

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:

Luminaire Tested: **ENT-SA1F-740-U-SL2-ULG**

Issue Date: 3/30/2022

**Test Information**

Test Method: LM-79-08  
Report Number: REPORT IS A COMBINATION OF REPORTS P401848 AND P226775  
Test Lab: INNOVATION CENTER  
Issue Date: 3/30/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENT-SA1F-740-U-SL2-ULG  
Description: ENTRI LED LUMINAIRE WITH UPLIGHT  
(1) 70 CRI, 4000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE II SPILL  
LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

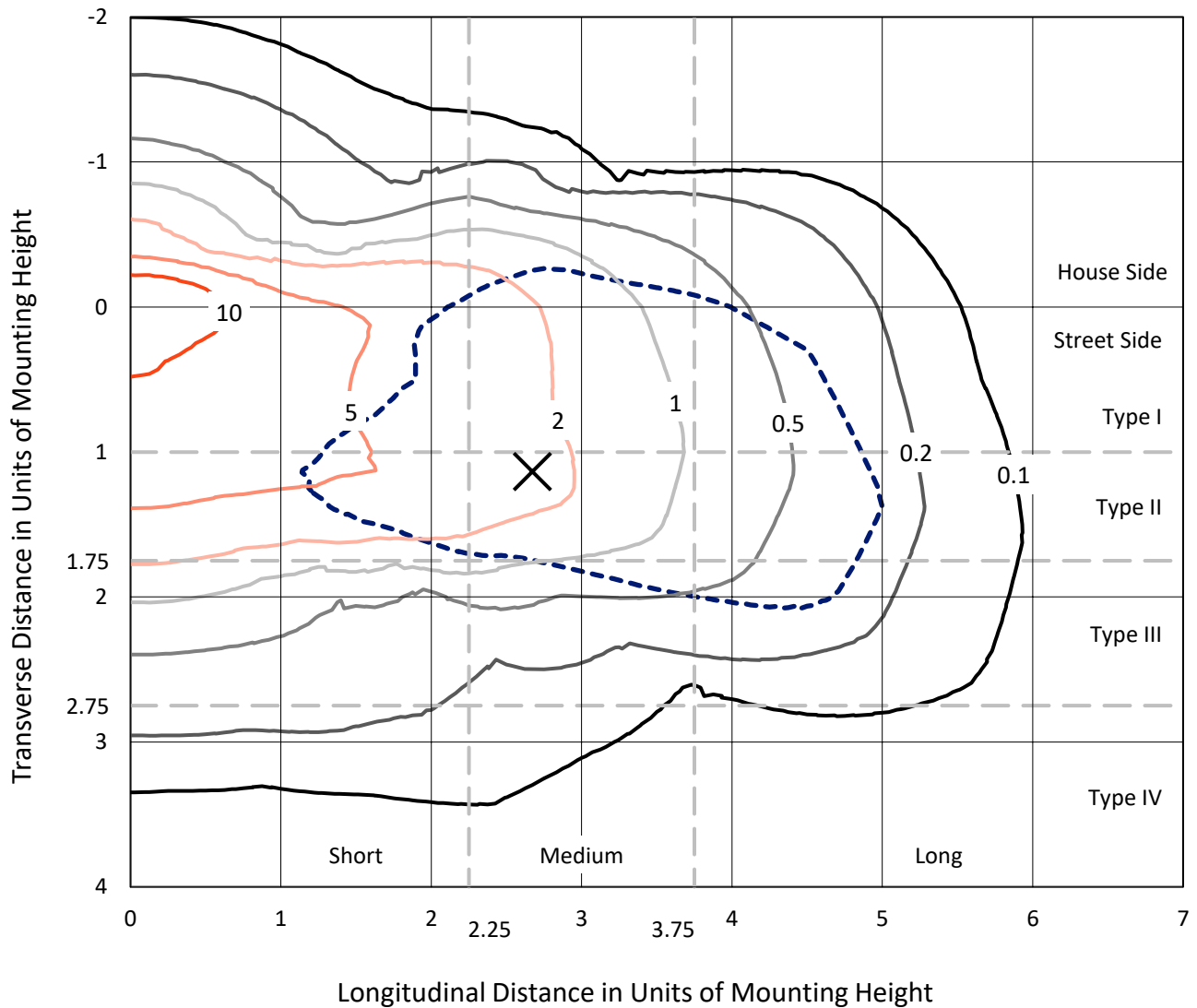
Lumens per Lamp: N/A  
Luminaire Lumens: 9463.9 lumens  
Efficiency: N/A  
Efficacy: 114.3 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.1')  
IES Classification: Type III - Medium  
BUG Rating: B2 - U5 - G2  
  
Input Watts (W): 82.8  
Input Voltage (V): NR  
Input Current (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: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

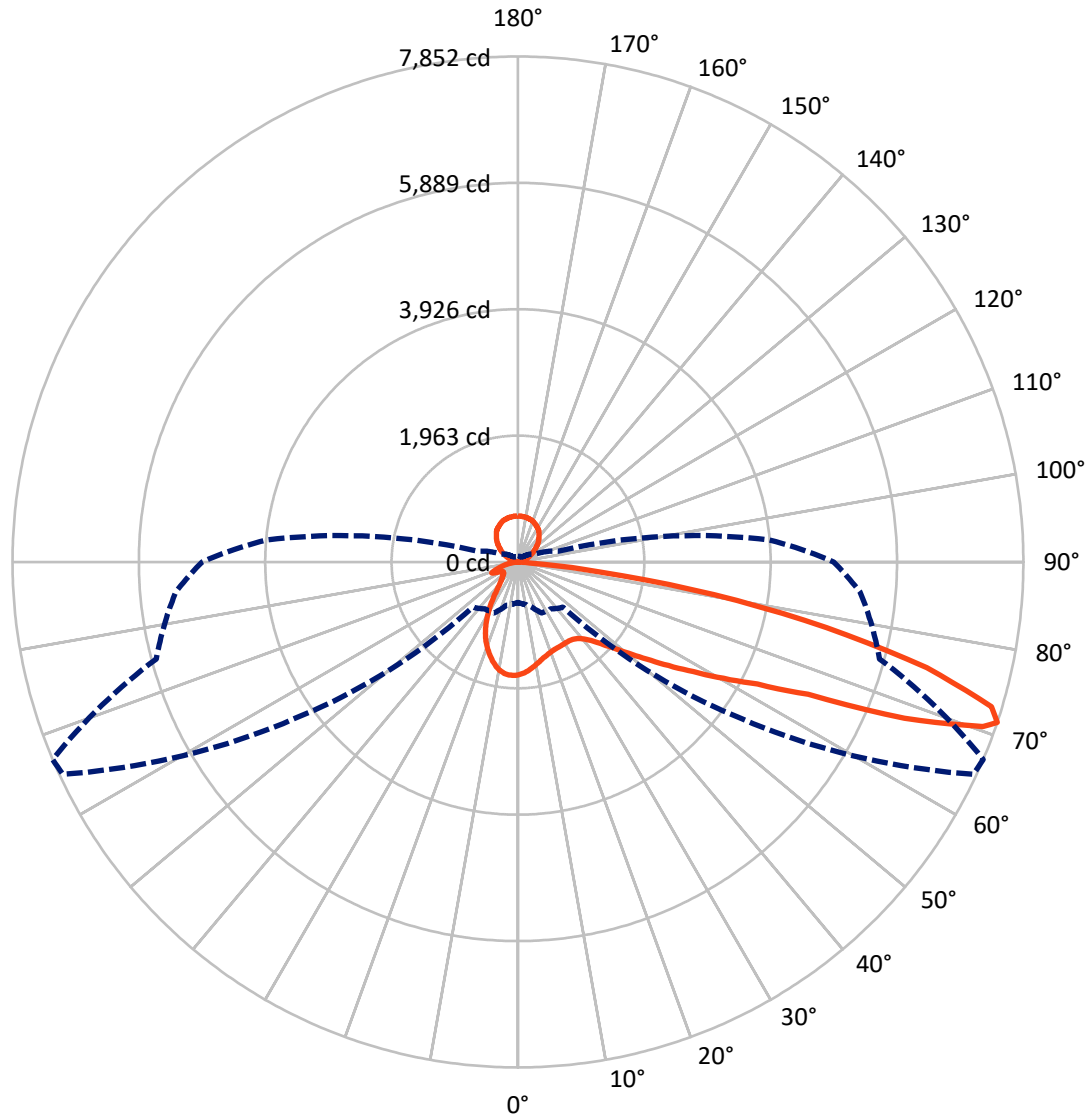
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 17.5 fc  
 Type III - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral      - - - Horizontal Cone Through 71-Deg Vertical

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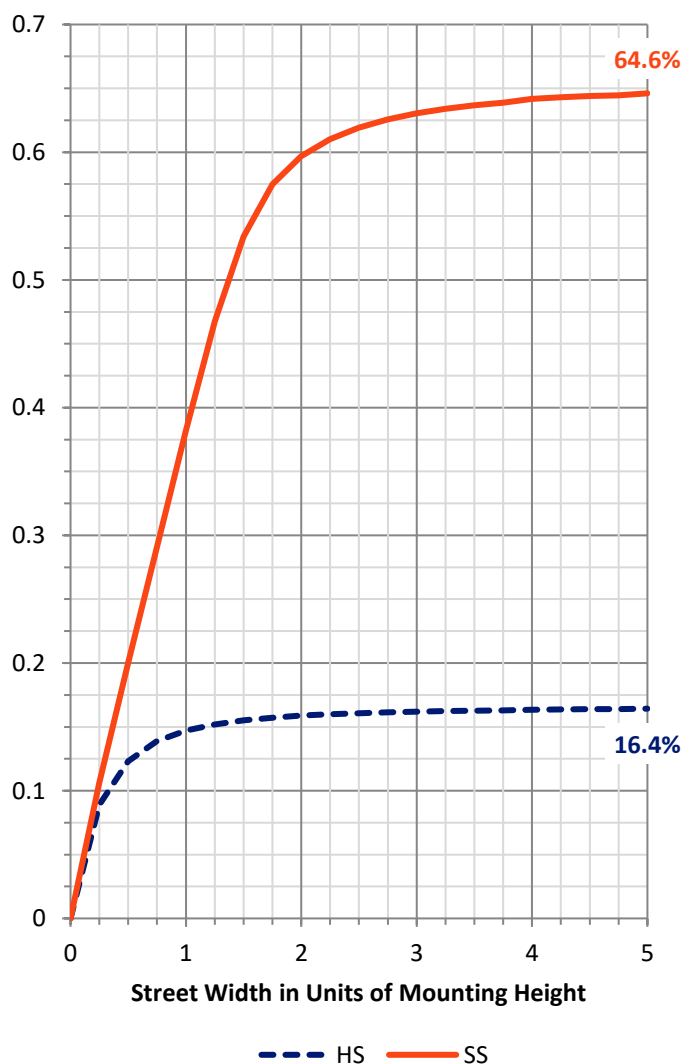
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1575.5	887.0	2462.4
	% Fixture	16.6	9.4	26.0
<b>Street Side</b>	Lumens	6114.5	887.0	7001.5
	% Fixture	64.6	9.4	74.0
<b>Total</b>	Lumens	7690.0	1773.9	9463.9
	% Fixture	81.3	18.7	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.4	1.6
10°-20°	381.9	4.0
20°-30°	515.6	5.4
30°-40°	679.0	7.2
40°-50°	967.2	10.2
50°-60°	1477.5	15.6
60°-70°	1844.9	19.5
70°-80°	1489.2	15.7
80°-90°	179.5	1.9
90°-100°	8.4	0.1
100°-110°	58.7	0.6
110°-120°	169.9	1.8
120°-130°	279.4	3.0
130°-140°	344.6	3.6
140°-150°	352.5	3.7
150°-160°	297.0	3.1
160°-170°	195.5	2.1
170°-180°	67.8	0.7
0°-90°	7690.0	81.3
0°-180°	9463.9	100.0

**Coefficient of Utilization**

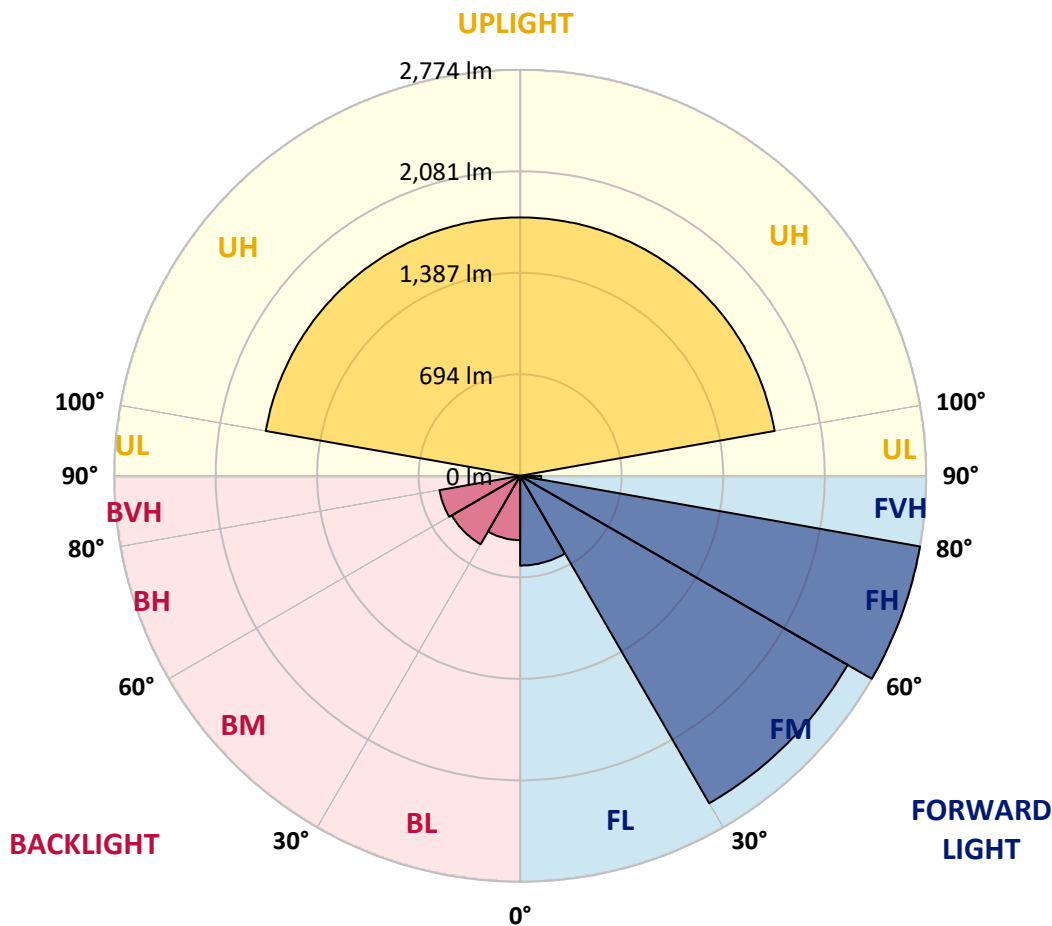


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	613.2	6.5			
FM (30°-60°)	2584.0	27.3			
FH (60°-80°)	2774.2	29.3			G2/5000
FVH (80°-90°)	143.1	1.5			G2/225
BL (0°-30°)	439.6	4.6	B1/500		
BM (30°-60°)	539.7	5.7	B1/1000		
BH (60°-80°)	559.8	5.9	B2/1000		G2/1000
BVH (80°-90°)	36.3	0.4			G1/100
UL (90°-100°)	8.4	0.1		U1/10	
UH (100°-180°)	1765.5	18.7		U5	

**BUG Rating: B2-U5-G2**  
 Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5
2.5°	1653.9	1661.6	1662.7	1678.2	1683.8	1701.5	1711.5	1728.1	1730.3	1740.2	1746.9
5°	1546.5	1547.6	1554.3	1567.5	1588.6	1620.7	1645.0	1686.0	1693.7	1722.5	1748.0
7.5°	1450.2	1455.7	1466.8	1486.7	1511.1	1548.7	1586.4	1642.8	1653.9	1700.4	1749.1
10°	1384.9	1390.4	1399.3	1421.4	1445.8	1487.8	1533.2	1598.5	1610.7	1674.9	1745.8
12.5°	1332.9	1338.4	1345.0	1369.4	1396.0	1438.0	1484.5	1557.6	1569.8	1643.9	1738.0
15°	1298.5	1299.6	1308.5	1328.4	1358.3	1399.3	1445.8	1521.0	1535.4	1619.6	1735.8
17.5°	1277.5	1279.7	1287.5	1303.0	1329.5	1369.4	1414.8	1491.2	1507.8	1599.6	1736.9
20°	1278.6	1280.8	1285.3	1290.8	1309.6	1343.9	1391.5	1469.0	1485.6	1587.5	1744.7
22.5°	1301.9	1303.0	1304.1	1296.3	1303.0	1327.3	1373.8	1453.5	1471.2	1581.9	1753.5
25°	1346.1	1346.1	1343.9	1326.2	1311.8	1321.8	1363.9	1448.0	1465.7	1577.5	1762.4
27.5°	1407.0	1411.5	1400.4	1379.4	1346.1	1329.5	1361.6	1443.6	1461.3	1577.5	1766.8
30°	1490.1	1492.3	1487.8	1460.2	1405.9	1360.5	1368.3	1440.2	1457.9	1575.3	1767.9
32.5°	1574.2	1580.8	1586.4	1562.0	1496.7	1415.9	1394.8	1444.7	1460.2	1574.2	1764.6
35°	1659.4	1663.9	1690.4	1686.0	1615.1	1498.9	1438.0	1462.4	1475.7	1579.7	1766.8
37.5°	1732.5	1742.5	1781.2	1811.1	1755.7	1611.8	1512.2	1501.1	1508.9	1607.4	1779.0
40°	1811.1	1825.5	1883.0	1939.5	1915.1	1753.5	1617.4	1570.9	1568.7	1658.3	1808.9
42.5°	1899.7	1916.3	1990.4	2072.3	2080.1	1934.0	1758.0	1669.4	1667.2	1745.8	1874.2
45°	2003.7	2019.2	2119.9	2217.4	2265.0	2135.4	1930.6	1808.9	1810.0	1867.5	1978.2
47.5°	2132.1	2156.5	2253.9	2377.9	2463.1	2362.4	2139.9	2003.7	1994.9	2051.3	2148.7
50°	2312.6	2332.5	2413.3	2534.0	2683.4	2636.9	2403.3	2238.4	2231.8	2258.3	2376.8
52.5°	2501.9	2508.5	2547.3	2672.4	2923.6	2970.1	2727.7	2529.5	2504.1	2518.5	2660.2
55°	2512.9	2527.3	2552.8	2711.1	3139.5	3369.8	3085.3	2872.7	2839.5	2829.6	2982.3
57.5°	2282.7	2305.9	2339.1	2543.9	3148.4	3831.4	3593.4	3273.5	3213.7	3163.9	3326.6
60°	1794.5	1824.4	1885.3	2136.6	2923.6	4094.9	4441.4	3722.9	3669.8	3500.4	3663.1
62.5°	1297.4	1309.6	1368.3	1481.2	2320.3	4110.4	5324.8	4309.6	4177.9	3828.1	3953.2
65°	1045.0	1065.0	1082.7	1081.6	1373.8	3645.4	5911.5	5353.6	4956.1	4194.5	4272.0
67.5°	861.3	867.9	911.1	986.4	934.3	2251.7	5970.2	6879.0	6476.1	4688.2	4650.6
70°	719.6	721.8	765.0	900.0	894.5	1162.4	5006.0	7756.9	7659.5	5498.6	5242.9
71°	629.9	648.7	696.3	871.2	890.0	993.0	4253.2	7803.4	7852.1	5816.3	5334.7
72.5°	495.9	495.9	563.5	799.3	897.8	916.6	3134.0	7549.9	7690.5	6177.2	5175.3
75°	291.1	288.9	325.5	556.8	917.7	913.3	1711.5	6274.6	6559.1	6242.5	4790.1
77.5°	163.8	167.2	187.1	310.0	728.4	876.8	983.0	4568.7	4904.1	5221.8	4050.6
80°	75.3	79.7	94.1	150.6	429.5	757.2	701.9	2966.8	3094.1	3138.4	1914.0
82.5°	19.9	22.1	28.8	57.6	166.1	515.9	519.2	1242.1	1283.0	741.7	410.7
85°	0.0	0.0	0.0	0.0	2.2	63.1	147.2	223.6	186.0	98.5	84.1
87.5°	0.0	0.0	0.0	0.0	0.0	2.2	3.3	4.4	4.4	4.4	5.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	4.1	4.1	5.1	6.1	6.1	6.1	7.2	7.2	7.0	6.1	6.1
95°	5.1	5.1	6.1	7.2	7.2	7.2	7.2	8.2	8.0	7.2	7.2
97.5°	7.2	7.2	8.2	8.2	9.2	9.2	12.3	10.2	10.0	9.2	8.2
100°	8.2	8.2	9.2	10.2	12.3	21.5	29.7	26.6	26.0	23.5	19.4
102.5°	11.3	11.3	13.3	18.4	27.6	40.9	51.1	48.1	47.1	43.0	39.9
105°	21.5	22.5	27.6	36.8	49.1	64.4	73.7	71.6	70.6	66.5	62.4
107.5°	41.9	43.0	50.1	59.3	74.7	90.0	97.2	96.2	95.3	92.1	89.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
110°	67.5	69.6	75.7	89.0	104.3	116.6	122.8	123.8	123.4	121.7	118.7
112.5°	101.3	101.3	108.4	123.8	137.1	146.3	151.4	153.4	153.2	152.4	150.4
115°	143.2	142.2	150.4	162.6	171.9	178.0	183.1	186.2	185.6	183.1	181.1
117.5°	188.2	188.2	193.3	201.5	206.6	209.7	215.8	219.9	218.9	214.8	212.8
120°	230.2	228.1	231.2	238.3	242.4	248.6	251.6	255.7	254.7	250.6	248.6
122.5°	269.0	266.0	267.0	273.1	277.2	283.4	285.4	289.5	288.5	284.4	282.3
125°	304.8	300.7	302.8	305.9	312.0	317.1	320.2	322.2	321.2	317.1	317.1
127.5°	337.6	336.6	336.6	340.6	346.8	347.8	352.9	353.9	353.9	353.9	352.9
130°	371.3	369.3	370.3	374.4	378.5	380.5	385.7	389.7	389.7	389.7	387.7
132.5°	405.1	403.0	402.0	410.2	413.3	414.3	420.4	425.5	425.1	423.5	423.5
135°	438.8	435.8	435.8	441.9	445.0	447.0	453.2	458.3	458.1	457.3	460.3
137.5°	470.6	467.5	469.5	470.6	474.6	478.7	483.9	485.9	486.1	486.9	492.0
140°	499.2	496.1	498.2	500.2	502.3	508.4	511.5	513.5	513.9	515.6	520.7
142.5°	529.9	526.8	528.9	529.9	533.0	537.0	539.1	545.2	545.2	545.2	546.3
145°	562.6	558.5	556.5	559.6	562.6	563.6	568.8	574.9	574.7	573.9	570.8
147.5°	588.2	585.1	584.1	587.2	587.2	588.2	593.3	598.4	598.6	599.4	596.4
150°	608.7	605.6	606.6	606.6	606.6	606.6	610.7	613.8	614.4	616.8	619.9
152.5°	625.0	622.0	622.0	623.0	624.0	624.0	625.0	628.1	628.9	632.2	637.3
155°	643.4	639.3	639.3	641.4	644.5	642.4	640.4	645.5	646.5	650.6	652.6
157.5°	660.8	657.8	657.8	658.8	660.8	659.8	658.8	662.9	663.3	664.9	664.9
160°	678.2	675.1	674.1	671.1	670.0	670.0	673.1	679.2	678.6	676.2	675.1
162.5°	688.4	684.4	684.4	680.3	676.2	678.2	682.3	686.4	686.2	685.4	683.3
165°	696.6	693.6	691.5	691.5	688.4	688.4	687.4	692.5	693.2	695.6	693.6
167.5°	705.8	702.8	699.7	701.7	703.8	700.7	693.6	699.7	700.5	703.8	703.8
170°	714.0	711.0	707.9	707.9	708.9	706.9	701.7	704.8	705.8	709.9	712.0
172.5°	715.0	713.0	711.0	708.9	705.8	705.8	704.8	707.9	708.3	709.9	712.0
175°	716.1	714.0	713.0	711.0	706.9	705.8	705.8	711.0	711.2	712.0	709.9
177.5°	723.2	721.2	716.1	715.0	713.0	711.0	709.9	715.0	715.5	717.1	714.0
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1





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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5
2.5°	1752.4	1756.8	1764.6	1763.5	1761.3	1748.0	1755.7	1748.0	1746.9	1743.6	1744.7
5°	1756.8	1763.5	1767.9	1758.0	1741.3	1712.6	1702.6	1677.1	1660.5	1651.7	1647.2
7.5°	1763.5	1767.9	1765.7	1738.0	1694.9	1640.6	1594.1	1557.6	1518.8	1512.2	1510.0
10°	1763.5	1767.9	1750.2	1697.1	1622.9	1537.7	1466.8	1407.0	1347.2	1325.1	1328.4
12.5°	1759.1	1761.3	1720.3	1635.1	1527.7	1411.5	1311.8	1213.3	1136.9	1090.4	1081.6
15°	1755.7	1752.4	1680.5	1557.6	1414.8	1270.9	1120.3	987.5	896.7	835.8	828.1
17.5°	1755.7	1743.6	1632.9	1469.0	1291.9	1093.7	894.5	750.6	649.8	614.4	613.3
20°	1758.0	1731.4	1581.9	1377.1	1139.1	883.4	667.5	544.7	507.0	501.5	502.6
22.5°	1760.2	1714.8	1526.6	1273.1	968.6	658.7	477.1	432.8	436.2	449.5	448.3
25°	1758.0	1692.6	1461.3	1156.8	782.7	474.9	385.2	374.2	394.1	409.6	414.0
27.5°	1752.4	1663.9	1391.5	1018.5	596.7	374.2	336.5	335.4	355.4	369.7	368.6
30°	1735.8	1629.5	1310.7	872.3	430.6	318.8	303.3	306.6	319.9	333.2	333.2
32.5°	1718.1	1590.8	1225.5	712.9	331.0	288.9	283.4	284.5	293.4	303.3	302.2
35°	1699.3	1553.2	1138.0	546.9	290.0	271.2	269.0	267.9	271.2	273.4	273.4
37.5°	1688.2	1519.9	1041.7	411.8	267.9	260.2	255.7	251.3	250.2	248.0	245.8
40°	1692.6	1497.8	948.7	318.8	254.6	248.0	241.3	234.7	230.3	228.0	226.9
42.5°	1723.6	1491.2	845.8	274.5	242.4	236.9	228.0	217.0	212.5	212.5	211.4
45°	1795.6	1511.1	749.5	252.4	231.4	224.7	210.3	202.6	199.3	200.4	200.4
47.5°	1908.5	1567.5	663.1	241.3	223.6	213.7	197.1	189.3	187.1	188.2	188.2
50°	2077.9	1673.8	574.5	231.4	214.8	201.5	187.1	178.2	174.9	174.9	174.9
52.5°	2325.9	1848.7	510.3	224.7	207.0	191.5	177.1	167.2	162.7	162.7	161.6
55°	2628.1	2076.8	486.0	220.3	197.1	182.7	167.2	157.2	150.6	148.3	149.4
57.5°	2959.1	2372.3	521.4	219.2	186.0	172.7	157.2	145.0	138.4	137.3	136.2
60°	3300.0	2665.7	623.3	213.7	177.1	160.5	146.1	135.1	128.4	126.2	125.1
62.5°	3594.5	2958.0	791.5	209.2	170.5	149.4	133.9	124.0	118.5	115.1	115.1
65°	3949.9	3293.4	1048.4	214.8	167.2	138.4	122.9	114.0	109.6	106.3	106.3
67.5°	4434.7	3790.4	1243.2	241.3	174.9	129.5	110.7	104.1	100.7	98.5	98.5
70°	4911.9	4069.4	864.6	283.4	194.8	121.8	99.6	95.2	93.0	90.8	90.8
71°	4905.2	3920.0	649.8	293.4	201.5	119.6	95.2	91.9	89.7	88.6	87.5
72.5°	4659.5	3563.5	466.1	284.5	198.2	112.9	89.7	86.3	84.1	84.1	83.0
75°	4179.0	3140.6	364.2	238.0	166.1	100.7	79.7	77.5	75.3	74.2	75.3
77.5°	3424.0	2512.9	286.7	188.2	126.2	83.0	70.8	67.5	66.4	65.3	66.4
80°	1573.1	1094.8	209.2	146.1	94.1	66.4	59.8	58.7	57.6	56.5	56.5
82.5°	378.6	306.6	111.8	97.4	64.2	50.9	47.6	47.6	47.6	46.5	46.5
85°	83.0	83.0	45.4	45.4	38.7	35.4	37.6	37.6	37.6	35.4	35.4
87.5°	4.4	13.3	14.4	21.0	22.1	21.0	25.5	26.6	25.5	24.4	23.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	6.1	6.1	6.1	7.2	7.2	6.1	6.1	6.1	5.1	4.1	4.1
95°	7.2	7.2	7.2	8.2	7.2	7.2	7.2	7.2	6.1	5.1	5.1
97.5°	8.2	8.2	9.2	10.2	12.3	9.2	9.2	8.2	8.2	7.2	7.2
100°	19.4	19.4	23.5	26.6	29.7	21.5	12.3	10.2	9.2	8.2	8.2
102.5°	38.9	39.9	43.0	48.1	51.1	40.9	27.6	18.4	13.3	11.3	11.3
105°	62.4	62.4	66.5	71.6	73.7	64.4	49.1	36.8	27.6	22.5	21.5
107.5°	88.0	89.0	92.1	96.2	97.2	90.0	74.7	59.3	50.1	43.0	41.9



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	119.7	118.7	121.7	123.8	122.8	116.6	104.3	89.0	75.7	69.6	67.5
112.5°	150.4	150.4	152.4	153.4	151.4	146.3	137.1	123.8	108.4	101.3	101.3
115°	182.1	181.1	183.1	186.2	183.1	178.0	171.9	162.6	150.4	142.2	143.2
117.5°	213.8	212.8	214.8	219.9	215.8	209.7	206.6	201.5	193.3	188.2	188.2
120°	248.6	248.6	250.6	255.7	251.6	248.6	242.4	238.3	231.2	228.1	230.2
122.5°	283.4	282.3	284.4	289.5	285.4	283.4	277.2	273.1	267.0	266.0	269.0
125°	317.1	317.1	317.1	322.2	320.2	317.1	312.0	305.9	302.8	300.7	304.8
127.5°	355.0	352.9	353.9	353.9	352.9	347.8	346.8	340.6	336.6	336.6	337.6
130°	388.7	387.7	389.7	389.7	385.7	380.5	378.5	374.4	370.3	369.3	371.3
132.5°	424.5	423.5	423.5	425.5	420.4	414.3	413.3	410.2	402.0	403.0	405.1
135°	461.4	460.3	457.3	458.3	453.2	447.0	445.0	441.9	435.8	435.8	438.8
137.5°	493.1	492.0	486.9	485.9	483.9	478.7	474.6	470.6	469.5	467.5	470.6
140°	522.7	520.7	515.6	513.5	511.5	508.4	502.3	500.2	498.2	496.1	499.2
142.5°	548.3	546.3	545.2	545.2	539.1	537.0	533.0	529.9	528.9	526.8	529.9
145°	572.9	570.8	573.9	574.9	568.8	563.6	562.6	559.6	556.5	558.5	562.6
147.5°	598.4	596.4	599.4	598.4	593.3	588.2	587.2	587.2	584.1	585.1	588.2
150°	624.0	619.9	616.8	613.8	610.7	606.6	606.6	606.6	606.6	605.6	608.7
152.5°	642.4	637.3	632.2	628.1	625.0	624.0	624.0	623.0	622.0	622.0	625.0
155°	655.7	652.6	650.6	645.5	640.4	642.4	644.5	641.4	639.3	639.3	643.4
157.5°	670.0	664.9	664.9	662.9	658.8	659.8	660.8	658.8	657.8	657.8	660.8
160°	681.3	675.1	676.2	679.2	673.1	670.0	670.0	671.1	674.1	675.1	678.2
162.5°	689.5	683.3	685.4	686.4	682.3	678.2	676.2	680.3	684.4	684.4	688.4
165°	697.7	693.6	695.6	692.5	687.4	688.4	688.4	691.5	691.5	693.6	696.6
167.5°	709.9	703.8	703.8	699.7	693.6	700.7	703.8	701.7	699.7	702.8	705.8
170°	717.1	712.0	709.9	704.8	701.7	706.9	708.9	707.9	707.9	711.0	714.0
172.5°	717.1	712.0	709.9	707.9	704.8	705.8	705.8	708.9	711.0	713.0	715.0
175°	715.0	709.9	712.0	711.0	705.8	705.8	706.9	711.0	713.0	714.0	716.1
177.5°	718.1	714.0	717.1	715.0	709.9	711.0	713.0	715.0	716.1	721.2	723.2
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1

(END OF REPORT)