

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: P401591

Luminaire Tested: **ENT-SA1D-830-U-T4W-HSS**

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P401591  
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-SA1D-830-U-T4W-HSS  
Description: ENTRI LED LUMINAIRE  
(1) 80 CRI, 3000K, 800mA 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: 3346 lumens  
Efficiency: N/A  
Efficacy: 77.6 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 - G1

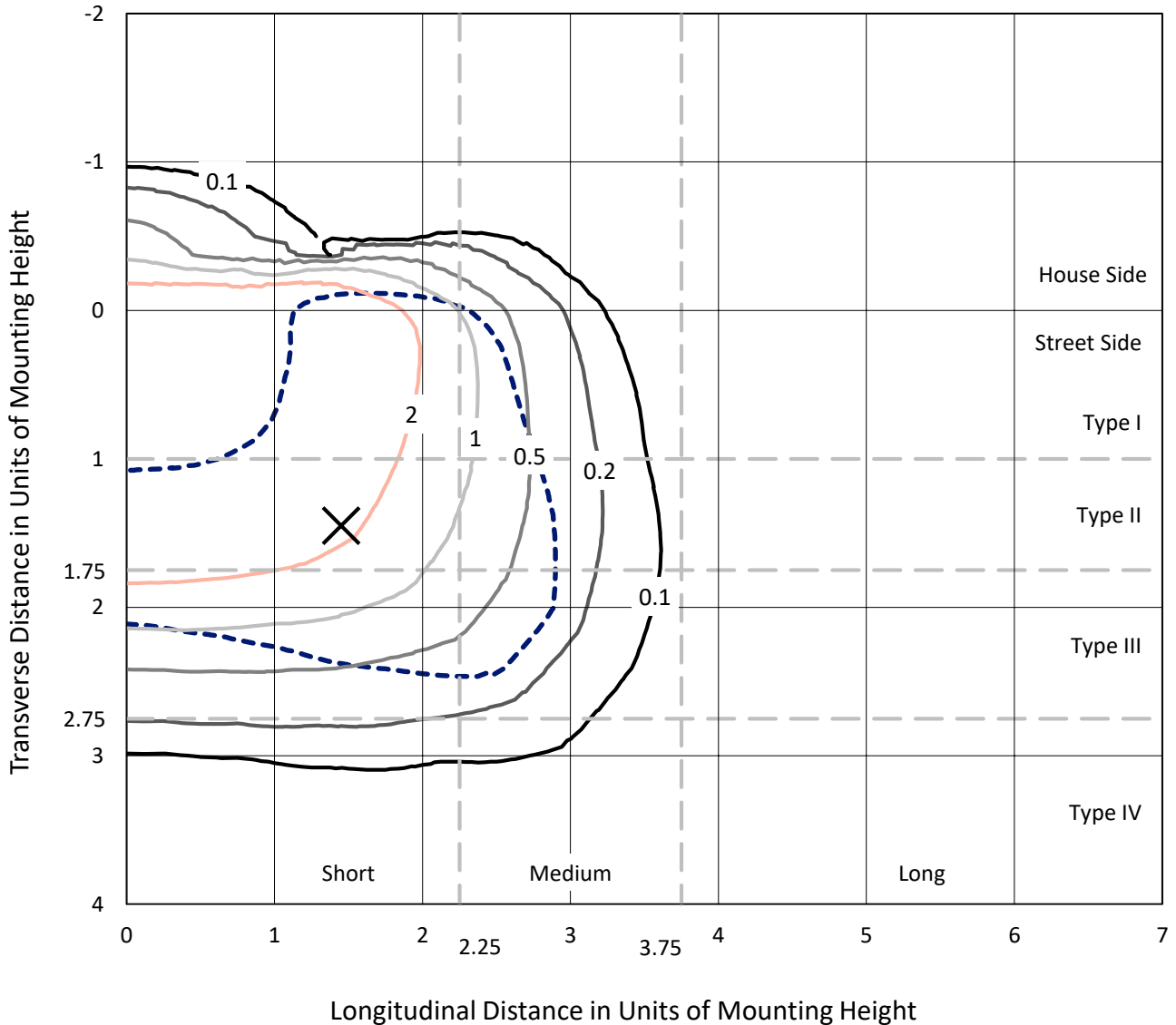
Input Watts (W): 43.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

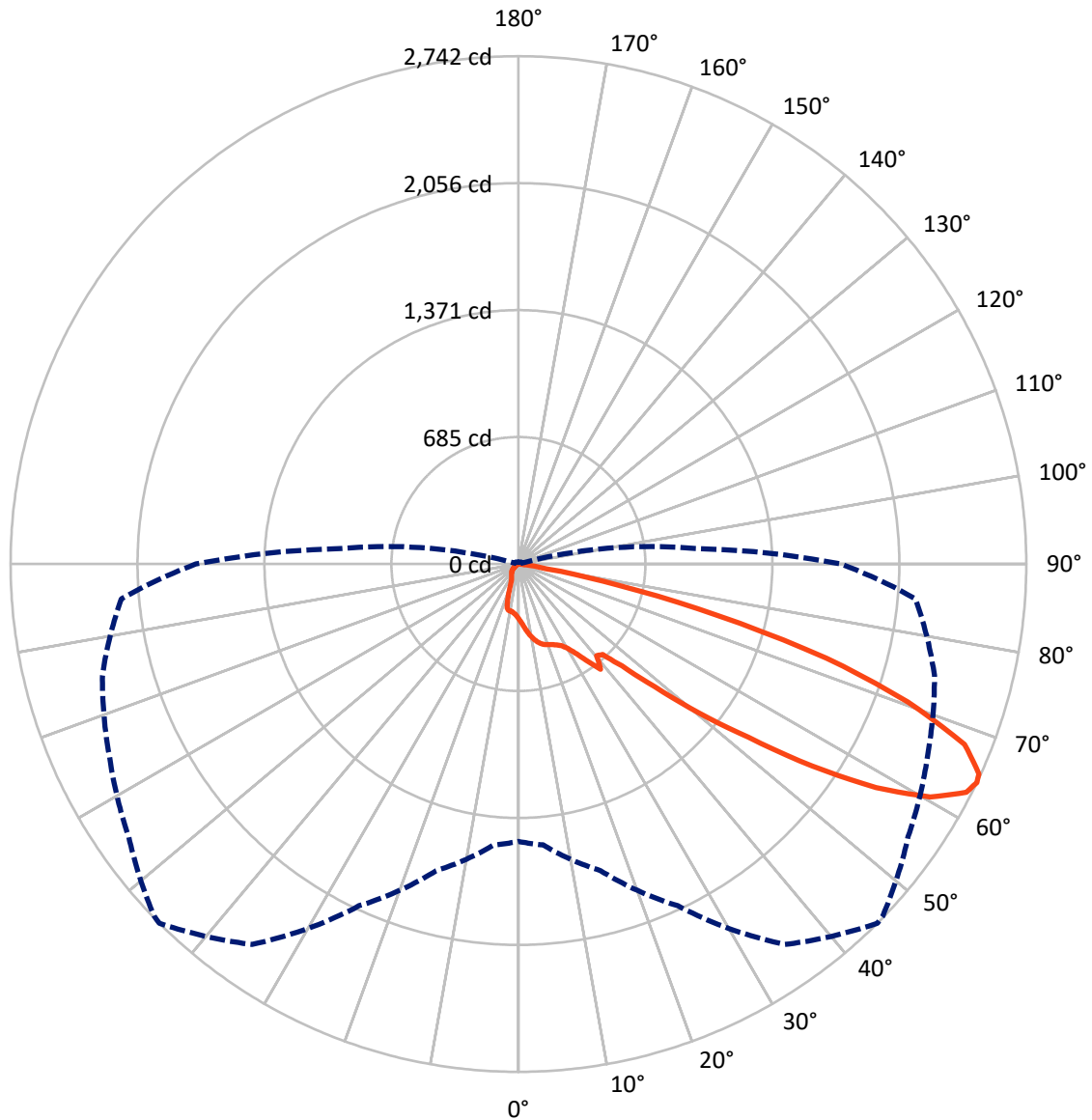
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.4 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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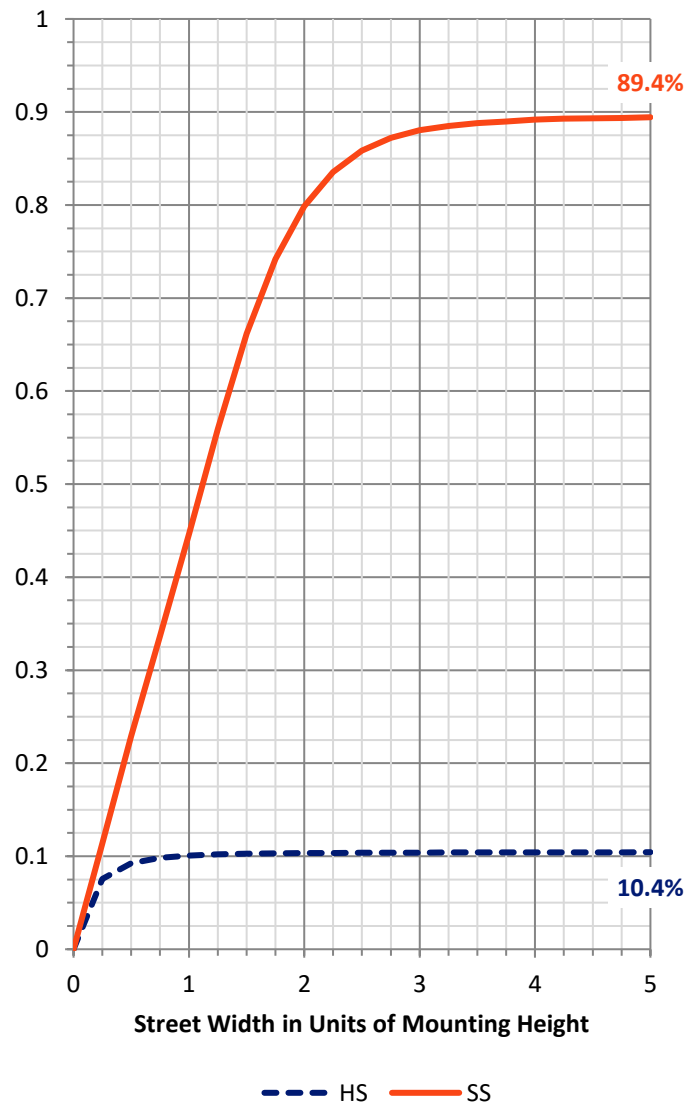
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	353.1	0.0	353.1
	% Fixture	10.6	0.0	10.6
<b>Street Side</b>	Lumens	2992.9	0.0	2992.9
	% Fixture	89.4	0.0	89.4
<b>Total</b>	Lumens	3346.0	0.0	3346.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.1	0.9
10°-20°	93.8	2.8
20°-30°	152.7	4.6
30°-40°	242.6	7.2
40°-50°	462.0	13.8
50°-60°	952.1	28.5
60°-70°	1063.3	31.8
70°-80°	335.8	10.0
80°-90°	13.7	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°	3346.0	100.0
0°-180°	3346.0	100.0



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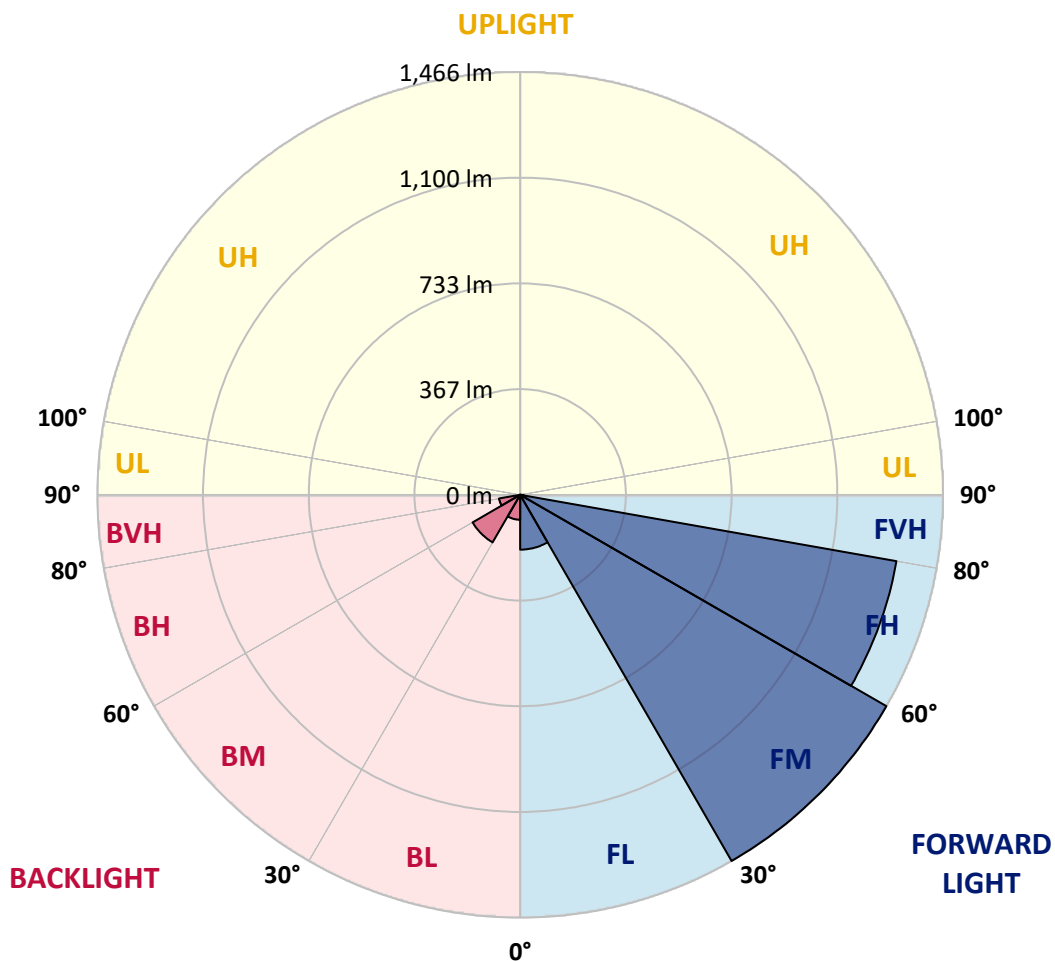
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	190.1	5.7			
FM	(30°-60°)	1466.1	43.8			
FH	(60°-80°)	1324.7	39.6			G1/1800
FVH	(80°-90°)	12.0	0.4			G1/100
BL	(0°-30°)	86.5	2.6	B0/110		
BM	(30°-60°)	190.5	5.7	B0/220		
BH	(60°-80°)	74.4	2.2	B0/110		G0/110
BVH	(80°-90°)	1.6	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-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	46°	55°	65°	75°	85°
0°	296.6	296.6	296.6	296.6	296.6	296.6	296.6	296.6	296.6	296.6	296.6
2.5°	327.2	328.5	326.6	324.0	321.5	317.0	317.6	311.9	307.4	304.2	299.1
5°	368.7	368.0	364.2	358.4	352.7	344.4	343.1	334.2	324.6	314.4	304.9
7.5°	410.7	408.8	405.0	397.4	386.5	375.7	372.5	359.7	345.7	330.4	313.8
10°	445.2	443.9	439.4	431.2	418.4	401.8	401.8	384.0	365.5	347.0	327.2
12.5°	473.3	472.0	466.9	456.7	441.4	426.7	424.8	408.8	388.4	366.7	342.5
15°	490.5	489.2	483.5	472.0	458.6	445.2	443.3	428.0	409.5	384.6	356.5
17.5°	494.9	493.7	489.2	479.0	468.8	457.3	454.8	441.4	425.4	399.9	371.2
20°	493.0	490.5	487.9	479.6	471.3	463.7	462.4	452.8	438.8	417.1	386.5
22.5°	487.9	485.4	483.5	477.7	473.3	472.6	471.3	465.6	456.7	438.2	409.5
25°	486.0	484.1	482.2	478.4	477.7	484.1	483.5	482.8	479.0	463.0	433.1
27.5°	496.9	496.2	491.7	485.4	488.6	499.4	500.0	503.2	500.7	490.5	467.5
30°	535.1	531.9	521.7	507.7	516.0	530.0	532.6	542.8	543.4	544.7	513.4
32.5°	586.8	581.7	564.5	546.6	551.7	577.9	578.5	594.4	628.2	607.2	538.3
35°	622.5	616.1	590.0	580.4	605.9	647.4	653.1	685.6	688.2	611.7	536.4
37.5°	722.6	713.1	665.2	607.2	632.1	721.4	727.7	722.0	668.4	605.3	563.8
40°	856.6	847.6	804.9	707.3	637.2	650.6	653.8	671.0	681.2	649.9	651.8
42.5°	1030.7	1019.2	975.2	855.9	716.9	667.8	674.2	709.2	776.2	790.9	866.1
45°	1208.6	1202.3	1157.6	1028.8	862.3	785.1	788.3	831.1	951.0	1043.5	1107.2
47.5°	1382.8	1384.0	1345.8	1236.7	1074.1	988.6	984.8	1040.3	1192.1	1257.8	1322.8
50°	1628.3	1627.0	1558.8	1491.2	1364.3	1262.9	1256.5	1287.7	1433.8	1458.0	1558.8
52.5°	1907.7	1906.4	1803.7	1771.8	1718.3	1555.0	1572.2	1545.4	1650.6	1694.0	1836.9
55°	2040.3	2028.9	1985.5	2025.7	2089.5	1925.5	1923.0	1820.9	1903.2	1940.2	2073.5
57.5°	2027.0	2031.4	2072.9	2206.2	2415.4	2278.2	2282.1	2092.6	2140.5	2163.4	2261.0
60°	1951.1	1954.2	2050.5	2272.5	2578.0	2554.4	2541.0	2346.5	2315.2	2305.7	2352.2
62.5°	1734.2	1735.5	1891.7	2176.8	2576.7	2713.9	2701.1	2525.1	2427.5	2366.3	2281.4
64°	1498.2	1522.4	1713.8	2035.9	2507.2	2741.9	2734.9	2568.4	2437.7	2325.4	2151.3
65°	1304.3	1340.7	1572.2	1910.9	2428.8	2732.4	2724.1	2560.8	2423.7	2248.9	2016.7
67.5°	889.7	908.9	1116.8	1503.9	2129.6	2597.8	2595.2	2462.6	2271.2	1942.8	1582.4
70°	524.9	538.9	692.7	1049.8	1636.6	2231.7	2265.5	2217.7	1885.4	1395.5	1007.7
72.5°	163.3	171.6	305.5	583.0	1072.8	1738.7	1782.7	1748.2	1372.6	871.9	558.7
75°	61.2	63.8	100.8	253.2	533.8	1111.7	1125.1	1165.3	836.2	460.5	244.3
77.5°	33.8	34.4	49.7	95.0	234.7	546.0	558.7	553.6	444.6	217.5	77.8
80°	16.6	17.2	24.2	42.1	91.2	154.3	183.1	241.7	156.9	107.2	24.9
82.5°	5.7	5.1	10.8	19.1	30.6	41.5	46.6	67.0	65.7	58.7	8.9
85°	0.0	0.0	0.6	0.6	0.6	1.3	1.3	8.3	16.6	19.1	2.6
87.5°	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6	1.3	1.3
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°	296.6	296.6	296.6	296.6	296.6	296.6	296.6	296.6	296.6	296.6	296.6
2.5°	296.6	295.3	290.8	286.4	283.2	279.4	278.7	276.2	275.5	275.5	275.5
5°	299.8	295.9	287.7	280.6	274.3	268.5	266.0	263.4	261.5	260.9	260.9
7.5°	306.8	301.0	287.7	277.4	267.9	260.9	257.0	254.5	252.6	252.6	252.6
10°	317.0	308.1	291.5	277.4	266.0	257.0	251.3	247.5	244.9	244.3	244.9
12.5°	329.7	318.3	297.9	280.6	267.2	255.8	243.6	221.3	206.6	198.4	197.1
15°	341.9	328.5	304.9	285.1	269.2	243.6	199.6	165.2	142.2	135.2	133.9
17.5°	355.3	341.2	314.4	291.5	262.1	196.4	142.2	113.5	109.1	110.3	110.3
20°	371.8	355.3	324.6	297.9	225.8	139.7	104.0	100.1	101.4	104.0	104.0
22.5°	391.0	373.1	338.7	294.0	172.2	102.0	95.0	95.7	96.9	99.5	99.5
25°	415.9	397.4	354.0	265.3	119.9	89.3	89.9	90.6	92.5	95.0	95.7
27.5°	452.8	430.5	372.5	222.6	90.6	82.9	83.6	85.5	87.4	90.6	90.6
30°	492.4	465.0	389.1	171.6	79.1	75.9	76.5	78.5	81.6	84.2	85.5
32.5°	509.6	485.4	392.3	117.4	73.3	70.2	68.9	70.8	73.3	75.9	76.5
35°	519.2	509.0	376.9	84.8	68.9	65.1	62.5	61.9	62.5	64.4	64.4
37.5°	566.4	559.4	346.3	72.7	64.4	60.6	56.8	53.6	52.3	51.7	52.3
40°	656.9	641.6	306.1	67.0	60.6	56.1	51.0	45.9	41.5	39.5	39.5
42.5°	856.6	779.4	248.7	63.1	56.8	51.7	44.0	37.0	31.9	30.6	30.6
45°	1071.5	950.3	186.9	60.0	52.9	46.6	37.0	29.3	24.9	23.6	23.6
47.5°	1278.2	1076.6	130.8	56.1	48.5	40.8	30.6	23.6	20.4	19.8	19.8
50°	1495.0	1186.3	91.2	51.7	44.0	35.1	24.9	19.1	17.2	17.2	17.2
52.5°	1706.1	1267.3	67.0	47.2	38.3	29.3	21.0	17.2	15.9	15.9	15.9
55°	1865.6	1298.6	51.0	41.5	32.5	24.9	19.1	16.6	15.3	14.7	14.7
57.5°	1972.1	1272.4	41.5	34.4	27.4	21.7	17.2	15.3	14.0	13.4	13.4
60°	1969.5	1185.7	33.2	28.1	22.3	18.5	15.9	14.0	12.8	12.1	12.1
62.5°	1854.1	1044.7	26.2	22.3	18.5	15.9	14.0	12.8	11.5	10.8	10.2
64°	1741.2	957.3	22.3	19.1	16.6	14.7	12.8	11.5	10.2	8.9	8.9
65°	1618.8	874.4	20.4	17.2	14.7	13.4	12.1	10.8	8.9	7.7	7.7
67.5°	1231.0	647.4	16.6	13.4	11.5	10.8	9.6	8.3	6.4	5.1	5.1
70°	799.2	419.0	14.0	10.8	9.6	9.6	8.9	7.0	5.1	4.5	3.8
72.5°	409.5	208.6	11.5	8.9	8.3	8.3	7.7	5.7	4.5	3.8	3.2
75°	173.5	84.8	9.6	7.7	7.0	6.4	5.7	5.1	3.8	3.2	3.2
77.5°	60.6	31.9	8.9	7.7	5.7	5.1	5.1	5.1	5.1	4.5	3.8
80°	20.4	12.1	5.7	5.7	6.4	7.0	7.0	6.4	7.0	5.7	4.5
82.5°	8.3	4.5	1.9	2.6	4.5	5.1	5.7	5.7	5.7	4.5	3.8
85°	1.9	1.3	1.3	1.9	1.9	2.6	2.6	3.2	3.2	2.6	2.6
87.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.9	1.3	1.9	1.9	1.9
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)