54.5	51.5	49.9	48.9	48.4	48.4	48.4
65°	52.0	51.5	51.0	50.5	51.5	48.9	47.4	46.9	45.9	45.4	45.9
67.5°	49.4	49.4	48.4	47.4	48.9	45.9	44.8	44.3	42.8	42.3	42.8
70°	46.4	46.4	45.4	44.8	46.9	42.8	41.8	41.3	40.3	39.8	39.8
72.5°	43.3	43.3	42.3	41.8	44.3	39.8	38.7	38.2	36.7	36.2	36.2
75°	40.3	39.8	39.2	38.7	41.8	36.7	35.2	34.1	32.6	32.1	31.6
77.5°	36.7	36.2	35.2	35.7	37.7	32.6	30.6	30.1	28.5	28.0	27.5
80°	32.1	31.6	31.1	32.1	32.1	28.5	26.0	25.0	23.4	22.4	21.9
82.5°	27.5	27.0	27.0	28.0	26.5	25.0	21.9	19.9	17.3	15.8	15.3
85°	22.4	23.4	22.4	23.4	19.9	19.9	15.3	11.7	8.2	6.6	6.1
87.5°	17.3	17.8	17.3	17.8	13.8	13.3	7.1	4.1	0.5	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°	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2	1095.2
2.5°	978.5	979.5	1001.4	1023.3	1036.6	1069.7	1086.0	1104.3	1114.0	1125.2
5°	785.3	804.7	822.5	866.4	888.8	941.3	979.5	1040.6	1060.0	1075.3
7.5°	593.2	622.2	644.2	698.7	741.0	806.2	873.0	945.9	966.8	980.5
10°	471.4	497.9	539.2	582.0	629.4	708.4	780.7	856.2	892.9	908.7
12.5°	396.0	438.3	486.7	526.4	564.2	622.2	714.0	809.3	847.5	864.3
15°	326.7	374.1	423.5	472.4	519.3	585.0	681.4	805.2	853.6	870.4
17.5°	259.4	298.1	348.1	407.2	475.5	559.1	687.5	848.5	907.6	929.5
20°	184.5	222.2	273.2	346.0	427.1	532.0	701.7	913.8	997.8	1022.8
22.5°	139.1	160.0	206.9	278.8	383.7	510.6	724.2	1002.9	1101.3	1123.7
25°	122.3	129.4	153.4	222.7	340.4	491.3	753.7	1091.6	1210.9	1235.3
27.5°	108.5	112.6	124.9	178.9	308.3	471.4	788.9	1187.4	1305.1	1337.2
30°	97.8	102.9	113.1	149.8	277.2	442.9	821.0	1273.5	1385.1	1409.6
32.5°	89.7	95.3	104.5	135.6	250.7	421.5	839.3	1337.8	1453.4	1475.9
35°	84.1	89.2	98.4	122.8	227.3	406.7	845.0	1401.5	1537.0	1559.9
37.5°	79.0	84.1	92.2	110.1	211.0	387.3	853.6	1477.4	1633.8	1663.9
40°	75.4	79.5	87.1	101.4	188.6	366.4	863.8	1566.1	1728.1	1758.2
42.5°	71.9	76.4	83.1	101.9	166.1	348.6	870.4	1634.4	1803.0	1831.6
45°	68.8	73.9	81.5	99.9	149.3	332.3	867.4	1691.4	1871.3	1893.2
47.5°	65.7	71.9	85.6	95.8	144.2	317.5	869.9	1746.5	1920.3	1937.6
50°	63.7	71.3	91.7	89.7	145.2	310.9	894.4	1812.2	1956.9	1963.6
52.5°	62.2	72.9	86.6	81.0	145.2	307.8	941.3	1918.2	2020.6	2016.1
55°	59.6	72.4	81.0	73.4	139.1	309.3	985.6	2058.4	2173.5	2148.1
57.5°	57.6	69.3	72.9	67.8	124.9	309.8	1051.3	2176.6	2293.8	2297.4
60°	55.0	74.4	63.2	63.2	107.0	307.3	1109.4	2174.6	2315.7	2339.2
62.5°	52.5	72.9	56.6	58.6	94.8	297.6	1144.6	2047.7	2234.7	2278.0
65°	49.4	57.6	52.0	54.5	89.7	273.7	1094.7	1890.2	2125.1	2171.5
67.5°	45.9	47.4	47.4	50.5	87.7	237.5	968.8	1716.4	1987.5	2043.6
70°	41.8	42.3	43.3	47.9	81.5	204.4	788.9	1531.4	1839.7	1910.6
72.5°	37.7	38.2	38.2	43.3	76.4	176.3	558.5	1213.4	1536.0	1610.4
75°	33.1	33.6	33.1	37.7	66.8	132.0	331.8	767.5	916.3	1000.4
77.5°	28.0	28.0	27.0	29.6	45.9	83.6	181.4	466.3	557.5	609.5
80°	22.9	20.9	17.3	17.8	25.0	47.9	81.0	267.6	305.8	319.0
82.5°	15.3	11.7	7.1	6.6	8.2	13.3	18.9	106.0	97.3	92.2
85°	3.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
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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