

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-SA1D-740-U-T4FT-HSS-ULG**

Issue Date: 3/30/2022

**Test Information**

Test Method: LM-79-08  
Report Number: REPORT IS A COMBINATION OF REPORTS P401514 AND P226775  
Test Lab: INNOVATION CENTER  
Issue Date: 3/30/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENT-SA1D-740-U-T4FT-HSS-ULG  
Description: ENTRI LED LUMINAIRE WITH UPLIGHT  
(1) 70 CRI, 4000K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD  
THROW OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

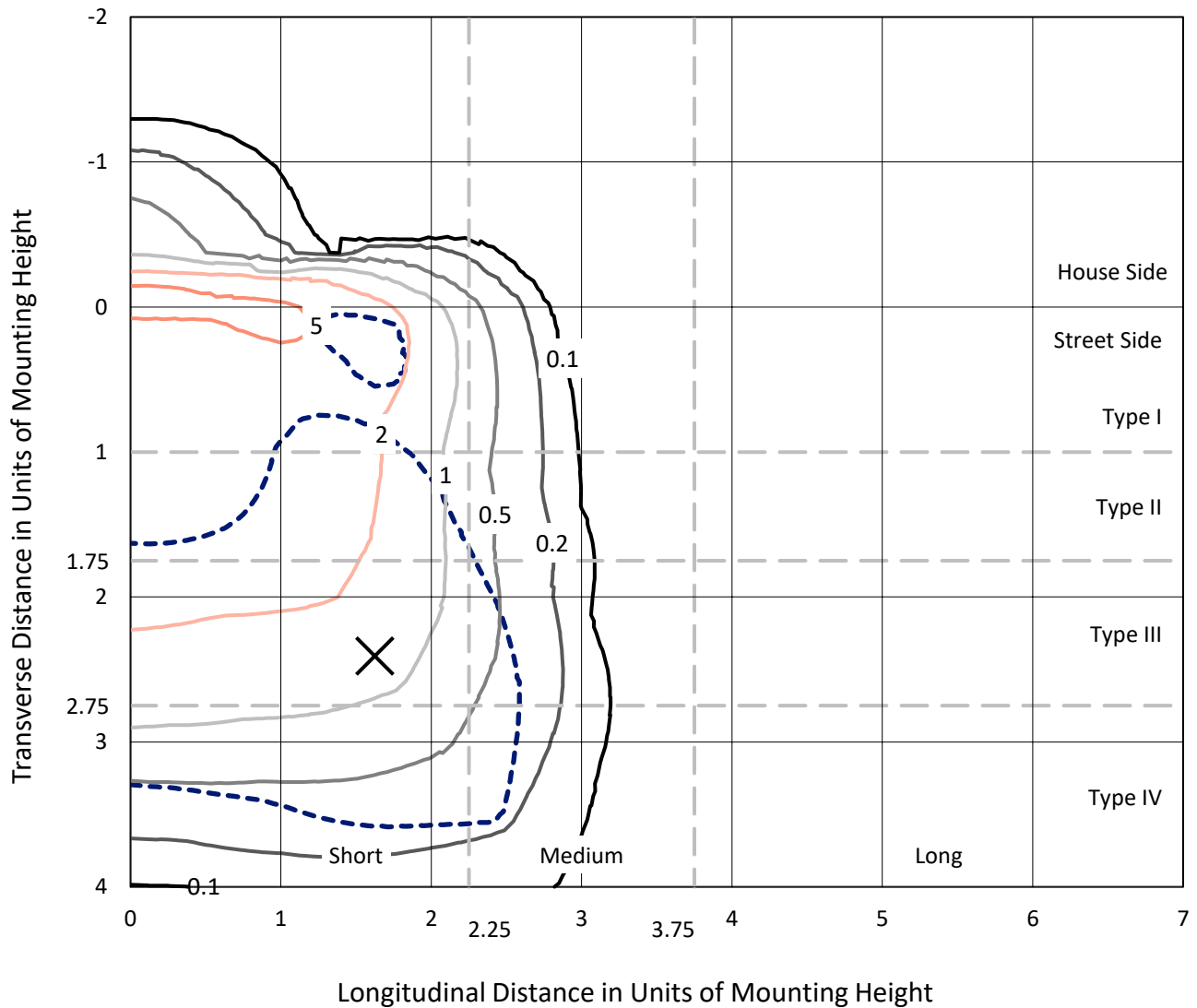
Lumens per Lamp: N/A  
Luminaire Lumens: 5772.9 lumens  
Efficiency: N/A  
Efficacy: 96.5 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.1')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U5 - G1  
  
Input Watts (W): 59.8  
Input Voltage (V): NR  
Input Current (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

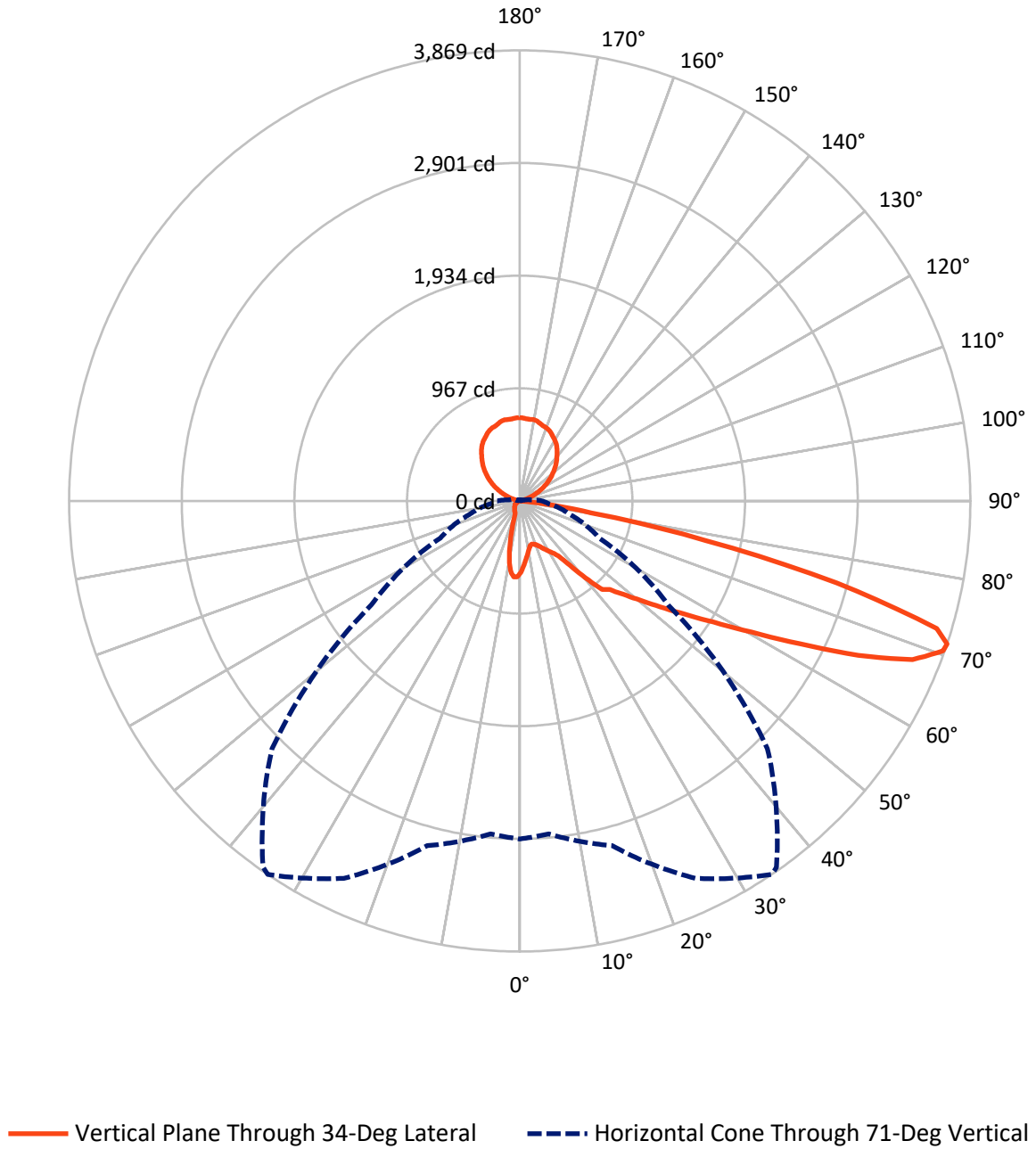
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.2 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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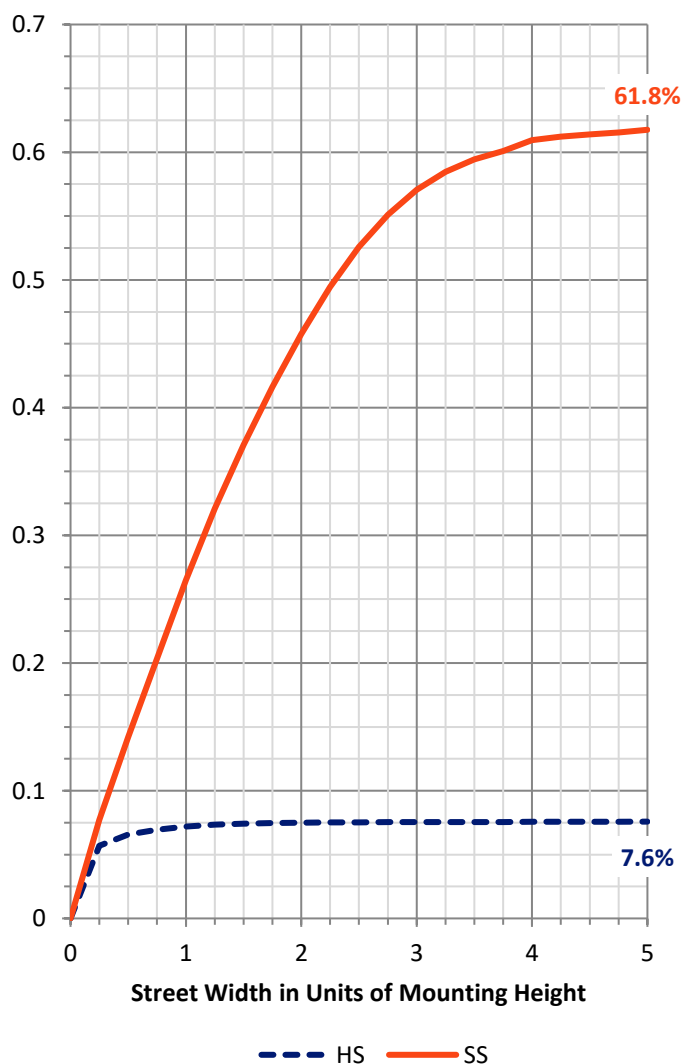
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	442.2	887.0	1329.1
	% Fixture	7.7	15.4	23.0
<b>Street Side</b>	Lumens	3556.8	887.0	4443.8
	% Fixture	61.6	15.4	77.0
<b>Total</b>	Lumens	3999.0	1773.9	5772.9
	% Fixture	69.3	30.7	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.6	0.9
10°-20°	125.2	2.2
20°-30°	186.8	3.2
30°-40°	312.0	5.4
40°-50°	563.5	9.8
50°-60°	894.2	15.5
60°-70°	1201.6	20.8
70°-80°	637.5	11.0
80°-90°	23.5	0.4
90°-100°	8.4	0.1
100°-110°	58.7	1.0
110°-120°	169.9	2.9
120°-130°	279.4	4.8
130°-140°	344.6	6.0
140°-150°	352.5	6.1
150°-160°	297.0	5.1
160°-170°	195.5	3.4
170°-180°	67.8	1.2
0°-90°	3999.0	69.3
0°-180°	5772.9	100.0

**Coefficient of Utilization**

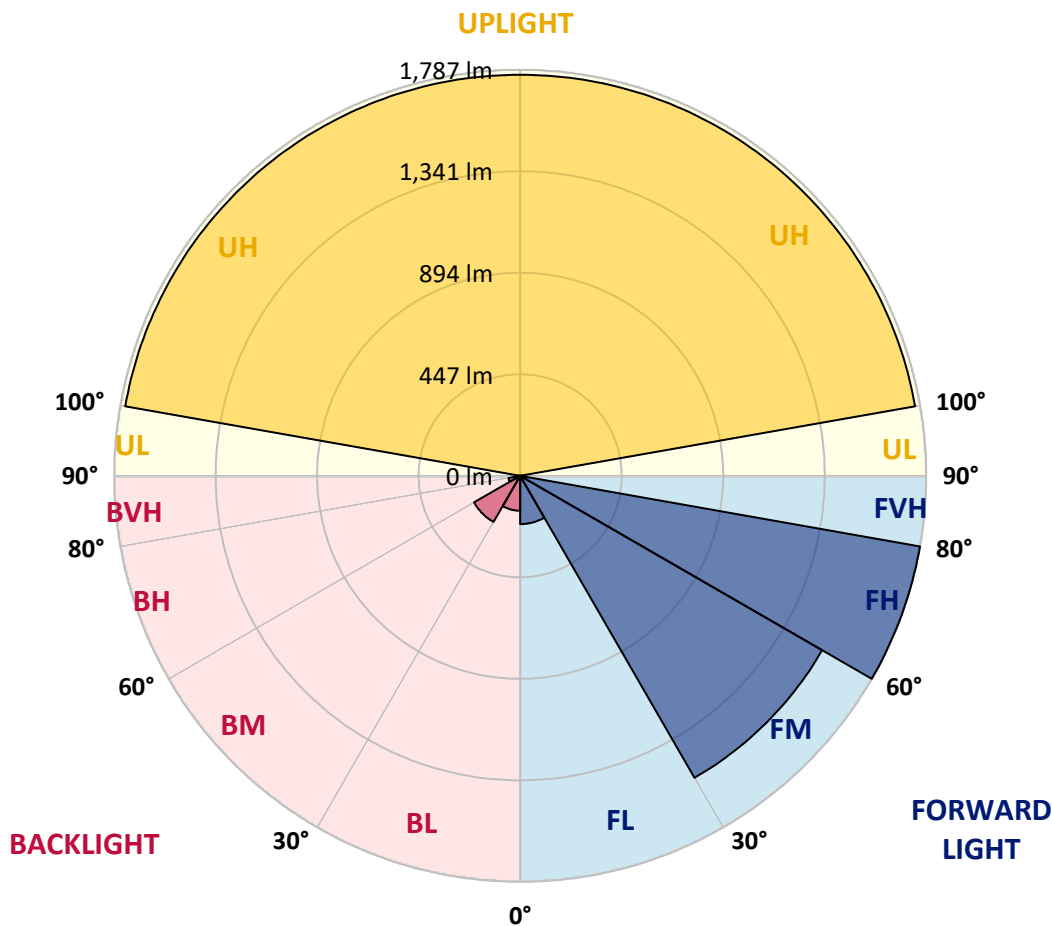


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	212.8	3.7			
FM (30°-60°)	1535.1	26.6			
FH (60°-80°)	1787.5	31.0			G1/1800
FVH (80°-90°)	21.4	0.4			G1/100
BL (0°-30°)	153.8	2.7	B1/500		
BM (30°-60°)	234.6	4.1	B1/1000		
BH (60°-80°)	51.6	0.9	B0/110		G0/110
BVH (80°-90°)	2.1	0.0			G0/10
UL (90°-100°)	8.4	0.1		U1/10	
UH (100°-180°)	1765.5	30.6		U5	

**BUG Rating: B1-U5-G1**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6
2.5°	564.2	557.0	563.4	566.7	569.1	572.3	577.1	585.9	595.5	606.8	613.2
5°	492.0	496.0	498.4	507.3	516.1	517.7	532.9	550.6	573.1	595.5	614.8
7.5°	433.4	433.4	440.6	454.3	468.7	470.3	496.8	520.1	552.2	586.7	618.0
10°	386.9	388.5	394.1	407.7	426.2	430.2	459.9	492.0	532.1	577.1	621.2
12.5°	371.6	370.8	370.0	379.6	394.9	398.9	431.8	470.3	517.7	572.3	629.3
15°	381.2	378.8	373.2	374.8	384.5	388.5	417.4	455.9	508.9	571.5	642.9
17.5°	396.5	393.3	382.9	379.6	390.1	394.1	418.2	451.9	505.7	575.5	659.0
20°	415.0	411.7	395.7	391.7	402.1	405.3	430.2	459.1	507.3	583.5	680.6
22.5°	441.4	437.4	414.2	409.3	419.8	423.0	449.5	476.0	516.9	598.0	710.3
25°	473.5	468.7	439.0	432.6	445.5	448.7	475.2	500.0	532.9	617.2	748.0
27.5°	508.9	503.2	471.9	459.1	473.5	478.4	503.2	530.5	556.2	641.3	797.8
30°	541.0	534.5	504.0	489.6	504.0	506.5	536.2	566.7	593.9	682.2	870.8
32.5°	630.1	614.0	566.7	524.9	534.5	539.4	575.5	623.6	664.6	731.2	964.8
35°	763.3	750.5	692.7	620.4	586.7	588.3	634.9	695.9	714.3	788.2	1081.1
37.5°	891.7	880.5	829.9	763.3	699.1	701.5	709.5	768.1	789.8	886.9	1223.2
40°	1032.2	1014.5	974.4	911.0	866.8	856.4	817.1	858.0	905.4	1011.3	1378.1
42.5°	1097.2	1080.3	1038.6	1042.6	1037.8	1019.3	941.5	998.5	1051.4	1191.9	1549.1
45°	1204.7	1171.8	1085.9	1092.4	1085.9	1087.6	1106.8	1189.5	1235.2	1382.9	1742.5
47.5°	1304.3	1266.5	1176.6	1170.2	1198.3	1212.8	1316.3	1416.6	1420.6	1549.1	1894.2
50°	1395.0	1367.7	1285.0	1285.8	1337.2	1353.2	1560.3	1651.8	1570.7	1676.7	2013.0
52.5°	1515.3	1476.8	1403.0	1429.5	1509.7	1524.2	1803.5	1858.1	1679.1	1792.3	2106.1
55°	1626.9	1606.0	1551.5	1590.8	1713.6	1751.3	2050.7	2017.0	1755.3	1895.0	2151.0
57.5°	1809.9	1789.8	1775.4	1795.5	1960.0	2007.4	2301.1	2129.4	1814.7	1963.2	2130.2
60°	2114.9	2094.8	2051.5	2070.0	2284.3	2308.3	2497.8	2243.3	1838.0	1982.5	2048.3
62.5°	2491.3	2466.5	2396.6	2481.7	2696.8	2696.0	2701.6	2303.5	1808.3	1925.5	1832.4
65°	2830.8	2796.3	2760.2	2933.6	3195.2	3159.1	2918.3	2310.7	1714.4	1650.2	1417.4
67.5°	3078.1	3064.4	3084.5	3355.0	3636.7	3600.6	3128.6	2211.2	1427.1	1191.1	875.7
70°	3068.4	3040.3	3167.9	3599.8	3855.8	3826.1	3119.8	1817.1	951.9	630.9	366.8
71°	2902.3	2870.2	3064.4	3575.7	3868.6	3840.5	3007.4	1554.7	752.9	445.5	241.6
72.5°	2242.5	2339.6	2648.7	3318.0	3745.0	3708.9	2701.6	1190.3	476.8	257.6	121.2
75°	948.7	1001.7	1572.3	2368.5	2809.2	2790.7	1821.1	549.8	219.1	116.4	46.6
77.5°	244.0	240.8	481.6	1016.1	1635.7	1664.6	839.5	188.6	114.0	82.7	26.5
80°	47.4	51.4	137.2	353.2	624.4	641.3	273.7	82.7	76.2	65.0	13.6
82.5°	4.8	5.6	24.1	109.2	209.5	202.3	60.2	31.3	46.6	44.1	6.4
85°	0.0	0.0	0.8	0.8	0.8	0.8	0.8	3.2	11.2	12.0	1.6
87.5°	0.0	0.0	0.8	0.8	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	0.0
92.5°	4.1	4.1	5.1	6.1	6.1	6.1	6.1	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	9.1	9.2	9.2	12.3	10.2	9.2	8.2
100°	8.2	8.2	9.2	10.2	12.1	12.3	21.5	29.7	26.6	23.5	19.4
102.5°	11.3	11.3	13.3	18.4	26.7	27.6	40.9	51.1	48.1	43.0	39.9
105°	21.5	22.5	27.6	36.8	47.9	49.1	64.4	73.7	71.6	66.5	62.4
107.5°	41.9	43.0	50.1	59.3	73.2	74.7	90.0	97.2	96.2	92.1	89.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
110°	67.5	69.6	75.7	89.0	102.8	104.3	116.6	122.8	123.8	121.7	118.7
112.5°	101.3	101.3	108.4	123.8	135.8	137.1	146.3	151.4	153.4	152.4	150.4
115°	143.2	142.2	150.4	162.6	171.0	171.9	178.0	183.1	186.2	183.1	181.1
117.5°	188.2	188.2	193.3	201.5	206.1	206.6	209.7	215.8	219.9	214.8	212.8
120°	230.2	228.1	231.2	238.3	242.0	242.4	248.6	251.6	255.7	250.6	248.6
122.5°	269.0	266.0	267.0	273.1	276.8	277.2	283.4	285.4	289.5	284.4	282.3
125°	304.8	300.7	302.8	305.9	311.4	312.0	317.1	320.2	322.2	317.1	317.1
127.5°	337.6	336.6	336.6	340.6	346.2	346.8	347.8	352.9	353.9	353.9	352.9
130°	371.3	369.3	370.3	374.4	378.1	378.5	380.5	385.7	389.7	389.7	387.7
132.5°	405.1	403.0	402.0	410.2	413.0	413.3	414.3	420.4	425.5	423.5	423.5
135°	438.8	435.8	435.8	441.9	444.7	445.0	447.0	453.2	458.3	457.3	460.3
137.5°	470.6	467.5	469.5	470.6	474.2	474.6	478.7	483.9	485.9	486.9	492.0
140°	499.2	496.1	498.2	500.2	502.1	502.3	508.4	511.5	513.5	515.6	520.7
142.5°	529.9	526.8	528.9	529.9	532.7	533.0	537.0	539.1	545.2	545.2	546.3
145°	562.6	558.5	556.5	559.6	562.3	562.6	563.6	568.8	574.9	573.9	570.8
147.5°	588.2	585.1	584.1	587.2	587.2	587.2	588.2	593.3	598.4	599.4	596.4
150°	608.7	605.6	606.6	606.6	606.6	606.6	606.6	610.7	613.8	616.8	619.9
152.5°	625.0	622.0	622.0	623.0	623.9	624.0	624.0	625.0	628.1	632.2	637.3
155°	643.4	639.3	639.3	641.4	644.2	644.5	642.4	640.4	645.5	650.6	652.6
157.5°	660.8	657.8	657.8	658.8	660.6	660.8	659.8	658.8	662.9	664.9	664.9
160°	678.2	675.1	674.1	671.1	670.1	670.0	670.0	673.1	679.2	676.2	675.1
162.5°	688.4	684.4	684.4	680.3	676.6	676.2	678.2	682.3	686.4	685.4	683.3
165°	696.6	693.6	691.5	691.5	688.7	688.4	688.4	687.4	692.5	695.6	693.6
167.5°	705.8	702.8	699.7	701.7	703.6	703.8	700.7	693.6	699.7	703.8	703.8
170°	714.0	711.0	707.9	707.9	708.8	708.9	706.9	701.7	704.8	709.9	712.0
172.5°	715.0	713.0	711.0	708.9	706.1	705.8	705.8	704.8	707.9	709.9	712.0
175°	716.1	714.0	713.0	711.0	707.3	706.9	705.8	705.8	711.0	712.0	709.9
177.5°	723.2	721.2	716.1	715.0	713.2	713.0	711.0	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°	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6
2.5°	618.0	625.2	633.3	638.9	644.5	645.3	653.3	651.7	654.1	654.9	654.1
5°	625.2	634.9	650.1	658.1	661.4	655.7	654.1	645.3	642.1	638.1	634.1
7.5°	633.3	645.3	663.0	667.0	655.7	634.9	618.0	596.3	576.3	563.4	565.0
10°	642.1	657.3	671.8	661.4	632.5	591.5	544.2	496.0	453.5	437.4	443.0
12.5°	653.3	671.8	678.2	649.3	593.1	510.5	424.6	351.5	307.4	280.9	277.7
15°	670.2	688.6	681.4	630.1	530.5	401.3	294.6	220.7	178.2	164.5	157.3
17.5°	691.1	708.7	681.4	595.5	441.4	287.3	179.0	134.0	120.4	117.2	118.0
20°	716.7	733.6	678.2	543.4	340.3	176.6	119.6	110.8	110.8	110.8	110.0
22.5°	751.3	760.1	673.4	474.3	234.4	119.6	105.9	105.1	105.9	105.9	105.9
25°	793.0	791.4	664.6	391.7	147.7	101.9	101.1	101.1	101.9	102.7	102.7
27.5°	848.4	831.5	649.3	293.0	104.3	94.7	96.3	97.9	99.5	101.1	101.1
30°	925.4	884.5	624.4	198.2	88.3	87.5	90.7	95.5	97.9	99.5	99.5
32.5°	1008.1	939.1	581.9	126.8	81.1	80.3	83.5	90.7	97.1	98.7	98.7
35°	1112.4	997.7	518.5	91.5	76.2	74.6	77.9	84.3	93.9	98.7	98.7
37.5°	1222.4	1060.3	426.2	77.1	71.4	69.8	72.2	77.1	88.3	97.1	97.9
40°	1339.6	1115.6	320.2	71.4	66.6	65.8	66.6	71.4	80.3	92.3	94.7
42.5°	1457.6	1162.2	223.9	65.8	62.6	61.0	62.6	65.8	73.8	84.3	85.9
45°	1587.6	1213.6	149.3	61.0	59.4	57.8	59.4	61.8	67.4	73.0	73.8
47.5°	1682.3	1232.0	102.7	55.4	54.6	55.4	56.2	57.8	61.0	61.8	61.0
50°	1744.9	1222.4	73.8	49.8	50.6	53.0	53.0	53.8	53.8	51.4	50.6
52.5°	1790.6	1187.1	57.0	42.5	47.4	49.8	49.8	48.2	46.6	43.3	42.5
55°	1795.5	1107.6	44.9	36.9	42.5	46.6	45.7	42.5	39.3	36.1	36.1
57.5°	1734.5	987.2	36.9	31.3	36.9	40.9	39.3	36.1	32.1	29.7	29.7
60°	1635.7	863.6	31.3	26.5	30.5	34.5	32.1	29.7	25.7	23.3	23.3
62.5°	1453.5	741.6	25.7	21.7	24.9	27.3	26.5	24.1	20.1	18.5	17.7
65°	1114.0	564.2	19.3	16.9	19.3	22.5	20.9	18.5	16.1	13.6	12.8
67.5°	669.4	339.5	15.2	12.8	15.2	17.7	16.1	13.6	11.2	9.6	9.6
70°	283.3	145.3	12.0	9.6	11.2	13.6	12.8	11.2	8.8	8.0	8.0
71°	192.6	103.5	10.4	8.8	10.4	12.8	12.0	10.4	8.8	8.0	8.0
72.5°	98.7	53.0	8.8	7.2	9.6	11.2	11.2	9.6	8.0	8.0	8.0
75°	35.3	22.5	7.2	6.4	8.0	8.0	8.8	8.8	8.8	8.8	8.0
77.5°	20.1	13.6	6.4	6.4	6.4	7.2	8.8	9.6	10.4	10.4	9.6
80°	11.2	7.2	4.0	4.8	6.4	7.2	8.8	9.6	11.2	11.2	10.4
82.5°	5.6	2.4	0.8	2.4	4.0	6.4	7.2	8.0	9.6	8.8	8.8
85°	0.8	0.0	0.0	0.8	2.4	3.2	4.8	6.4	8.0	8.0	7.2
87.5°	0.0	0.0	0.0	0.0	0.8	1.6	2.4	4.0	5.6	6.4	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
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



REPORT NUMBER:

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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)