

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-T4W-HSS-ULG**

Issue Date: 3/30/2022

**Test Information**

Test Method: LM-79-08  
Report Number: REPORT IS A COMBINATION OF REPORTS P401878 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-T4W-HSS-ULG  
Description: ENTRI LED LUMINAIRE WITH UPLIGHT  
(1) 70 CRI, 4000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

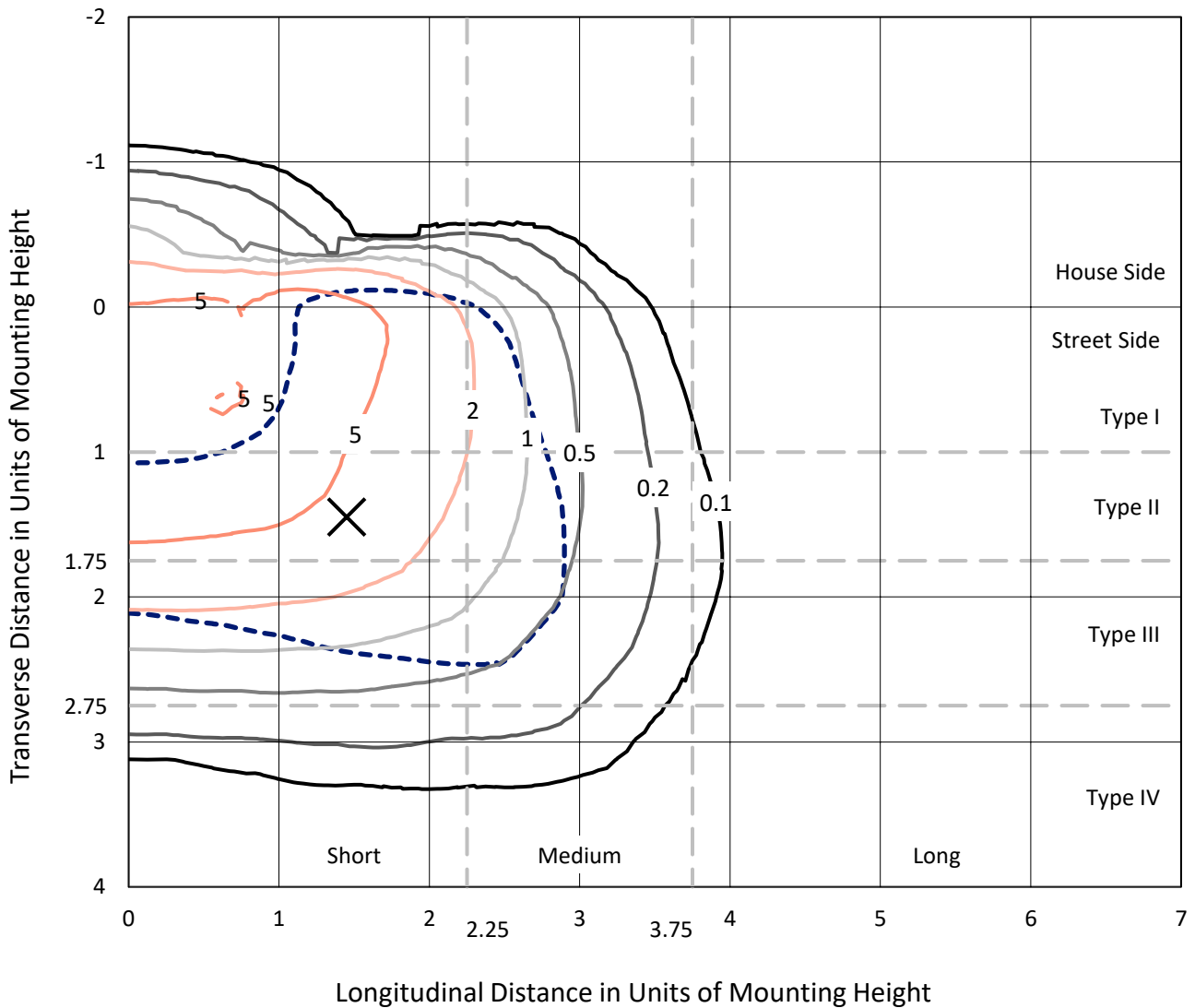
Lumens per Lamp: N/A  
Luminaire Lumens: 7579.9 lumens  
Efficiency: N/A  
Efficacy: 91.5 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.1')  
IES Classification: Type III - Short  
BUG Rating: B1 - U5 - G2  
  
Input Watts (W): 82.8  
Input Voltage (V): NR  
Input Current (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

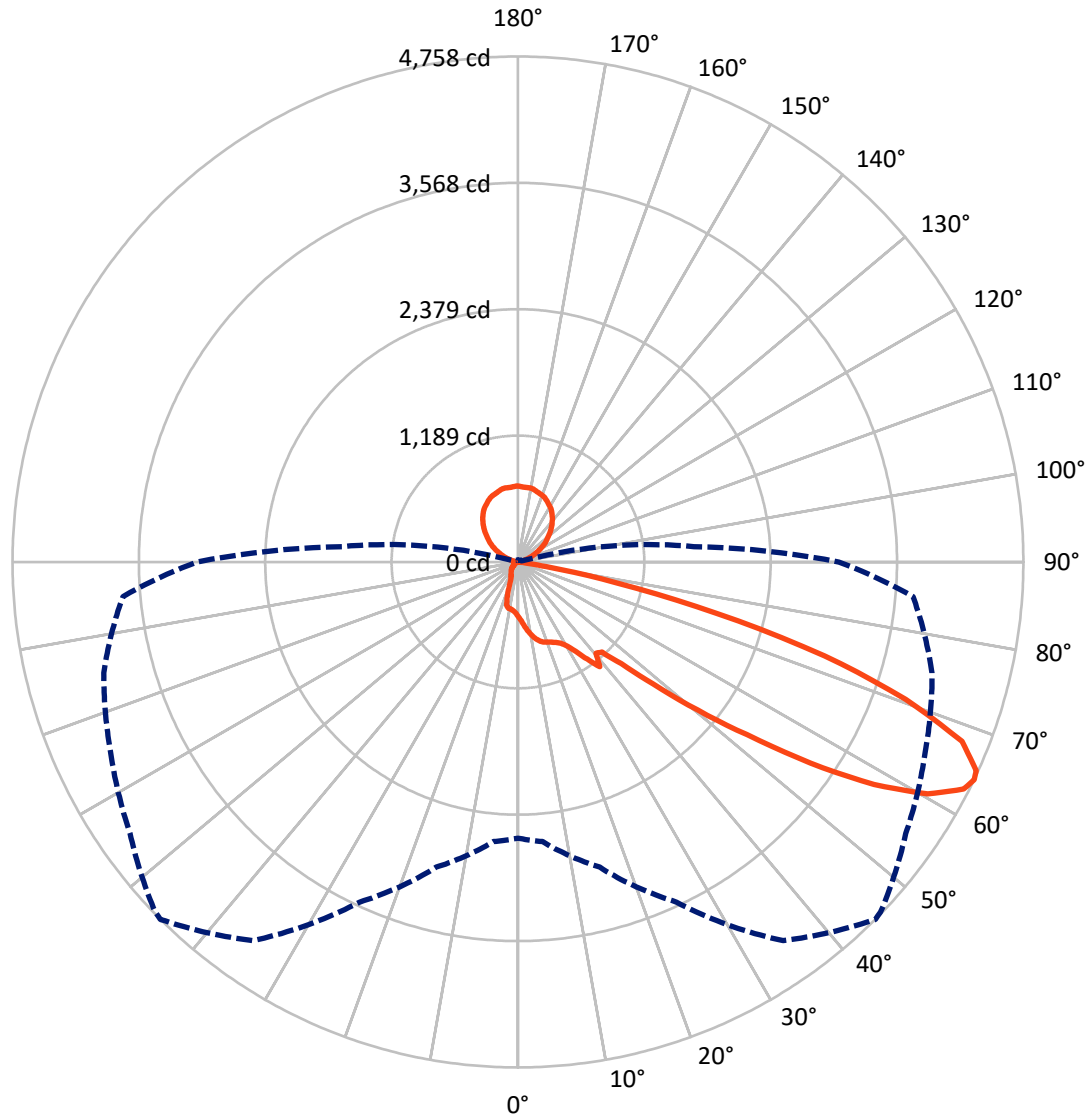
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.7 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 64-Deg Vertical

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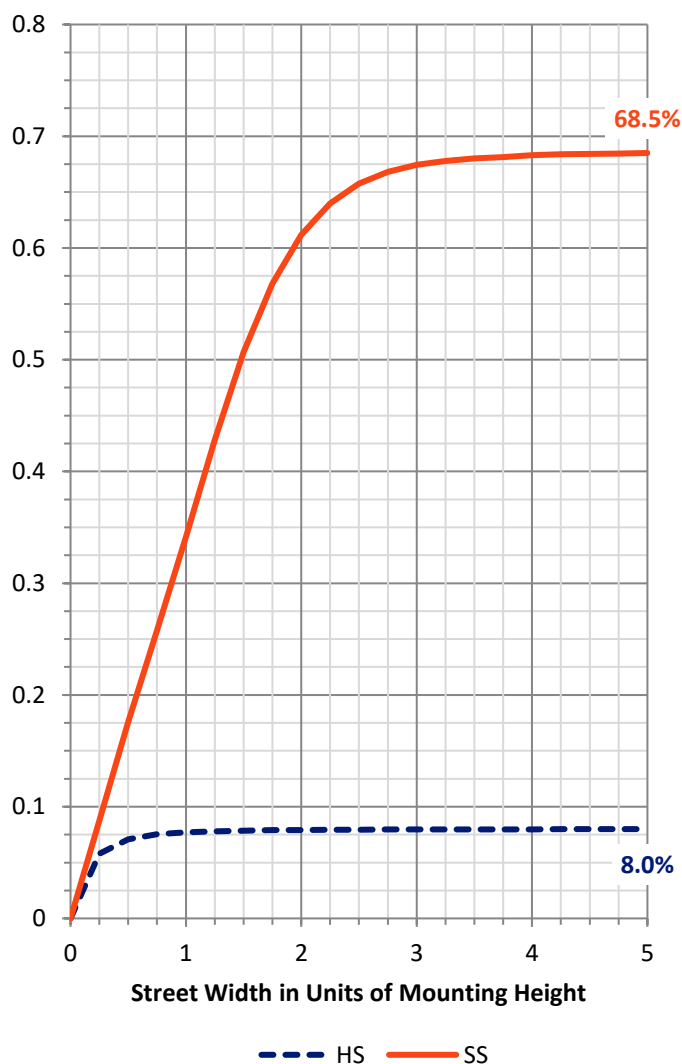
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	612.6	887.0	1499.6
	% Fixture	8.1	11.7	19.8
<b>Street Side</b>	Lumens	5193.4	887.0	6080.3
	% Fixture	68.5	11.7	80.2
<b>Total</b>	Lumens	5806.0	1773.9	7579.9
	% Fixture	76.6	23.4	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.2	0.7
10°-20°	162.7	2.1
20°-30°	264.9	3.5
30°-40°	420.9	5.6
40°-50°	801.7	10.6
50°-60°	1652.0	21.8
60°-70°	1845.1	24.3
70°-80°	582.8	7.7
80°-90°	23.7	0.3
90°-100°	8.4	0.1
100°-110°	58.7	0.8
110°-120°	169.9	2.2
120°-130°	279.4	3.7
130°-140°	344.6	4.5
140°-150°	352.5	4.7
150°-160°	297.0	3.9
160°-170°	195.5	2.6
170°-180°	67.8	0.9
0°-90°	5806.0	76.6
0°-180°	7579.9	100.0

**Coefficient of Utilization**

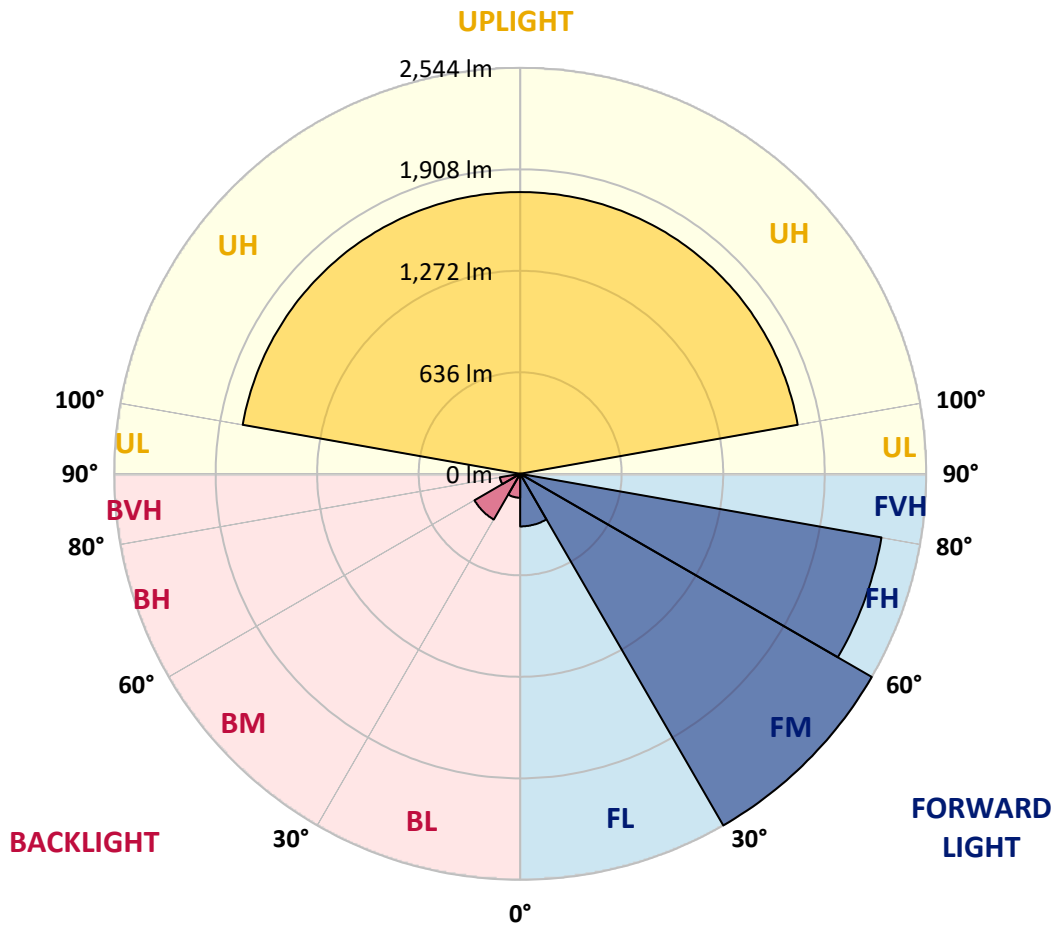


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	329.8	4.4			
FM (30°-60°)	2544.0	33.6			
FH (60°-80°)	2298.7	30.3			G2/5000
FVH (80°-90°)	20.9	0.3			G1/100
BL (0°-30°)	150.1	2.0	B1/500		
BM (30°-60°)	330.6	4.4	B1/1000		
BH (60°-80°)	129.1	1.7	B1/500		G1/500
BVH (80°-90°)	2.8	0.0			G0/10
UL (90°-100°)	8.4	0.1		U1/10	
UH (100°-180°)	1765.5	23.3		U5	

**BUG Rating: B1-U5-G2**  
 Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	46°	55°	65°	75°	85°
0°	514.6	514.6	514.6	514.6	514.6	514.6	514.6	514.6	514.6	514.6	514.6
2.5°	567.8	570.0	566.6	562.2	557.8	550.0	551.1	541.2	533.4	527.9	519.1
5°	639.7	638.6	631.9	622.0	612.0	597.6	595.4	579.9	563.3	545.6	529.0
7.5°	712.7	709.4	702.8	689.5	670.7	651.9	646.3	624.2	599.8	573.3	544.5
10°	772.5	770.3	762.5	748.1	726.0	697.2	697.2	666.2	634.2	602.1	567.8
12.5°	821.2	819.0	810.1	792.4	765.9	740.4	737.1	709.4	674.0	636.4	594.3
15°	851.1	848.9	838.9	819.0	795.7	772.5	769.2	742.6	710.5	667.4	618.7
17.5°	858.8	856.6	848.9	831.2	813.4	793.5	789.1	765.9	738.2	693.9	644.1
20°	855.5	851.1	846.6	832.3	817.9	804.6	802.4	785.8	761.4	723.8	670.7
22.5°	846.6	842.2	838.9	828.9	821.2	820.1	817.9	807.9	792.4	760.3	710.5
25°	843.3	840.0	836.7	830.0	828.9	840.0	838.9	837.8	831.2	803.5	751.5
27.5°	862.1	861.0	853.3	842.2	847.8	866.6	867.7	873.2	868.8	851.1	811.2
30°	928.5	923.0	905.3	881.0	895.3	919.7	924.1	941.8	942.9	945.1	890.9
32.5°	1018.2	1009.3	979.5	948.5	957.3	1002.7	1003.8	1031.5	1090.1	1053.6	934.1
35°	1080.2	1069.1	1023.7	1007.1	1051.4	1123.3	1133.3	1189.7	1194.2	1061.4	930.8
37.5°	1253.9	1237.3	1154.3	1053.6	1096.8	1251.7	1262.8	1252.8	1159.8	1050.3	978.3
40°	1486.3	1470.8	1396.7	1227.4	1105.6	1128.9	1134.4	1164.3	1182.0	1127.8	1131.1
42.5°	1788.5	1768.5	1692.2	1485.2	1244.0	1158.7	1169.8	1230.7	1346.9	1372.3	1502.9
45°	2097.2	2086.2	2008.7	1785.1	1496.3	1362.4	1367.9	1442.1	1650.1	1810.6	1921.3
47.5°	2399.4	2401.6	2335.2	2145.9	1863.7	1715.4	1708.8	1805.1	2068.5	2182.5	2295.4
50°	2825.5	2823.3	2704.8	2587.5	2367.3	2191.3	2180.3	2234.5	2487.9	2530.0	2704.8
52.5°	3310.2	3308.0	3129.8	3074.5	2981.5	2698.2	2728.1	2681.6	2864.2	2939.5	3187.4
55°	3540.4	3520.5	3445.2	3515.0	3625.6	3341.2	3336.8	3159.7	3302.5	3366.7	3598.0
57.5°	3517.2	3524.9	3596.9	3828.2	4191.2	3953.2	3959.9	3631.2	3714.2	3754.0	3923.3
60°	3385.5	3391.0	3558.1	3943.3	4473.4	4432.4	4409.2	4071.6	4017.4	4000.8	4081.6
62.5°	3009.2	3011.4	3282.6	3777.3	4471.2	4709.1	4687.0	4381.5	4212.2	4106.0	3958.8
64°	2599.7	2641.8	2973.8	3532.7	4350.5	4757.8	4745.6	4456.8	4229.9	4035.1	3733.0
65°	2263.3	2326.3	2728.1	3315.8	4214.4	4741.2	4726.8	4443.5	4205.6	3902.3	3499.5
67.5°	1543.9	1577.1	1937.9	2609.7	3695.4	4507.7	4503.3	4273.1	3941.1	3371.1	2745.8
70°	910.8	935.2	1201.9	1821.7	2839.9	3872.4	3931.1	3848.1	3271.5	2421.5	1748.6
72.5°	283.3	297.7	530.1	1011.5	1861.5	3016.9	3093.3	3033.5	2381.7	1512.9	969.5
75°	106.2	110.7	174.9	439.4	926.3	1929.0	1952.3	2022.0	1450.9	799.1	423.9
77.5°	58.7	59.8	86.3	164.9	407.3	947.4	969.5	960.6	771.4	377.4	135.0
80°	28.8	29.9	42.1	73.0	158.3	267.8	317.6	419.4	272.3	185.9	43.2
82.5°	10.0	8.9	18.8	33.2	53.1	71.9	80.8	116.2	114.0	101.8	15.5
85°	0.0	0.0	1.1	1.1	1.1	2.2	2.2	14.4	28.8	33.2	4.4
87.5°	0.0	0.0	0.0	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2
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°	4.1	4.1	5.1	6.1	6.1	6.1	6.2	7.2	7.2	6.1	6.1
95°	5.1	5.1	6.1	7.2	7.2	7.2	7.2	7.2	8.2	7.2	7.2
97.5°	7.2	7.2	8.2	8.2	9.2	9.2	9.5	12.3	10.2	9.2	8.2
100°	8.2	8.2	9.2	10.2	12.3	21.5	22.3	29.7	26.6	23.5	19.4
102.5°	11.3	11.3	13.3	18.4	27.6	40.9	41.9	51.1	48.1	43.0	39.9
105°	21.5	22.5	27.6	36.8	49.1	64.4	65.3	73.7	71.6	66.5	62.4
107.5°	41.9	43.0	50.1	59.3	74.7	90.0	90.7	97.2	96.2	92.1	89.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	46°	55°	65°	75°	85°
110°	67.5	69.6	75.7	89.0	104.3	116.6	117.2	122.8	123.8	121.7	118.7
112.5°	101.3	101.3	108.4	123.8	137.1	146.3	146.8	151.4	153.4	152.4	150.4
115°	143.2	142.2	150.4	162.6	171.9	178.0	178.5	183.1	186.2	183.1	181.1
117.5°	188.2	188.2	193.3	201.5	206.6	209.7	210.3	215.8	219.9	214.8	212.8
120°	230.2	228.1	231.2	238.3	242.4	248.6	248.9	251.6	255.7	250.6	248.6
122.5°	269.0	266.0	267.0	273.1	277.2	283.4	283.6	285.4	289.5	284.4	282.3
125°	304.8	300.7	302.8	305.9	312.0	317.1	317.4	320.2	322.2	317.1	317.1
127.5°	337.6	336.6	336.6	340.6	346.8	347.8	348.3	352.9	353.9	353.9	352.9
130°	371.3	369.3	370.3	374.4	378.5	380.5	381.0	385.7	389.7	389.7	387.7
132.5°	405.1	403.0	402.0	410.2	413.3	414.3	414.9	420.4	425.5	423.5	423.5
135°	438.8	435.8	435.8	441.9	445.0	447.0	447.6	453.2	458.3	457.3	460.3
137.5°	470.6	467.5	469.5	470.6	474.6	478.7	479.2	483.9	485.9	486.9	492.0
140°	499.2	496.1	498.2	500.2	502.3	508.4	508.7	511.5	513.5	515.6	520.7
142.5°	529.9	526.8	528.9	529.9	533.0	537.0	537.2	539.1	545.2	545.2	546.3
145°	562.6	558.5	556.5	559.6	562.6	563.6	564.1	568.8	574.9	573.9	570.8
147.5°	588.2	585.1	584.1	587.2	587.2	588.2	588.7	593.3	598.4	599.4	596.4
150°	608.7	605.6	606.6	606.6	606.6	606.6	607.0	610.7	613.8	616.8	619.9
152.5°	625.0	622.0	622.0	623.0	624.0	624.0	624.1	625.0	628.1	632.2	637.3
155°	643.4	639.3	639.3	641.4	644.5	642.4	642.2	640.4	645.5	650.6	652.6
157.5°	660.8	657.8	657.8	658.8	660.8	659.8	659.7	658.8	662.9	664.9	664.9
160°	678.2	675.1	674.1	671.1	670.0	670.0	670.3	673.1	679.2	676.2	675.1
162.5°	688.4	684.4	684.4	680.3	676.2	678.2	678.6	682.3	686.4	685.4	683.3
165°	696.6	693.6	691.5	691.5	688.4	688.4	688.3	687.4	692.5	695.6	693.6
167.5°	705.8	702.8	699.7	701.7	703.8	700.7	700.0	693.6	699.7	703.8	703.8
170°	714.0	711.0	707.9	707.9	708.9	706.9	706.4	701.7	704.8	709.9	712.0
172.5°	715.0	713.0	711.0	708.9	705.8	705.8	705.7	704.8	707.9	709.9	712.0
175°	716.1	714.0	713.0	711.0	706.9	705.8	705.8	705.8	711.0	712.0	709.9
177.5°	723.2	721.2	716.1	715.0	713.0	711.0	710.9	709.9	715.0	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°	514.6	514.6	514.6	514.6	514.6	514.6	514.6	514.6	514.6	514.6	514.6
2.5°	514.6	512.4	504.7	496.9	491.4	484.7	483.6	479.2	478.1	478.1	478.1
5°	520.2	513.5	499.1	487.0	475.9	465.9	461.5	457.1	453.8	452.7	452.7
7.5°	532.3	522.4	499.1	481.4	464.8	452.7	446.0	441.6	438.3	438.3	438.3
10°	550.0	534.5	505.8	481.4	461.5	446.0	436.1	429.4	425.0	423.9	425.0
12.5°	572.2	552.3	516.8	487.0	463.7	443.8	422.8	384.0	358.6	344.2	342.0
15°	593.2	570.0	529.0	494.7	467.0	422.8	346.4	286.6	246.8	234.6	232.4
17.5°	616.4	592.1	545.6	505.8	454.9	340.9	246.8	197.0	189.3	191.5	191.5
20°	645.2	616.4	563.3	516.8	391.8	242.4	180.4	173.8	176.0	180.4	180.4
22.5°	678.4	647.4	587.7	510.2	298.8	177.1	164.9	166.0	168.2	172.6	172.6
25°	721.6	689.5	614.2	460.4	208.1	154.9	156.0	157.2	160.5	164.9	166.0
27.5°	785.8	747.0	646.3	386.2	157.2	143.9	145.0	148.3	151.6	157.2	157.2
30°	854.4	806.8	675.1	297.7	137.2	131.7	132.8	136.1	141.7	146.1	148.3
32.5°	884.3	842.2	680.6	203.6	127.3	121.7	119.5	122.8	127.3	131.7	132.8
35°	900.9	883.2	654.1	147.2	119.5	112.9	108.5	107.4	108.5	111.8	111.8
37.5°	982.8	970.6	601.0	126.2	111.8	105.1	98.5	93.0	90.8	89.6	90.8
40°	1139.9	1113.4	531.2	116.2	105.1	97.4	88.5	79.7	71.9	68.6	68.6
42.5°	1486.3	1352.4	431.6	109.6	98.5	89.6	76.4	64.2	55.3	53.1	53.1
45°	1859.3	1649.0	324.3	104.0	91.9	80.8	64.2	50.9	43.2	40.9	40.9
47.5°	2217.9	1868.2	226.9	97.4	84.1	70.8	53.1	40.9	35.4	34.3	34.3
50°	2594.2	2058.5	158.3	89.6	76.4	60.9	43.2	33.2	29.9	29.9	29.9
52.5°	2960.5	2199.1	116.2	81.9	66.4	50.9	36.5	29.9	27.7	27.7	27.7
55°	3237.2	2253.3	88.5	71.9	56.4	43.2	33.2	28.8	26.6	25.5	25.5
57.5°	3422.0	2207.9	71.9	59.8	47.6	37.6	29.9	26.6	24.3	23.2	23.2
60°	3417.6	2057.4	57.5	48.7	38.7	32.1	27.7	24.3	22.1	21.0	21.0
62.5°	3217.3	1812.8	45.4	38.7	32.1	27.7	24.3	22.1	19.9	18.8	17.7
64°	3021.4	1661.2	38.7	33.2	28.8	25.5	22.1	19.9	17.7	15.5	15.5
65°	2808.9	1517.3	35.4	29.9	25.5	23.2	21.0	18.8	15.5	13.3	13.3
67.5°	2136.0	1123.3	28.8	23.2	19.9	18.8	16.6	14.4	11.1	8.9	8.9
70°	1386.7	727.1	24.3	18.8	16.6	16.6	15.5	12.2	8.9	7.7	6.6
72.5°	710.5	361.9	19.9	15.5	14.4	14.4	13.3	10.0	7.7	6.6	5.5
75°	301.0	147.2	16.6	13.3	12.2	11.1	10.0	8.9	6.6	5.5	5.5
77.5°	105.1	55.3	15.5	13.3	10.0	8.9	8.9	8.9	8.9	7.7	6.6
80°	35.4	21.0	10.0	10.0	11.1	12.2	12.2	11.1	12.2	10.0	7.7
82.5°	14.4	7.7	3.3	4.4	7.7	8.9	10.0	10.0	10.0	7.7	6.6
85°	3.3	2.2	2.2	3.3	3.3	4.4	4.4	5.5	5.5	4.4	4.4
87.5°	2.2	2.2	2.2	2.2	2.2	2.2	3.3	2.2	3.3	3.3	3.3
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)