

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: P596549

Luminaire Tested: **MSA-SA1D-827-U-SL4-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596549  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-21)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1D-827-U-SL4-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

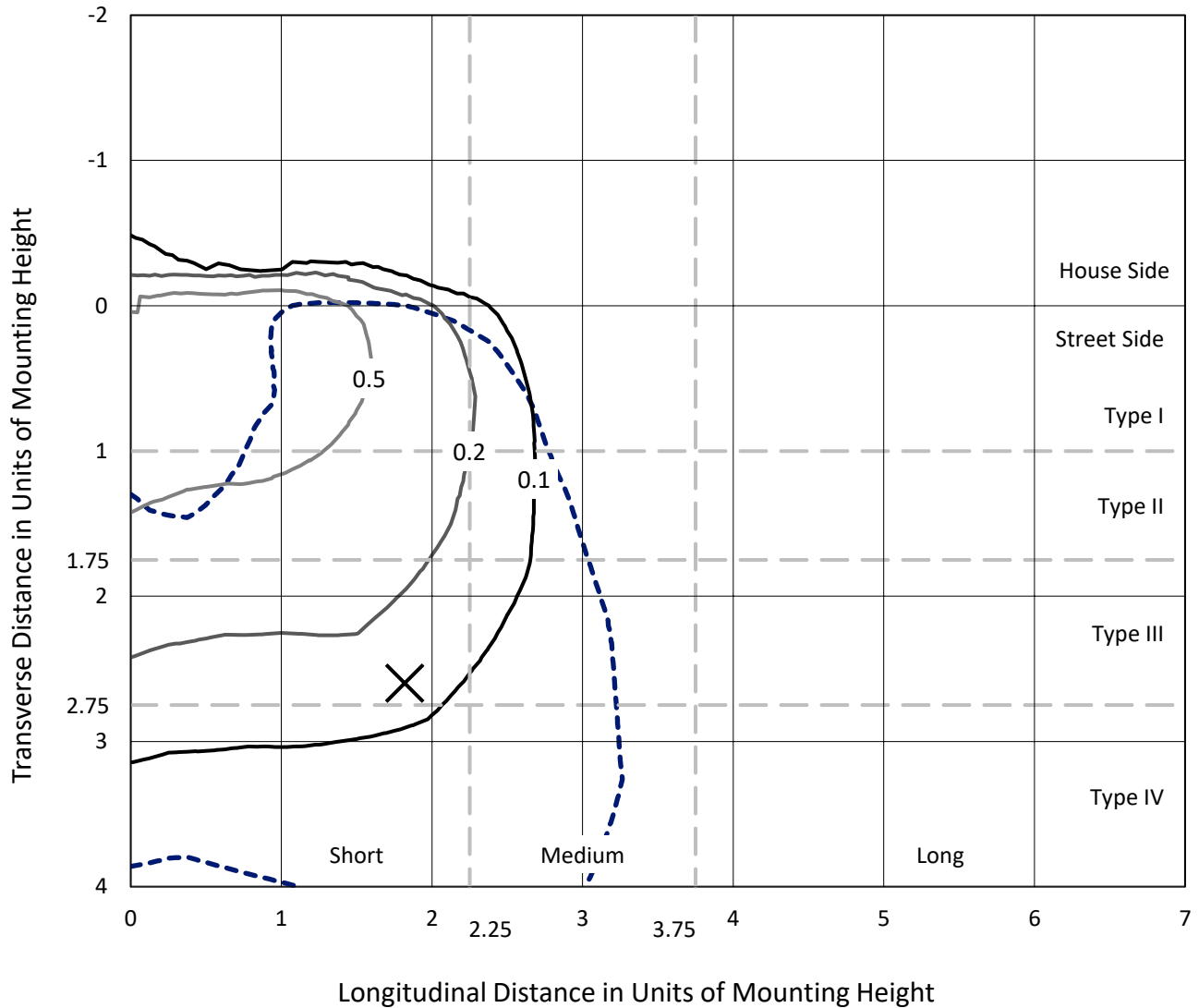
Lumens per Lamp: N/A  
Luminaire Lumens: 4169 lumens  
Efficiency: N/A  
Efficacy: 62.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G2  
  
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
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



REPORT NUMBER: P596549  
 CATALOG NUMBER: MSA-SA1D-827-U-SL4-HSS

### Iso-Footcandle Lines of Horizontal Illumination

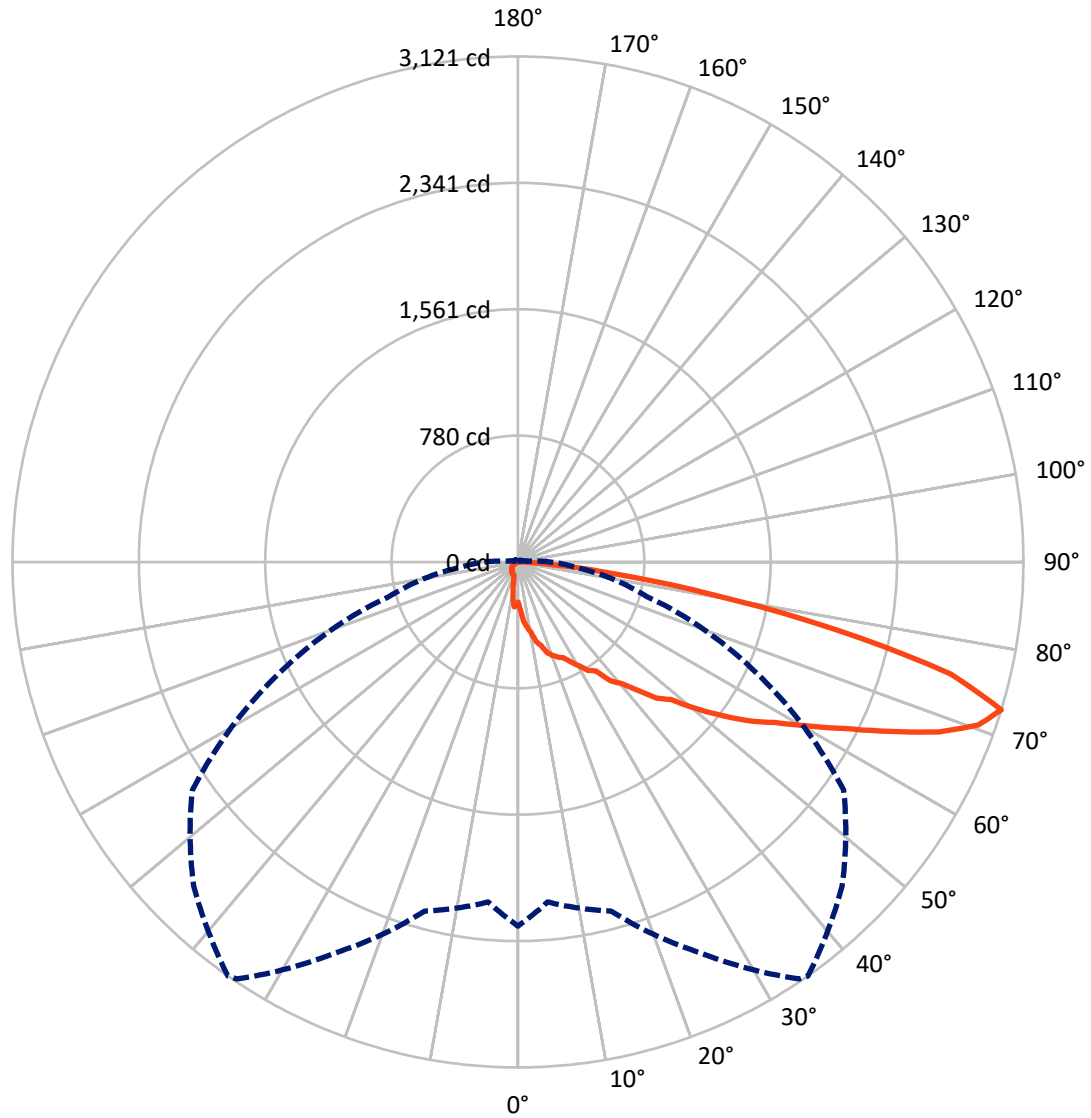
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.9 fc  
 Type IV - Short - N/A

REPORT NUMBER: P596549  
CATALOG NUMBER: MSA-SA1D-827-U-SL4-HSS

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P596549  
 CATALOG NUMBER: MSA-SA1D-827-U-SL4-HSS

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	325.2	0.0	325.2
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	3843.8	0.0	3843.8
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	4169.0	0.0	4169.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.7	0.8
10°-20°	106.7	2.6
20°-30°	194.3	4.7
30°-40°	335.1	8.0
40°-50°	595.8	14.3
50°-60°	889.0	21.3
60°-70°	1135.8	27.2
70°-80°	790.2	19.0
80°-90°	90.4	2.2
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°	4169.0	100.0
0°-180°	4169.0	100.0

**Coefficient of Utilization**

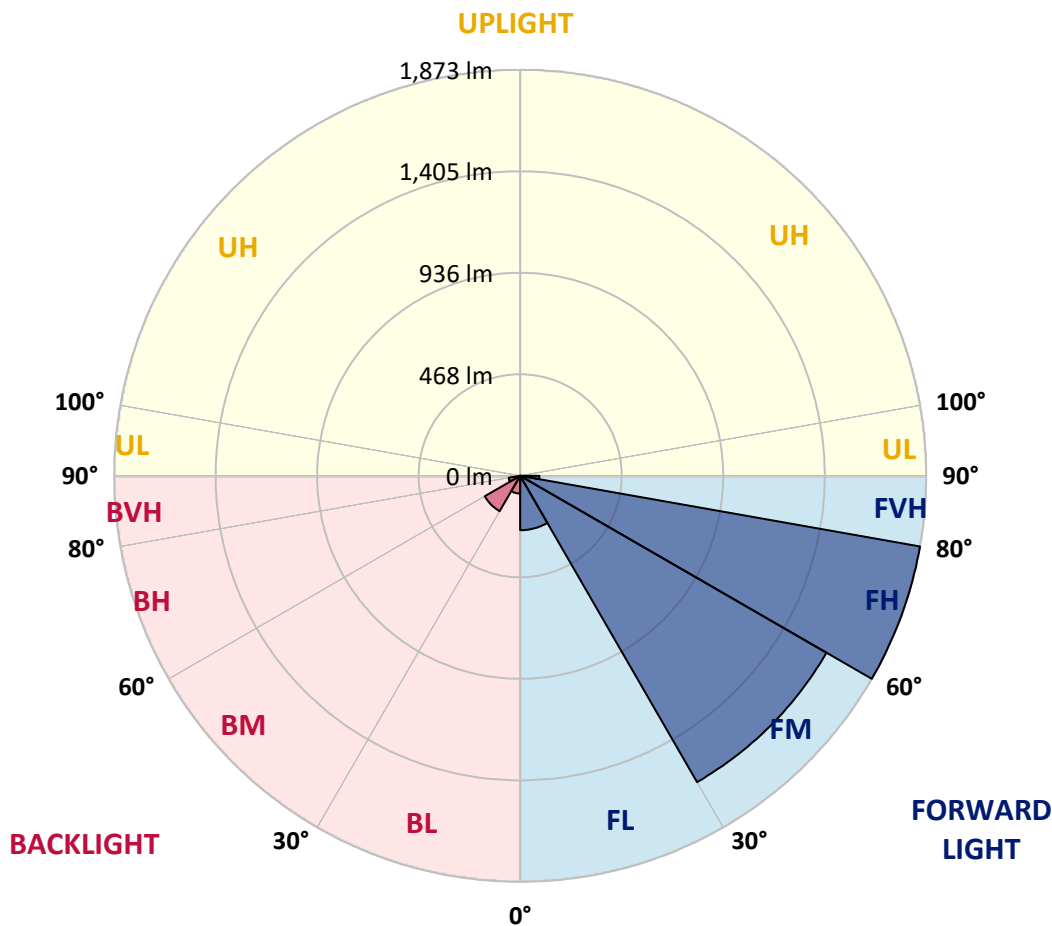


REPORT NUMBER: P596549  
 CATALOG NUMBER: MSA-SA1D-827-U-SL4-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	250.9	6.0			
FM (30°-60°)	1631.4	39.1			
FH (60°-80°)	1872.7	44.9			G2/5000
FVH (80°-90°)	88.9	2.1			G1/100
BL (0°-30°)	81.8	2.0	B0/110		
BM (30°-60°)	188.6	4.5	B0/220		
BH (60°-80°)	53.3	1.3	B0/110		G0/110
BVH (80°-90°)	1.5	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-G2**  
 Type IV Short





REPORT NUMBER: P596549

CATALOG NUMBER: MSA-SA1D-827-U-SL4-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	316.0	303.7	283.6	285.0	294.0	295.9	298.6	291.5	285.2	274.1	295.7
5°	404.9	387.1	375.8	372.2	367.0	367.4	354.6	359.2	358.0	366.1	376.0
7.5°	455.0	445.1	430.9	426.9	407.6	405.5	389.8	411.0	413.1	410.1	426.3
10°	474.9	461.9	463.6	448.7	439.1	441.6	444.1	445.8	448.5	451.2	431.5
12.5°	486.6	488.9	511.8	496.3	505.9	505.9	522.9	504.9	505.5	485.8	489.1
15°	539.4	552.2	542.0	541.8	531.3	534.0	553.7	539.4	546.8	540.9	518.3
17.5°	605.7	608.2	588.7	580.1	589.5	589.7	581.4	580.7	555.2	598.3	570.9
20°	626.8	641.1	613.4	579.9	619.1	617.2	616.6	606.7	564.2	624.1	601.5
22.5°	684.5	664.1	645.3	623.3	638.6	638.6	636.3	614.7	598.1	621.8	631.5
25°	702.5	705.0	680.5	673.4	673.8	654.9	653.2	644.0	628.1	668.5	649.3
27.5°	764.5	763.5	704.6	724.5	699.1	699.4	653.0	673.8	676.5	670.9	692.4
30°	825.5	842.5	753.6	778.8	752.2	744.2	698.9	717.4	722.2	715.7	742.9
32.5°	903.3	928.2	841.9	817.1	776.5	799.1	767.9	724.3	748.2	806.2	821.5
35°	985.6	997.8	905.8	871.2	825.3	825.1	824.1	827.6	854.0	919.4	932.4
37.5°	1133.6	1104.9	1021.7	942.5	952.7	929.9	914.0	930.7	958.2	1065.9	1121.4
40°	1216.2	1195.4	1078.3	1031.3	980.4	988.8	1031.9	1030.1	1103.2	1216.0	1299.2
42.5°	1296.4	1276.7	1161.5	1123.5	1058.1	1081.0	1099.9	1123.7	1273.6	1455.5	1501.2
45°	1367.9	1310.1	1228.7	1230.2	1196.3	1199.0	1232.3	1254.3	1471.0	1657.5	1689.6
47.5°	1411.1	1363.5	1285.5	1284.1	1282.0	1269.2	1426.2	1446.3	1628.4	1849.9	1852.9
50°	1471.8	1412.3	1344.0	1345.3	1393.7	1420.7	1608.1	1606.0	1780.3	2010.5	1942.8
52.5°	1547.5	1474.8	1399.5	1455.5	1530.3	1574.3	1726.5	1788.5	1943.6	2111.3	1978.0
55°	1644.3	1553.4	1480.9	1552.5	1715.8	1732.8	1842.4	1973.4	2121.5	2214.2	1989.3
57.5°	1757.9	1649.4	1590.7	1706.2	1869.0	1869.4	2011.1	2170.4	2230.7	2256.1	1976.5
60°	1880.3	1753.7	1694.6	1798.6	2037.9	2055.1	2198.7	2279.1	2341.6	2277.2	1953.7
62.5°	1988.0	1848.2	1802.3	1924.5	2223.2	2263.8	2362.1	2350.6	2421.6	2303.9	1895.6
65°	2116.3	1970.6	1940.5	2120.9	2465.0	2521.0	2545.7	2477.4	2448.5	2283.3	1744.5
67.5°	2243.3	2107.1	2106.2	2338.7	2782.1	2801.4	2775.4	2656.2	2417.2	2102.3	1467.7
70°	2332.8	2186.5	2241.6	2577.1	3070.3	3016.2	2906.8	2740.6	2191.7	1611.2	958.8
72.5°	2248.7	2107.7	2232.0	2662.0	3105.9	3121.4	2830.7	2455.0	1628.4	824.1	347.1
75°	1708.9	1622.5	1937.9	2361.7	2757.6	2761.2	2362.8	1731.5	801.8	223.8	96.0
77.5°	860.7	833.3	1226.6	1676.6	2011.9	2006.1	1623.4	927.6	258.0	74.4	48.4
80°	435.7	413.7	522.1	904.5	1194.8	1203.6	927.0	415.4	130.1	40.4	33.5
82.5°	267.6	254.0	285.7	409.3	579.9	593.9	351.7	263.0	80.7	23.9	30.6
85°	51.8	54.5	164.1	205.0	231.6	226.1	104.2	216.5	24.3	14.3	22.2
87.5°	0.0	0.8	37.9	66.9	67.1	59.5	23.7	48.0	3.4	4.0	2.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P596549  
 CATALOG NUMBER: MSA-SA1D-827-U-SL4-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	299.3	296.1	269.9	267.0	267.6	263.2	261.8	252.5	250.2	264.5	267.0
5°	371.8	350.8	326.5	317.7	304.1	281.0	277.7	271.8	265.3	267.8	266.0
7.5°	416.2	388.3	362.4	316.0	277.7	244.2	238.7	228.6	218.6	218.8	225.3
10°	423.3	399.9	364.0	307.7	263.9	221.9	185.5	159.1	147.1	136.4	139.6
12.5°	464.6	442.8	376.8	305.1	243.7	178.3	130.6	104.8	93.5	89.7	89.3
15°	497.7	480.6	398.6	297.4	199.1	125.5	93.5	85.9	83.8	87.4	86.3
17.5°	547.0	516.0	396.3	265.3	151.7	95.4	86.1	85.1	87.6	89.7	90.3
20°	568.6	523.9	380.6	215.0	113.6	87.4	84.0	81.9	86.6	92.8	91.6
22.5°	590.4	537.6	362.1	176.0	91.4	83.6	81.7	80.1	83.6	89.7	91.2
25°	600.2	559.4	341.6	137.5	84.9	79.2	78.0	78.6	81.5	87.0	86.3
27.5°	649.9	561.9	302.4	108.6	82.2	76.1	76.1	77.5	77.5	84.9	84.2
30°	680.9	604.4	270.6	91.4	79.0	71.7	74.2	74.8	73.8	81.7	82.4
32.5°	735.4	616.2	239.5	83.8	74.0	71.0	70.6	71.0	71.9	79.6	79.8
35°	819.2	674.0	197.2	80.9	71.5	67.9	65.0	67.3	69.4	75.0	76.1
37.5°	983.1	733.3	160.7	78.6	70.2	65.0	63.9	63.5	67.3	73.8	75.9
40°	1115.8	838.3	130.8	76.7	67.7	63.3	60.6	60.8	64.1	69.0	72.1
42.5°	1303.6	914.2	110.9	73.8	64.1	59.7	56.6	58.5	59.9	65.0	67.1
45°	1460.3	973.1	97.7	71.9	60.6	56.4	53.9	56.0	54.5	57.0	59.9
47.5°	1585.0	1024.4	87.8	67.3	58.3	54.5	51.3	50.7	48.2	48.8	51.6
50°	1653.5	1015.8	79.6	62.7	55.3	52.6	48.2	43.8	40.4	40.2	41.9
52.5°	1677.9	969.9	72.9	58.7	51.8	48.4	43.4	37.3	34.0	32.9	34.4
55°	1684.6	903.9	66.9	54.3	48.4	43.2	37.9	31.4	27.9	26.2	27.7
57.5°	1662.8	802.3	61.0	50.1	44.4	38.1	32.5	25.8	22.4	20.3	21.6
60°	1608.9	673.2	55.7	44.8	40.2	33.7	27.5	20.7	17.2	15.3	15.9
62.5°	1489.7	527.7	50.1	40.0	35.8	29.6	23.1	16.3	13.0	11.3	11.5
65°	1308.2	393.4	43.6	35.4	31.9	25.6	18.4	12.6	9.9	8.4	8.2
67.5°	1042.2	266.6	37.1	30.6	28.3	21.6	14.7	9.9	7.8	6.7	6.3
70°	612.6	134.3	30.8	26.4	24.3	18.0	11.5	8.0	7.1	6.3	5.9
72.5°	202.0	58.1	24.1	21.8	20.1	14.5	9.0	7.3	6.9	6.1	5.7
75°	70.4	33.5	17.8	16.8	15.9	10.9	7.5	6.7	6.7	5.9	5.2
77.5°	46.1	26.0	13.2	12.2	11.9	8.0	6.5	6.3	5.9	4.8	4.0
80°	38.4	14.7	9.2	8.6	8.4	5.0	5.2	4.6	3.6	2.1	0.8
82.5°	35.4	8.8	4.8	5.2	4.8	1.9	2.9	2.5	1.9	0.8	0.0
85°	20.7	4.0	2.7	2.7	2.1	0.4	1.5	1.5	0.8	0.2	0.0
87.5°	2.3	1.9	1.5	1.5	1.0	0.0	0.6	0.4	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

(END OF REPORT)