

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: P401051

Luminaire Tested: **ENT-SA1A-830-U-T4W-HSS**

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P401051  
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-SA1A-830-U-T4W-HSS  
Description: ENTRI LED LUMINAIRE  
(1) 80 CRI, 3000K, 350mA 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: 1620 lumens  
Efficiency: N/A  
Efficacy: 80.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short - Full Cutoff  
BUG Rating: B0 - U0 - G0

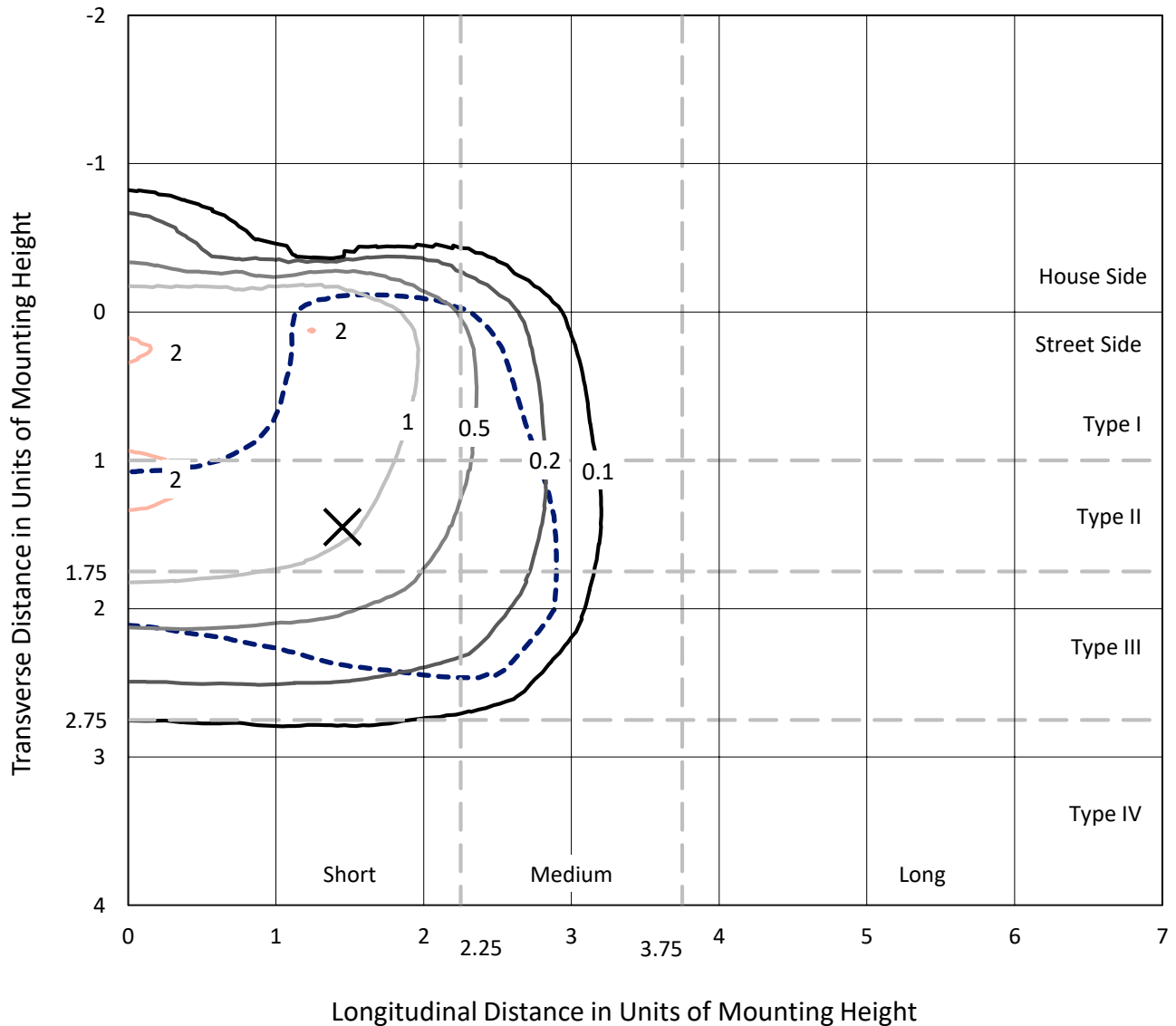
Input Watts (W): 20.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

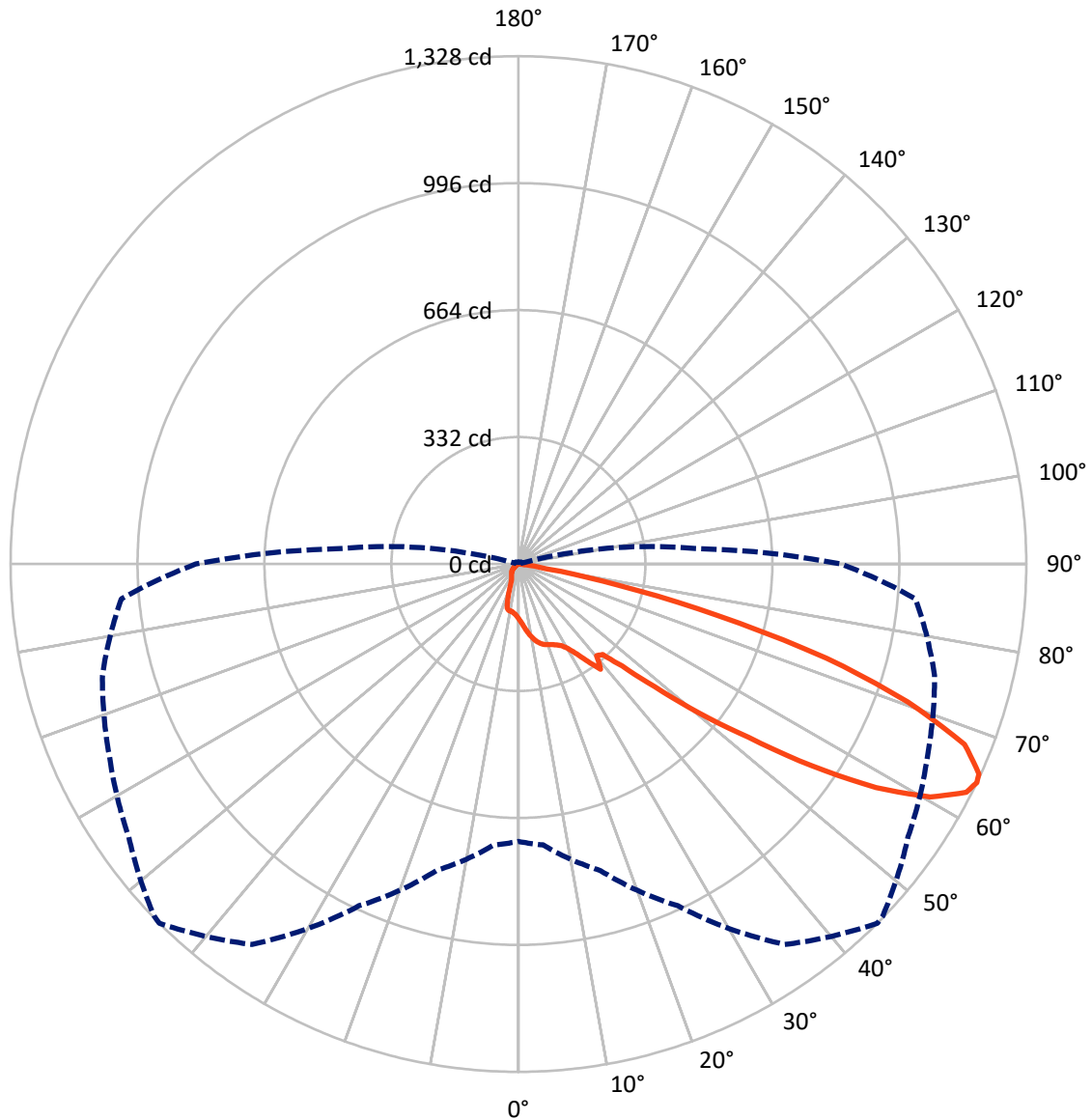
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 2.1 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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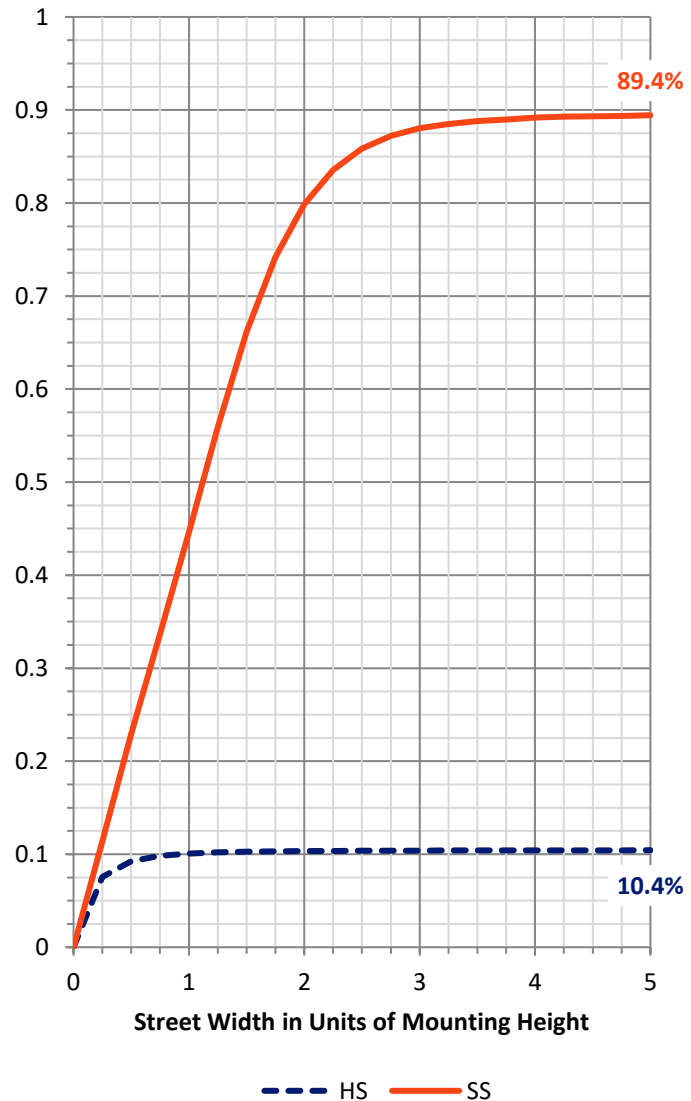
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	170.9	0.0	170.9
	% Fixture	10.6	0.0	10.6
<b>Street Side</b>	Lumens	1449.1	0.0	1449.1
	% Fixture	89.4	0.0	89.4
<b>Total</b>	Lumens	1620.0	0.0	1620.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	14.6	0.9
10°-20°	45.4	2.8
20°-30°	73.9	4.6
30°-40°	117.4	7.2
40°-50°	223.7	13.8
50°-60°	460.9	28.5
60°-70°	514.8	31.8
70°-80°	162.6	10.0
80°-90°	6.6	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°	1620.0	100.0
0°-180°	1620.0	100.0



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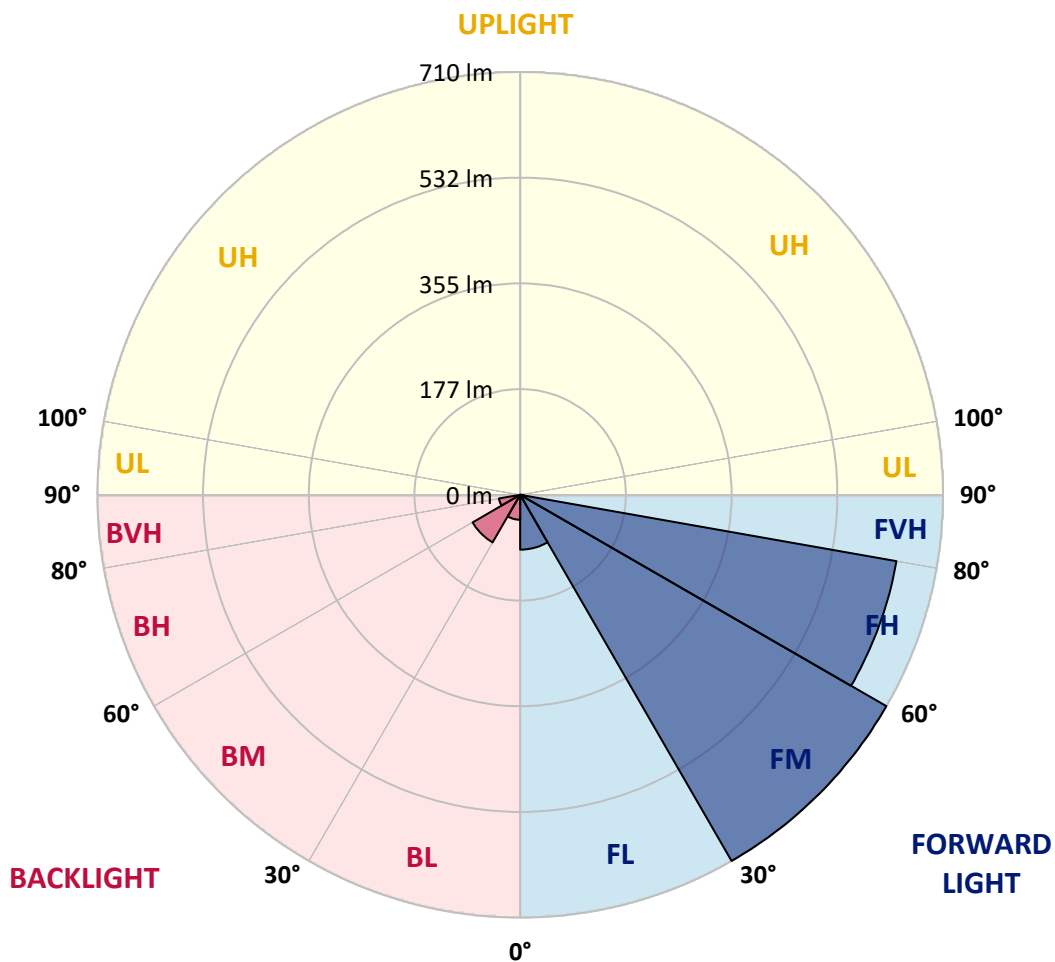
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	92.0	5.7			
FM	(30°-60°)	709.8	43.8			
FH	(60°-80°)	641.4	39.6			G0/660
FVH	(80°-90°)	5.8	0.4			G0/10
BL	(0°-30°)	41.9	2.6	B0/110		
BM	(30°-60°)	92.2	5.7	B0/220		
BH	(60°-80°)	36.0	2.2	B0/110		G0/110
BVH	(80°-90°)	0.8	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G0**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	46°	55°	65°	75°	85°
0°	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6
2.5°	158.4	159.0	158.1	156.9	155.6	153.5	153.8	151.0	148.8	147.3	144.8
5°	178.5	178.2	176.3	173.5	170.8	166.8	166.1	161.8	157.2	152.2	147.6
7.5°	198.9	197.9	196.1	192.4	187.1	181.9	180.3	174.2	167.4	160.0	151.9
10°	215.5	214.9	212.8	208.7	202.6	194.5	194.5	185.9	176.9	168.0	158.4
12.5°	229.1	228.5	226.0	221.1	213.7	206.6	205.7	197.9	188.1	177.6	165.8
15°	237.5	236.9	234.1	228.5	222.0	215.5	214.6	207.2	198.3	186.2	172.6
17.5°	239.6	239.0	236.9	231.9	227.0	221.4	220.2	213.7	206.0	193.6	179.7
20°	238.7	237.5	236.2	232.2	228.2	224.5	223.9	219.2	212.5	202.0	187.1
22.5°	236.2	235.0	234.1	231.3	229.1	228.8	228.2	225.4	221.1	212.1	198.3
25°	235.3	234.4	233.5	231.6	231.3	234.4	234.1	233.8	231.9	224.2	209.7
27.5°	240.6	240.2	238.1	235.0	236.5	241.8	242.1	243.6	242.4	237.5	226.4
30°	259.1	257.5	252.6	245.8	249.8	256.6	257.8	262.8	263.1	263.7	248.6
32.5°	284.1	281.6	273.3	264.6	267.1	279.8	280.1	287.8	304.2	294.0	260.6
35°	301.4	298.3	285.6	281.0	293.4	313.4	316.2	332.0	333.2	296.1	259.7
37.5°	349.9	345.2	322.1	294.0	306.0	349.3	352.3	349.6	323.6	293.1	273.0
40°	414.7	410.4	389.7	342.5	308.5	315.0	316.5	324.9	329.8	314.7	315.6
42.5°	499.0	493.5	472.2	414.4	347.1	323.3	326.4	343.4	375.8	382.9	419.4
45°	585.2	582.1	560.5	498.1	417.5	380.1	381.7	402.4	460.4	505.2	536.1
47.5°	669.5	670.1	651.6	598.8	520.0	478.6	476.8	503.7	577.1	609.0	640.5
50°	788.4	787.8	754.7	722.0	660.5	611.4	608.3	623.5	694.2	705.9	754.7
52.5°	923.6	923.0	873.3	857.8	831.9	752.9	761.2	748.2	799.2	820.2	889.3
55°	987.9	982.3	961.3	980.8	1011.6	932.3	931.0	881.6	921.5	939.4	1003.9
57.5°	981.4	983.5	1003.6	1068.1	1169.4	1103.0	1104.9	1013.2	1036.3	1047.5	1094.7
60°	944.6	946.2	992.8	1100.3	1248.2	1236.7	1230.3	1136.1	1120.9	1116.3	1138.9
62.5°	839.6	840.2	915.9	1053.9	1247.6	1313.9	1307.8	1222.5	1175.3	1145.7	1104.6
64°	725.4	737.1	829.7	985.7	1213.9	1327.5	1324.1	1243.5	1180.2	1125.9	1041.6
65°	631.5	649.1	761.2	925.2	1175.9	1322.9	1318.9	1239.8	1173.4	1088.8	976.4
67.5°	430.8	440.0	540.7	728.2	1031.1	1257.7	1256.5	1192.3	1099.6	940.6	766.1
70°	254.1	260.9	335.4	508.3	792.4	1080.5	1096.9	1073.7	912.8	675.7	487.9
72.5°	79.1	83.1	147.9	282.2	519.4	841.8	863.1	846.4	664.5	422.1	270.5
75°	29.6	30.9	48.8	122.6	258.5	538.2	544.7	564.2	404.8	223.0	118.3
77.5°	16.4	16.7	24.1	46.0	113.6	264.3	270.5	268.0	215.2	105.3	37.7
80°	8.0	8.3	11.7	20.4	44.2	74.7	88.6	117.0	76.0	51.9	12.0
82.5°	2.8	2.5	5.2	9.3	14.8	20.1	22.5	32.4	31.8	28.4	4.3
85°	0.0	0.0	0.3	0.3	0.3	0.6	0.6	4.0	8.0	9.3	1.2
87.5°	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.6
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°	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6
2.5°	143.6	143.0	140.8	138.7	137.1	135.3	134.9	133.7	133.4	133.4	133.4
5°	145.1	143.3	139.3	135.9	132.8	130.0	128.8	127.5	126.6	126.3	126.3
7.5°	148.5	145.8	139.3	134.3	129.7	126.3	124.4	123.2	122.3	122.3	122.3
10°	153.5	149.2	141.1	134.3	128.8	124.4	121.7	119.8	118.6	118.3	118.6
12.5°	159.6	154.1	144.2	135.9	129.4	123.8	118.0	107.2	100.1	96.0	95.4
15°	165.5	159.0	147.6	138.0	130.3	118.0	96.7	80.0	68.9	65.5	64.8
17.5°	172.0	165.2	152.2	141.1	126.9	95.1	68.9	55.0	52.8	53.4	53.4
20°	180.0	172.0	157.2	144.2	109.3	67.6	50.3	48.5	49.1	50.3	50.3
22.5°	189.3	180.6	164.0	142.4	83.4	49.4	46.0	46.3	46.9	48.2	48.2
25°	201.3	192.4	171.4	128.5	58.1	43.2	43.5	43.8	44.8	46.0	46.3
27.5°	219.2	208.4	180.3	107.8	43.8	40.1	40.5	41.4	42.3	43.8	43.8
30°	238.4	225.1	188.4	83.1	38.3	36.7	37.1	38.0	39.5	40.8	41.4
32.5°	246.7	235.0	189.9	56.8	35.5	34.0	33.4	34.3	35.5	36.7	37.1
35°	251.4	246.4	182.5	41.1	33.4	31.5	30.3	30.0	30.3	31.2	31.2
37.5°	274.2	270.8	167.7	35.2	31.2	29.3	27.5	25.9	25.3	25.0	25.3
40°	318.1	310.7	148.2	32.4	29.3	27.2	24.7	22.2	20.1	19.1	19.1
42.5°	414.7	377.4	120.4	30.6	27.5	25.0	21.3	17.9	15.4	14.8	14.8
45°	518.8	460.1	90.5	29.0	25.6	22.5	17.9	14.2	12.0	11.4	11.4
47.5°	618.8	521.3	63.3	27.2	23.5	19.8	14.8	11.4	9.9	9.6	9.6
50°	723.8	574.4	44.2	25.0	21.3	17.0	12.0	9.3	8.3	8.3	8.3
52.5°	826.0	613.6	32.4	22.9	18.5	14.2	10.2	8.3	7.7	7.7	7.7
55°	903.2	628.7	24.7	20.1	15.7	12.0	9.3	8.0	7.4	7.1	7.1
57.5°	954.8	616.1	20.1	16.7	13.3	10.5	8.3	7.4	6.8	6.5	6.5
60°	953.6	574.1	16.1	13.6	10.8	9.0	7.7	6.8	6.2	5.9	5.9
62.5°	897.7	505.8	12.7	10.8	9.0	7.7	6.8	6.2	5.6	5.2	4.9
64°	843.0	463.5	10.8	9.3	8.0	7.1	6.2	5.6	4.9	4.3	4.3
65°	783.7	423.4	9.9	8.3	7.1	6.5	5.9	5.2	4.3	3.7	3.7
67.5°	596.0	313.4	8.0	6.5	5.6	5.2	4.6	4.0	3.1	2.5	2.5
70°	386.9	202.9	6.8	5.2	4.6	4.6	4.3	3.4	2.5	2.2	1.9
72.5°	198.3	101.0	5.6	4.3	4.0	4.0	3.7	2.8	2.2	1.9	1.5
75°	84.0	41.1	4.6	3.7	3.4	3.1	2.8	2.5	1.9	1.5	1.5
77.5°	29.3	15.4	4.3	3.7	2.8	2.5	2.5	2.5	2.5	2.2	1.9
80°	9.9	5.9	2.8	2.8	3.1	3.4	3.4	3.1	3.4	2.8	2.2
82.5°	4.0	2.2	0.9	1.2	2.2	2.5	2.8	2.8	2.8	2.2	1.9
85°	0.9	0.6	0.6	0.9	0.9	1.2	1.2	1.5	1.5	1.2	1.2
87.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.9	0.6	0.9	0.9	0.9
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)