

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: P401951

Luminaire Tested: **ENT-SA1F-830-U-T4W-HSS**

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P401951  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-18)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/20/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENT-SA1F-830-U-T4W-HSS  
Description: ENTRI LED LUMINAIRE  
(1) 80 CRI, 3000K, 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: 4614 lumens  
Efficiency: N/A  
Efficacy: 69.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short - Full Cutoff  
BUG Rating: B1 - U0 - G2

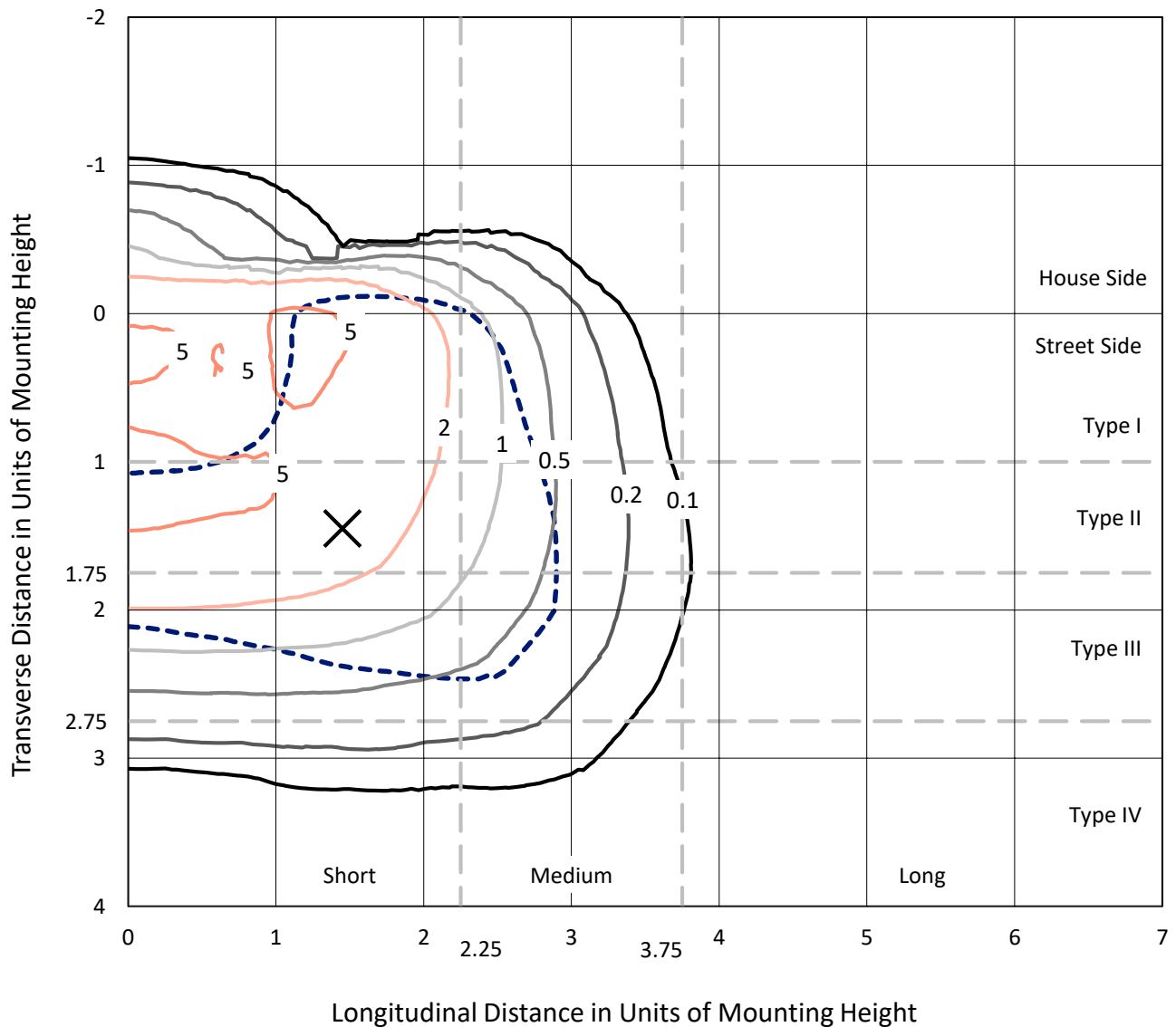
Input Watts (W): 66.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

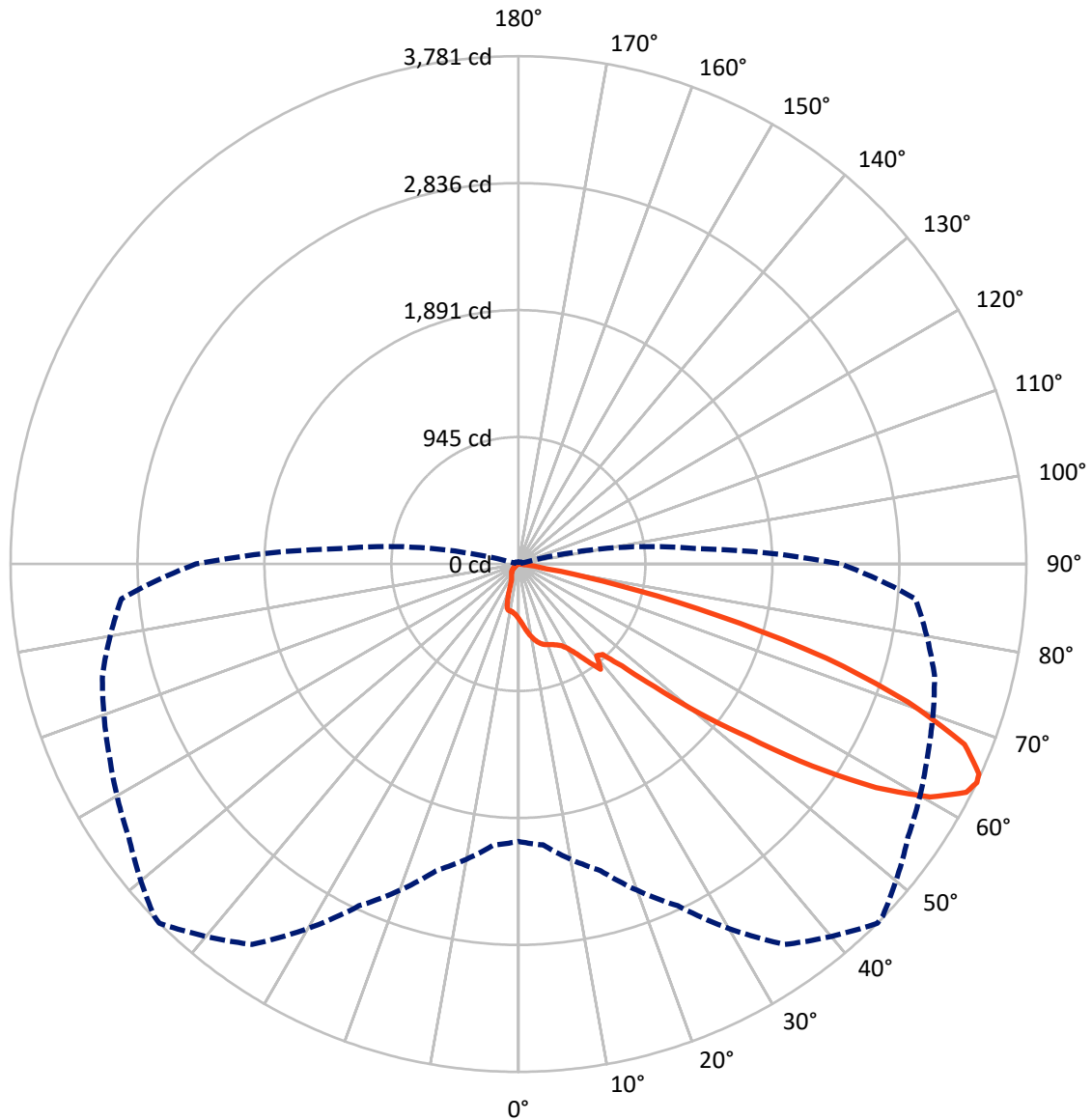
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.1 fc  
 Type III - Short - Full Cutoff

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### Luminous Intensity Polar Plot



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

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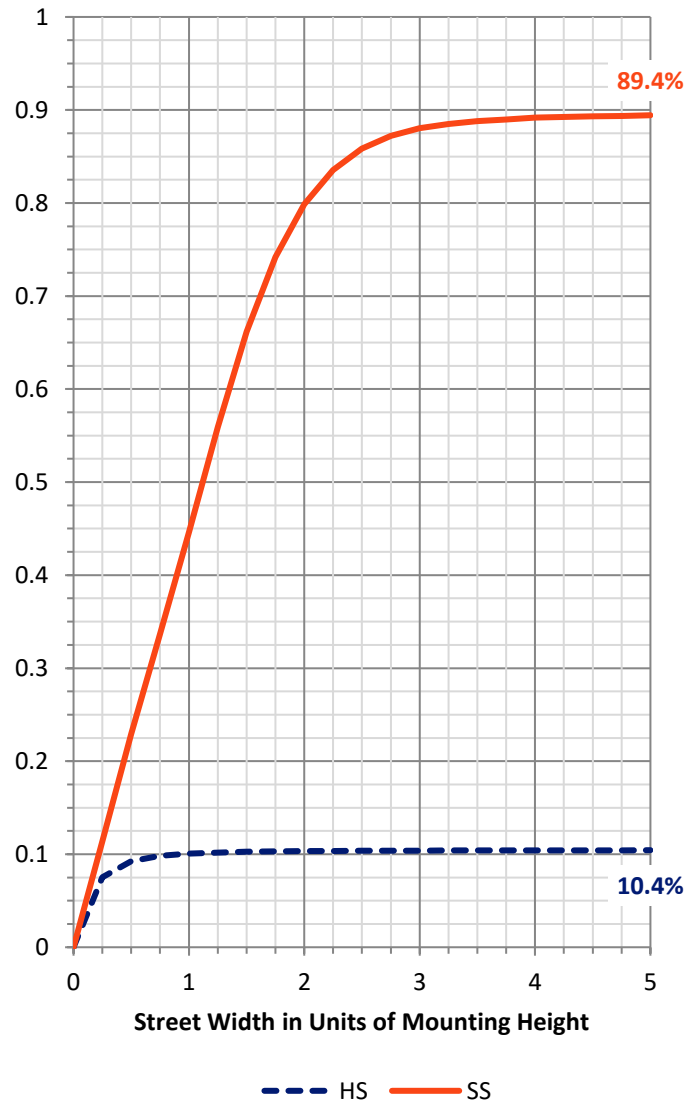
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	486.9	0.0	486.9
	% Fixture	10.6	0.0	10.6
<b>Street Side</b>	Lumens	4127.1	0.0	4127.1
	% Fixture	89.4	0.0	89.4
<b>Total</b>	Lumens	4614.0	0.0	4614.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.5	0.9
10°-20°	129.3	2.8
20°-30°	210.6	4.6
30°-40°	334.5	7.2
40°-50°	637.1	13.8
50°-60°	1312.9	28.5
60°-70°	1466.3	31.8
70°-80°	463.1	10.0
80°-90°	18.8	0.4
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°	4614.0	100.0
0°-180°	4614.0	100.0



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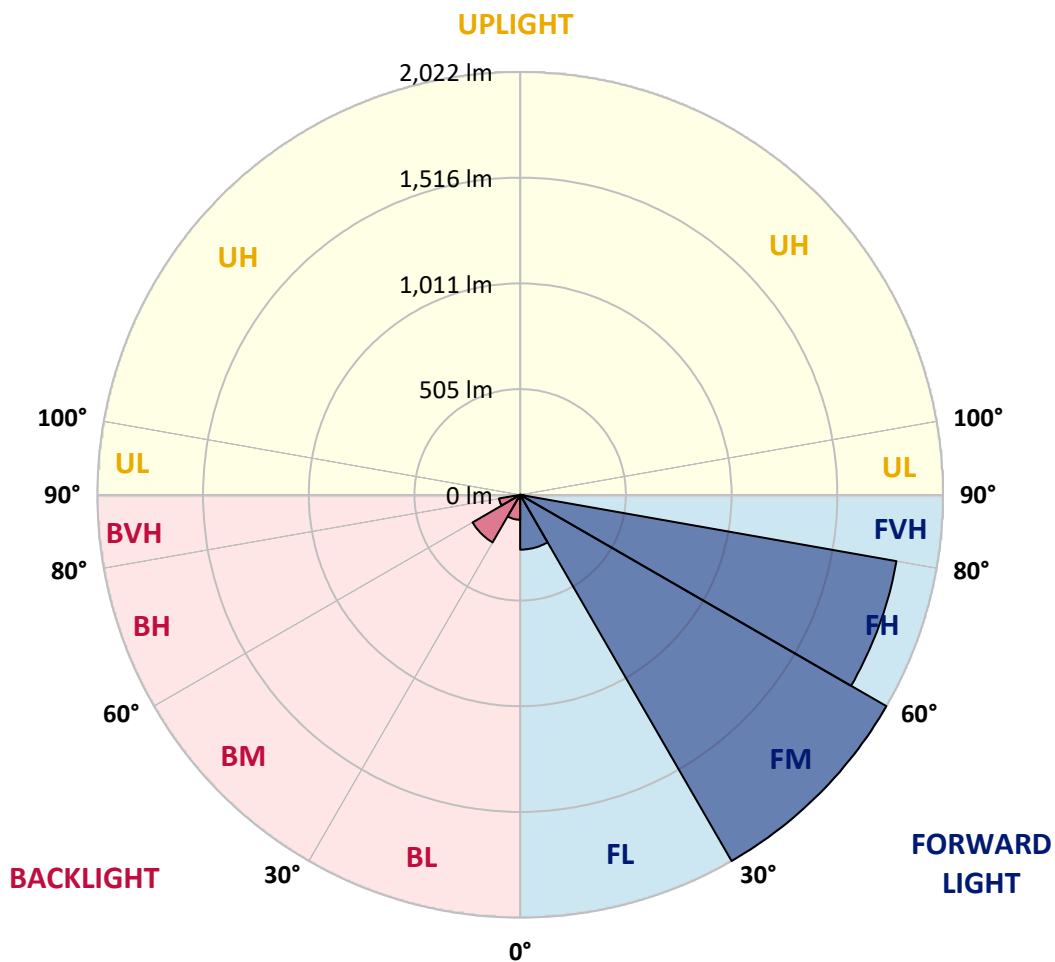
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	262.1	5.7			
FM	(30°-60°)	2021.7	43.8			
FH	(60°-80°)	1826.8	39.6			G2/5000
FVH	(80°-90°)	16.6	0.4			G1/100
BL	(0°-30°)	119.3	2.6	B1/500		
BM	(30°-60°)	262.7	5.7	B1/1000		
BH	(60°-80°)	102.6	2.2	B0/110		G0/110
BVH	(80°-90°)	2.2	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	46°	55°	65°	75°	85°
0°	409.0	409.0	409.0	409.0	409.0	409.0	409.0	409.0	409.0	409.0	409.0
2.5°	451.2	452.9	450.3	446.8	443.3	437.1	438.0	430.1	423.9	419.5	412.5
5°	508.4	507.5	502.2	494.3	486.4	474.9	473.2	460.9	447.7	433.6	420.4
7.5°	566.4	563.8	558.5	547.9	533.0	518.0	513.6	496.0	476.7	455.6	432.7
10°	613.9	612.1	606.0	594.5	577.0	554.1	554.1	529.5	504.0	478.5	451.2
12.5°	652.6	650.8	643.8	629.7	608.6	588.4	585.8	563.8	535.6	505.7	472.3
15°	676.3	674.6	666.7	650.8	632.4	613.9	611.3	590.2	564.6	530.3	491.6
17.5°	682.5	680.7	674.6	660.5	646.4	630.6	627.1	608.6	586.6	551.5	511.9
20°	679.9	676.3	672.8	661.4	650.0	639.4	637.6	624.5	605.1	575.2	533.0
22.5°	672.8	669.3	666.7	658.8	652.6	651.7	650.0	642.0	629.7	604.2	564.6
25°	670.2	667.5	664.9	659.6	658.8	667.5	666.7	665.8	660.5	638.5	597.2
27.5°	685.1	684.3	678.1	669.3	673.7	688.7	689.5	693.9	690.4	676.3	644.7
30°	737.9	733.5	719.4	700.1	711.5	730.9	734.4	748.5	749.3	751.1	708.0
32.5°	809.1	802.1	778.4	753.7	760.8	796.8	797.7	819.7	866.3	837.3	742.3
35°	858.4	849.6	813.5	800.4	835.5	892.7	900.6	945.5	949.0	843.5	739.7
37.5°	996.5	983.3	917.3	837.3	871.6	994.7	1003.5	995.6	921.7	834.7	777.5
40°	1181.2	1168.9	1109.9	975.4	878.6	897.1	901.5	925.2	939.3	896.2	898.9
42.5°	1421.3	1405.5	1344.8	1180.3	988.6	920.8	929.6	978.0	1070.4	1090.6	1194.4
45°	1666.7	1657.9	1596.3	1418.6	1189.1	1082.7	1087.1	1146.0	1311.3	1438.9	1526.8
47.5°	1906.8	1908.5	1855.8	1705.4	1481.1	1363.2	1358.0	1434.5	1643.8	1734.4	1824.1
50°	2245.4	2243.6	2149.5	2056.3	1881.3	1741.4	1732.6	1775.7	1977.1	2010.6	2149.5
52.5°	2630.6	2628.9	2487.3	2443.3	2369.4	2144.2	2168.0	2131.1	2276.2	2336.0	2533.0
55°	2813.6	2797.7	2737.9	2793.3	2881.3	2655.2	2651.7	2511.0	2624.5	2675.5	2859.3
57.5°	2795.1	2801.2	2858.4	3042.2	3330.7	3141.6	3146.9	2885.7	2951.6	2983.3	3117.9
60°	2690.4	2694.8	2827.6	3133.7	3555.0	3522.4	3504.0	3235.7	3192.6	3179.4	3243.6
62.5°	2391.4	2393.1	2608.6	3001.8	3553.2	3742.3	3724.7	3482.0	3347.4	3263.0	3146.0
64°	2066.0	2099.4	2363.2	2807.4	3457.4	3781.0	3771.3	3541.8	3361.5	3206.7	2966.6
65°	1798.6	1848.7	2168.0	2635.0	3349.2	3767.8	3756.4	3531.2	3342.1	3101.2	2781.0
67.5°	1226.9	1253.3	1540.0	2073.9	2936.7	3582.2	3578.7	3395.8	3131.9	2679.0	2182.1
70°	723.8	743.2	955.1	1447.7	2256.8	3077.4	3124.0	3058.1	2599.8	1924.4	1389.6
72.5°	225.2	236.6	421.3	803.9	1479.3	2397.5	2458.2	2410.7	1892.7	1202.3	770.5
75°	84.4	88.0	139.0	349.2	736.1	1533.0	1551.5	1606.9	1153.0	635.0	336.9
77.5°	46.6	47.5	68.6	131.0	323.7	752.9	770.5	763.4	613.0	299.9	107.3
80°	22.9	23.7	33.4	58.0	125.8	212.8	252.4	333.3	216.4	147.8	34.3
82.5°	7.9	7.0	15.0	26.4	42.2	57.2	64.2	92.3	90.6	80.9	12.3
85°	0.0	0.0	0.9	0.9	0.9	1.8	1.8	11.4	22.9	26.4	3.5
87.5°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	1.8	1.8
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°	409.0	409.0	409.0	409.0	409.0	409.0	409.0	409.0	409.0	409.0	409.0
2.5°	409.0	407.2	401.1	394.9	390.5	385.2	384.3	380.8	379.9	379.9	379.9
5°	413.4	408.1	396.7	387.0	378.2	370.3	366.8	363.2	360.6	359.7	359.7
7.5°	423.0	415.1	396.7	382.6	369.4	359.7	354.4	350.9	348.3	348.3	348.3
10°	437.1	424.8	401.9	382.6	366.8	354.4	346.5	341.2	337.7	336.9	337.7
12.5°	454.7	438.9	410.7	387.0	368.5	352.7	336.0	305.2	285.0	273.5	271.8
15°	471.4	452.9	420.4	393.1	371.2	336.0	275.3	227.8	196.1	186.5	184.7
17.5°	489.9	470.5	433.6	401.9	361.5	270.9	196.1	156.6	150.4	152.2	152.2
20°	512.8	489.9	447.7	410.7	311.3	192.6	143.4	138.1	139.8	143.4	143.4
22.5°	539.1	514.5	467.0	405.5	237.5	140.7	131.0	131.9	133.7	137.2	137.2
25°	573.4	547.9	488.1	365.9	165.3	123.1	124.0	124.9	127.5	131.0	131.9
27.5°	624.5	593.7	513.6	306.9	124.9	114.3	115.2	117.9	120.5	124.9	124.9
30°	679.0	641.2	536.5	236.6	109.1	104.7	105.5	108.2	112.6	116.1	117.9
32.5°	702.7	669.3	540.9	161.8	101.1	96.7	95.0	97.6	101.1	104.7	105.5
35°	715.9	701.8	519.8	117.0	95.0	89.7	86.2	85.3	86.2	88.8	88.8
37.5°	781.0	771.3	477.6	100.3	88.8	83.6	78.3	73.9	72.1	71.2	72.1
40°	905.9	884.8	422.2	92.3	83.6	77.4	70.4	63.3	57.2	54.5	54.5
42.5°	1181.2	1074.8	343.0	87.1	78.3	71.2	60.7	51.0	44.0	42.2	42.2
45°	1477.6	1310.5	257.7	82.7	73.0	64.2	51.0	40.5	34.3	32.5	32.5
47.5°	1762.5	1484.6	180.3	77.4	66.8	56.3	42.2	32.5	28.1	27.3	27.3
50°	2061.6	1635.9	125.8	71.2	60.7	48.4	34.3	26.4	23.7	23.7	23.7
52.5°	2352.7	1747.6	92.3	65.1	52.8	40.5	29.0	23.7	22.0	22.0	22.0
55°	2572.6	1790.7	70.4	57.2	44.9	34.3	26.4	22.9	21.1	20.2	20.2
57.5°	2719.4	1754.6	57.2	47.5	37.8	29.9	23.7	21.1	19.3	18.5	18.5
60°	2715.9	1635.0	45.7	38.7	30.8	25.5	22.0	19.3	17.6	16.7	16.7
62.5°	2556.7	1440.6	36.1	30.8	25.5	22.0	19.3	17.6	15.8	15.0	14.1
64°	2401.1	1320.1	30.8	26.4	22.9	20.2	17.6	15.8	14.1	12.3	12.3
65°	2232.2	1205.8	28.1	23.7	20.2	18.5	16.7	15.0	12.3	10.6	10.6
67.5°	1697.5	892.7	22.9	18.5	15.8	15.0	13.2	11.4	8.8	7.0	7.0
70°	1102.0	577.8	19.3	15.0	13.2	13.2	12.3	9.7	7.0	6.2	5.3
72.5°	564.6	287.6	15.8	12.3	11.4	11.4	10.6	7.9	6.2	5.3	4.4
75°	239.2	117.0	13.2	10.6	9.7	8.8	7.9	7.0	5.3	4.4	4.4
77.5°	83.6	44.0	12.3	10.6	7.9	7.0	7.0	7.0	7.0	6.2	5.3
80°	28.1	16.7	7.9	7.9	8.8	9.7	9.7	8.8	9.7	7.9	6.2
82.5°	11.4	6.2	2.6	3.5	6.2	7.0	7.9	7.9	7.9	6.2	5.3
85°	2.6	1.8	1.8	2.6	2.6	3.5	3.5	4.4	4.4	3.5	3.5
87.5°	1.8	1.8	1.8	1.8	1.8	1.8	2.6	1.8	2.6	2.6	2.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)