

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: P367114

Luminaire Tested: **MSA-SA1D-830-U-SL4**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367114  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1D-830-U-SL4  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

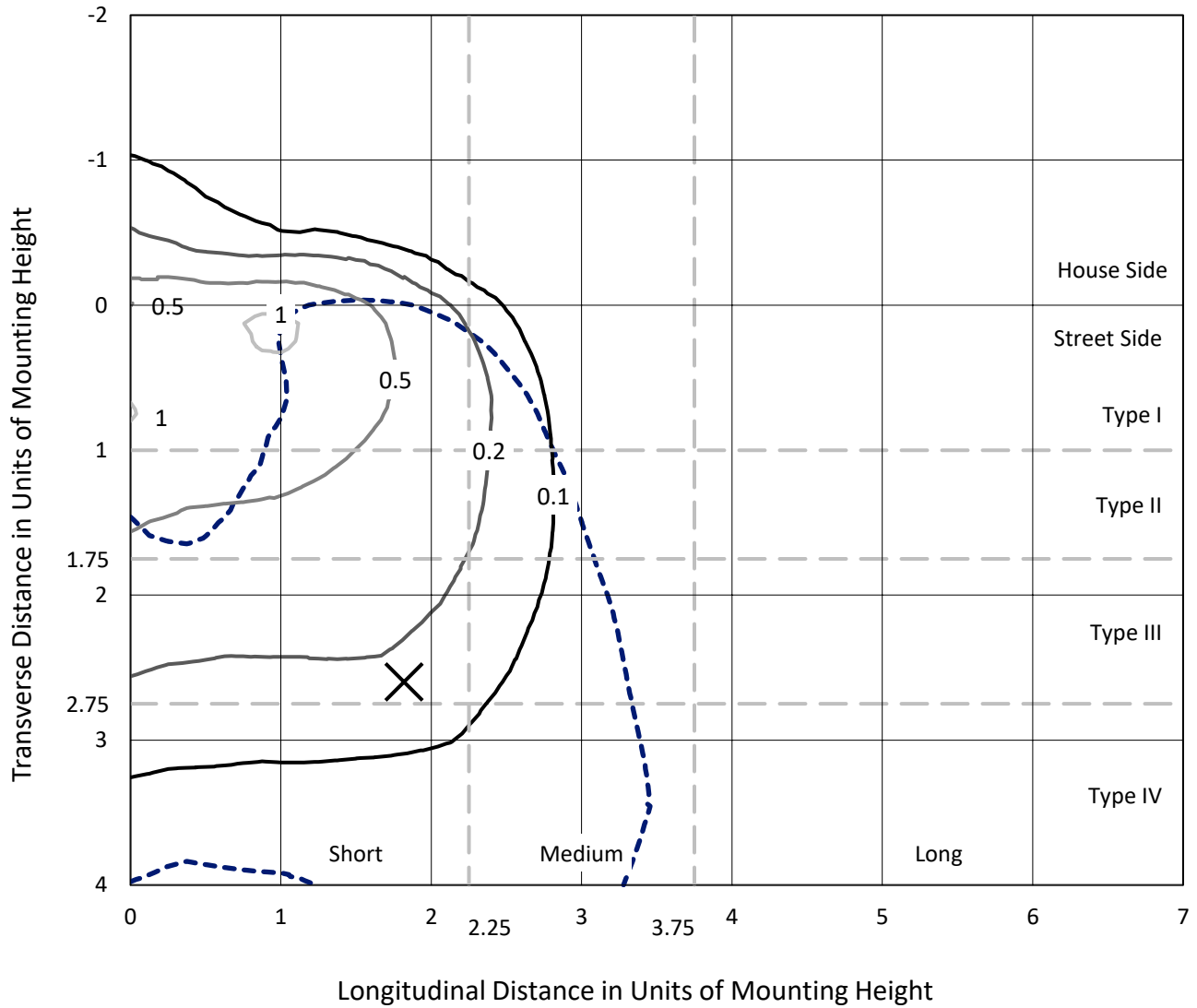
Lumens per Lamp: N/A  
Luminaire Lumens: 5308 lumens  
Efficiency: N/A  
Efficacy: 79.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

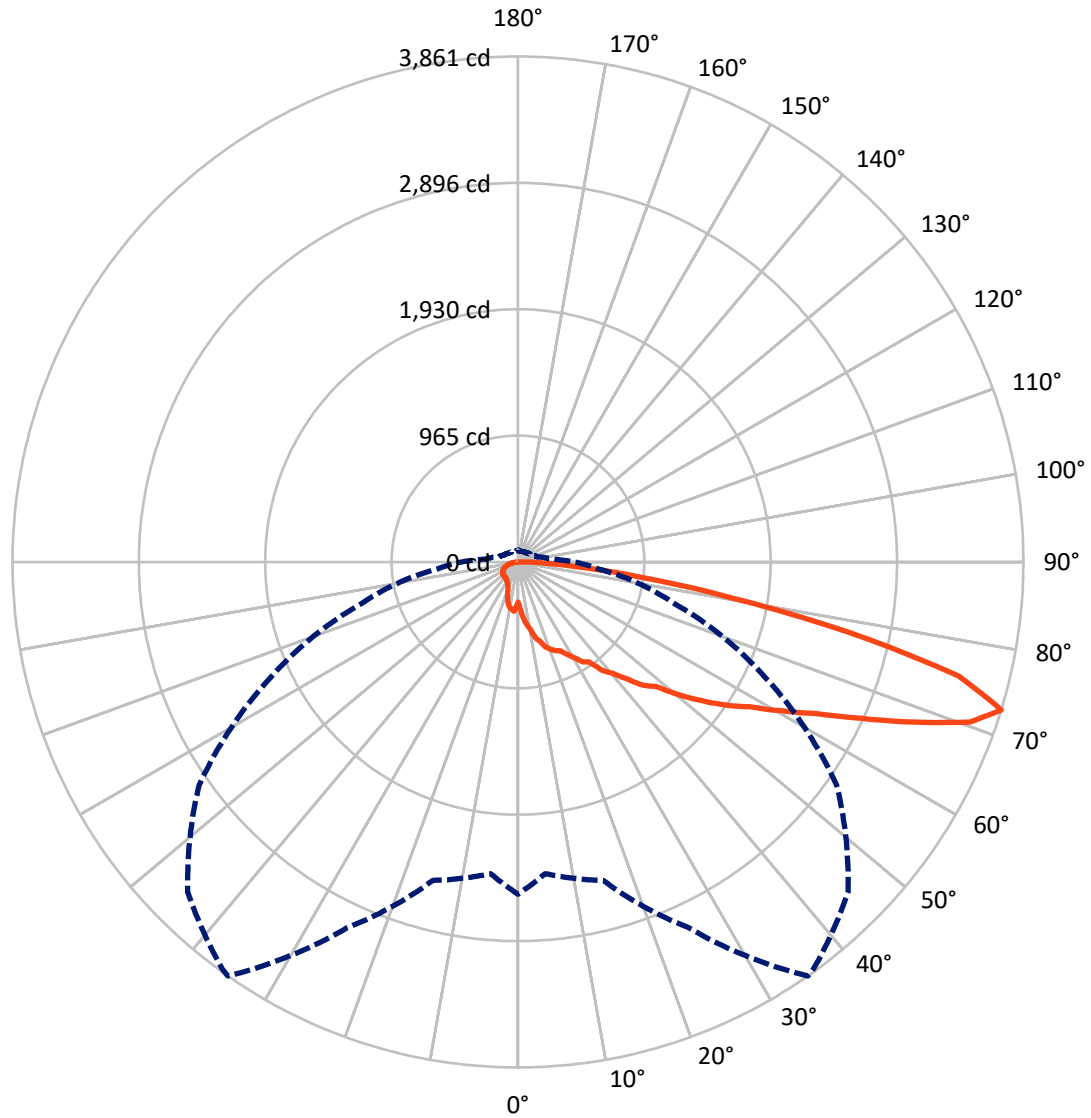
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	712.3	0.0	712.3
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	4595.7	0.0	4595.7
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	5308.0	0.0	5308.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.8	0.8
10°-20°	143.6	2.7
20°-30°	249.5	4.7
30°-40°	417.0	7.9
40°-50°	723.8	13.6
50°-60°	1094.3	20.6
60°-70°	1417.6	26.7
70°-80°	1046.0	19.7
80°-90°	175.3	3.3
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°	5308.0	100.0
0°-180°	5308.0	100.0

**Coefficient of Utilization**



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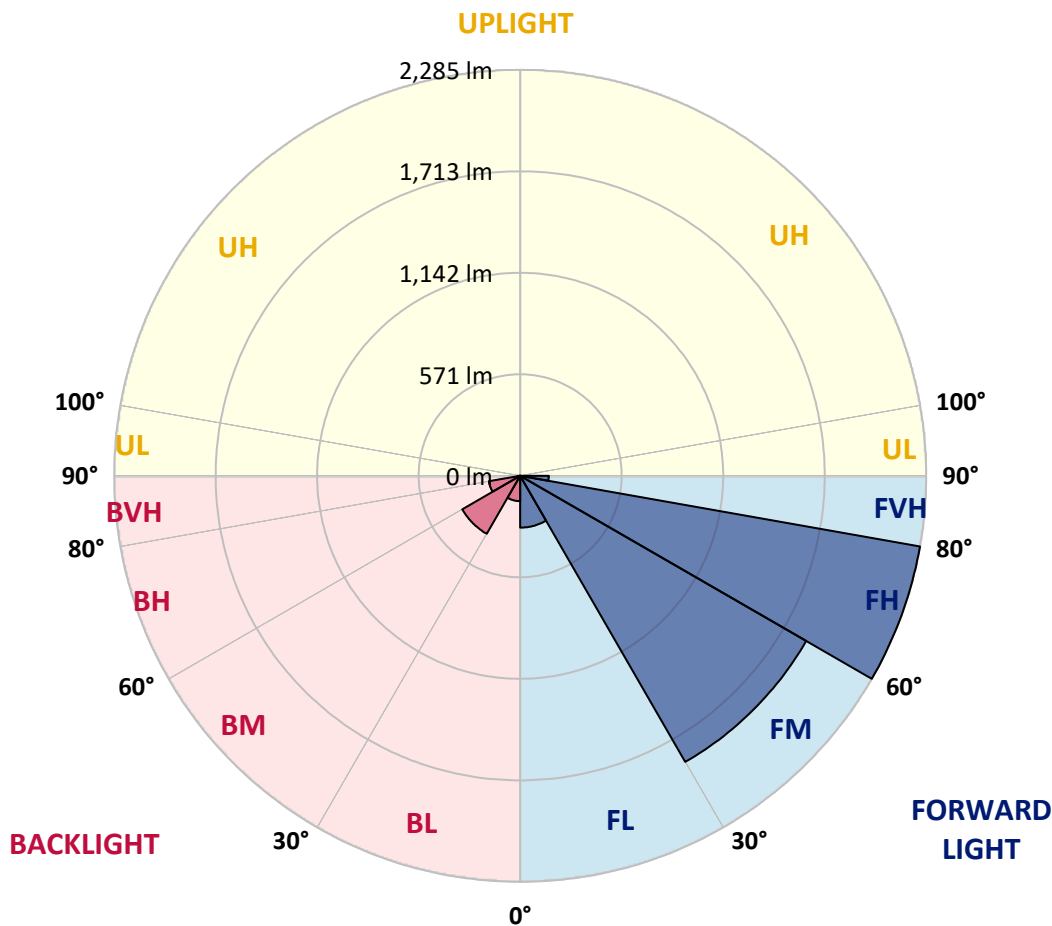
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	291.5	5.5			
FM (30°-60°)	1858.7	35.0			
FH (60°-80°)	2284.5	43.0			G2/5000
FVH (80°-90°)	161.0	3.0			G2/225
BL (0°-30°)	142.4	2.7	B1/500		
BM (30°-60°)	376.5	7.1	B1/1000		
BH (60°-80°)	179.1	3.4	B1/500		G1/500
BVH (80°-90°)	14.4	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

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

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	306.8	306.8	306.8	306.8	306.8	306.8	306.8	306.8	306.8	306.8	306.8
2.5°	382.6	364.3	348.4	347.8	362.5	368.1	365.9	360.9	355.0	342.5	369.7
5°	479.4	453.1	448.1	442.2	428.9	432.5	410.7	427.3	432.5	444.5	462.6
7.5°	536.5	521.1	509.1	504.1	481.0	478.3	462.2	485.7	495.7	494.1	521.1
10°	558.9	544.9	545.8	529.5	522.0	525.1	527.0	527.4	533.5	538.5	524.9
12.5°	570.5	575.9	595.8	584.7	594.2	598.1	617.1	597.6	598.3	572.7	586.8
15°	628.7	642.3	630.7	630.3	627.3	633.7	650.0	636.8	647.0	638.9	620.8
17.5°	698.9	703.0	680.8	671.7	683.5	681.5	677.4	679.4	654.1	701.2	679.0
20°	720.4	736.5	707.3	671.7	710.7	715.9	715.0	706.2	662.7	730.6	709.1
22.5°	783.0	761.2	738.1	715.5	735.4	738.3	733.3	712.3	697.8	723.6	740.6
25°	811.3	806.1	776.6	773.9	751.9	741.5	750.1	744.0	729.7	775.7	756.9
27.5°	876.1	870.0	802.2	830.1	798.1	795.4	749.9	770.3	784.6	781.2	809.2
30°	949.5	956.5	857.5	885.4	848.4	843.5	797.7	823.5	833.3	836.4	871.5
32.5°	1031.0	1050.3	952.0	929.1	909.4	912.8	874.0	826.9	864.7	938.8	954.0
35°	1119.4	1127.3	1024.2	989.8	938.4	934.8	935.4	941.3	979.6	1064.1	1075.9
37.5°	1282.7	1246.0	1155.6	1068.4	1051.2	1017.4	1040.3	1058.5	1096.7	1226.3	1275.7
40°	1383.3	1356.1	1218.4	1167.9	1120.3	1123.5	1166.3	1166.1	1256.5	1390.1	1465.6
42.5°	1476.4	1446.8	1316.9	1266.2	1221.1	1232.2	1244.5	1266.0	1439.3	1654.7	1689.2
45°	1551.4	1486.4	1393.1	1381.7	1344.6	1329.9	1381.7	1416.2	1657.9	1868.8	1888.8
47.5°	1602.4	1548.9	1457.6	1447.7	1420.3	1456.3	1597.9	1620.1	1827.4	2083.8	2082.2
50°	1679.9	1606.7	1524.2	1519.0	1596.3	1615.5	1788.2	1785.9	1992.3	2262.3	2225.0
52.5°	1769.1	1676.9	1587.5	1643.4	1761.2	1770.7	1920.5	1981.4	2172.4	2434.5	2336.9
55°	1871.8	1768.7	1682.1	1756.9	1932.3	1904.2	2055.7	2204.6	2397.8	2616.0	2417.8
57.5°	1998.9	1873.8	1803.8	1917.5	2088.4	2113.3	2249.4	2436.8	2579.3	2728.8	2476.7
60°	2133.0	1986.2	1922.1	2030.4	2307.0	2335.5	2468.7	2629.8	2782.7	2835.1	2465.6
62.5°	2261.0	2102.2	2044.2	2177.8	2549.4	2620.1	2718.4	2821.0	2952.0	2860.9	2331.2
65°	2403.5	2244.5	2208.0	2408.5	2878.1	2948.3	3076.8	3046.0	3010.0	2769.4	2109.0
67.5°	2554.4	2392.8	2399.6	2676.0	3265.7	3277.8	3475.1	3270.3	2941.8	2527.0	1735.8
70°	2635.5	2470.1	2540.1	2961.3	3660.2	3643.0	3683.3	3330.5	2663.8	1997.5	1196.4
72.5°	2537.2	2389.7	2517.9	3081.3	3860.9	3842.3	3566.4	2972.8	2082.7	1242.2	620.3
75°	2148.2	2005.9	2202.1	2746.7	3475.8	3493.0	3035.1	2210.7	1192.3	499.5	257.6
77.5°	1459.7	1386.3	1554.4	2047.4	2581.8	2641.4	2251.9	1292.7	500.7	206.8	155.9
80°	771.4	736.5	860.7	1179.4	1634.8	1679.2	1324.2	643.9	256.5	133.9	111.2
82.5°	419.1	404.4	471.0	606.5	928.9	967.6	686.7	427.7	172.9	83.8	68.0
85°	281.6	275.9	320.1	325.8	439.3	452.0	359.8	329.4	103.8	41.0	44.9
87.5°	140.9	135.3	168.6	148.8	167.6	167.9	164.9	210.2	26.3	13.6	8.2
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°	306.8	306.8	306.8	306.8	306.8	306.8	306.8	306.8	306.8	306.8	306.8
2.5°	370.2	362.3	334.8	334.6	338.7	336.0	338.0	326.9	322.2	343.9	342.8
5°	460.1	436.3	413.5	405.5	396.2	376.1	377.2	377.4	374.0	387.0	387.9
7.5°	512.9	484.4	463.3	421.2	388.1	362.3	365.7	369.5	365.7	382.9	389.2
10°	520.6	498.0	472.8	425.9	403.9	380.6	357.0	336.2	333.7	325.8	328.3
12.5°	566.4	547.6	495.0	443.6	418.0	382.2	339.1	315.4	295.4	298.8	292.5
15°	604.0	590.6	527.6	460.4	399.2	354.8	309.0	276.4	258.5	256.5	250.1
17.5°	655.0	635.9	530.6	448.8	374.9	321.7	270.1	233.1	225.4	222.2	219.1
20°	679.4	645.2	519.9	412.6	346.6	282.3	231.5	199.8	197.6	203.2	202.1
22.5°	700.7	652.9	510.4	390.6	302.4	242.4	205.3	184.4	181.9	189.2	190.5
25°	713.2	674.9	500.0	368.1	275.0	212.7	185.5	173.8	174.2	183.7	182.6
27.5°	769.4	682.6	473.7	341.6	243.5	190.8	176.0	169.9	167.4	180.6	181.7
30°	804.7	732.9	467.8	313.5	220.2	174.7	167.4	164.9	164.5	180.3	181.5
32.5°	870.4	749.7	470.5	283.0	199.1	169.7	161.1	160.9	165.4	180.6	182.4
35°	961.5	820.3	457.4	265.5	187.6	162.0	156.1	157.9	165.6	182.1	184.6
37.5°	1139.1	887.0	461.5	249.2	183.7	159.5	154.7	155.9	168.3	186.2	193.0
40°	1279.8	1007.7	455.1	241.1	178.5	159.0	151.8	156.3	168.1	188.5	194.6
42.5°	1483.7	1104.0	455.8	232.9	178.3	157.2	151.3	156.8	167.6	186.5	194.8
45°	1658.6	1190.3	465.6	228.1	176.0	160.2	150.7	157.5	164.7	179.2	188.5
47.5°	1802.0	1286.6	475.5	223.6	175.1	162.9	150.0	152.7	159.7	171.0	179.4
50°	1918.9	1354.3	488.2	222.7	175.1	161.5	148.2	147.9	153.8	162.9	170.8
52.5°	2010.0	1402.1	496.8	223.8	175.1	156.3	145.9	144.1	147.7	154.3	162.2
55°	2075.9	1416.9	489.8	226.8	174.9	151.6	141.8	140.2	142.0	146.6	154.1
57.5°	2102.4	1378.1	447.9	221.6	174.9	148.2	136.8	135.0	136.8	140.2	147.7
60°	2036.0	1253.5	387.4	208.2	171.5	143.6	131.2	130.0	132.8	135.7	143.0
62.5°	1869.5	1087.9	322.8	192.3	164.5	139.8	125.7	126.0	130.3	134.3	141.6
65°	1610.8	887.6	269.1	176.3	155.6	133.7	120.1	121.7	127.8	133.2	140.5
67.5°	1267.6	657.7	226.6	160.6	143.2	123.7	113.7	114.2	118.5	123.7	130.7
70°	847.3	418.4	186.2	142.3	126.9	110.8	104.0	102.4	101.3	105.8	111.9
72.5°	429.8	247.2	152.9	121.7	109.2	96.7	91.5	87.4	84.3	87.0	91.8
75°	225.2	172.9	123.5	101.0	90.2	82.2	78.4	72.9	70.7	72.3	75.7
77.5°	159.3	135.3	99.9	80.0	73.4	65.2	65.9	60.3	58.5	59.4	63.0
80°	122.3	107.2	76.8	60.5	56.6	48.7	51.0	47.6	45.3	44.9	47.6
82.5°	83.4	80.7	54.6	42.4	39.6	34.0	37.2	35.8	32.9	31.0	32.4
85°	56.2	53.5	33.3	24.5	23.3	17.7	22.7	21.7	19.3	16.5	16.8
87.5°	9.7	17.9	9.5	6.1	5.7	2.0	5.2	5.0	4.5	2.3	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

(END OF REPORT)