

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: P367123

Luminaire Tested: **MSA-SA1D-830-U-T4FT-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367123
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1D-830-U-T4FT-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4081 lumens
Efficiency: N/A
Efficacy: 60.9 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

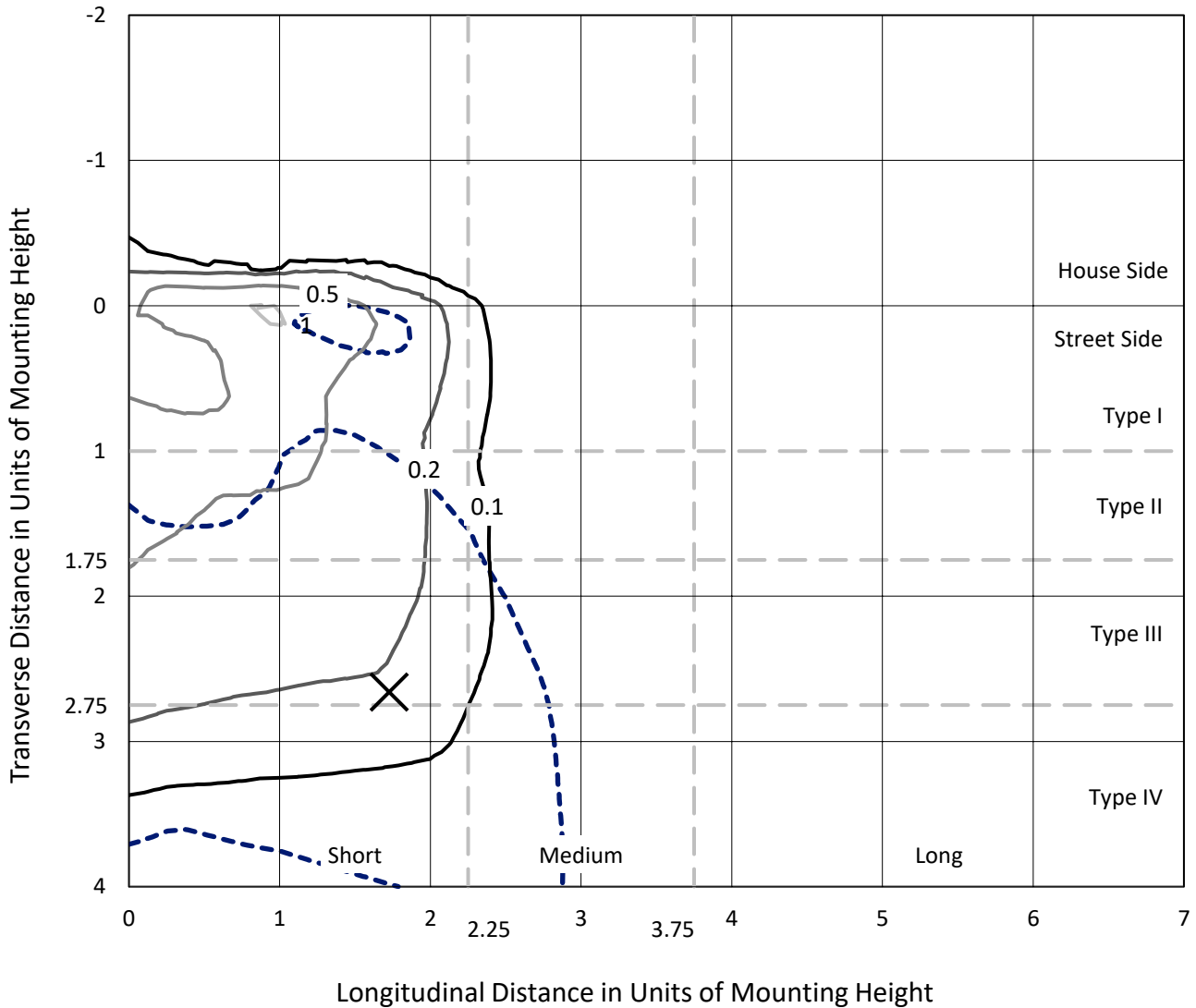
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

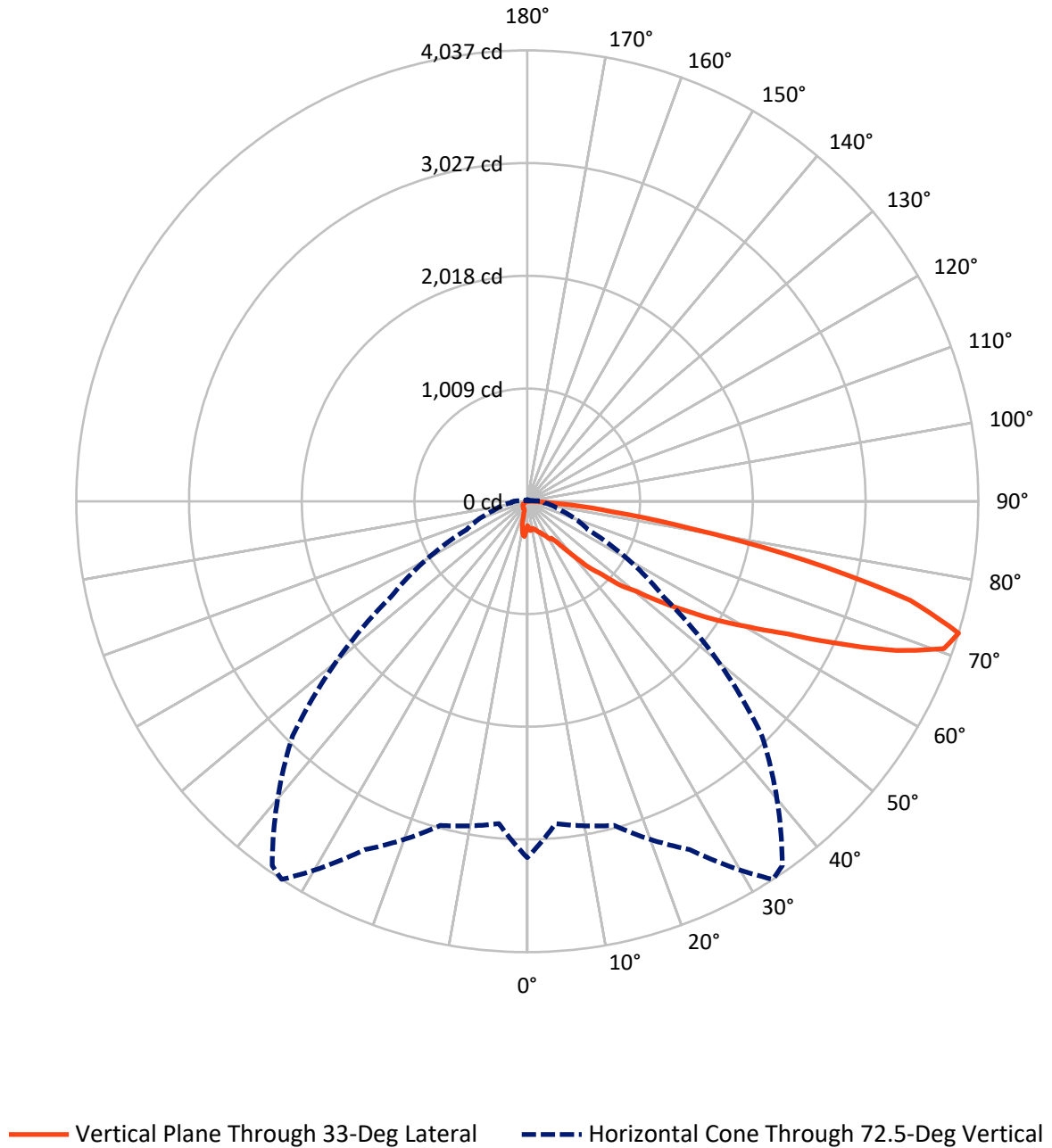
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	377.3	0.0	377.3
	% Fixture	9.2	0.0	9.2
Street Side	Lumens	3703.7	0.0	3703.7
	% Fixture	90.8	0.0	90.8
Total	Lumens	4081.0	0.0	4081.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.1	0.7
10°-20°	83.7	2.1
20°-30°	142.0	3.5
30°-40°	259.8	6.4
40°-50°	548.4	13.4
50°-60°	917.5	22.5
60°-70°	1228.1	30.1
70°-80°	802.2	19.7
80°-90°	71.1	1.7
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°	4081.0	100.0
0°-180°	4081.0	100.0

Coefficient of Utilization

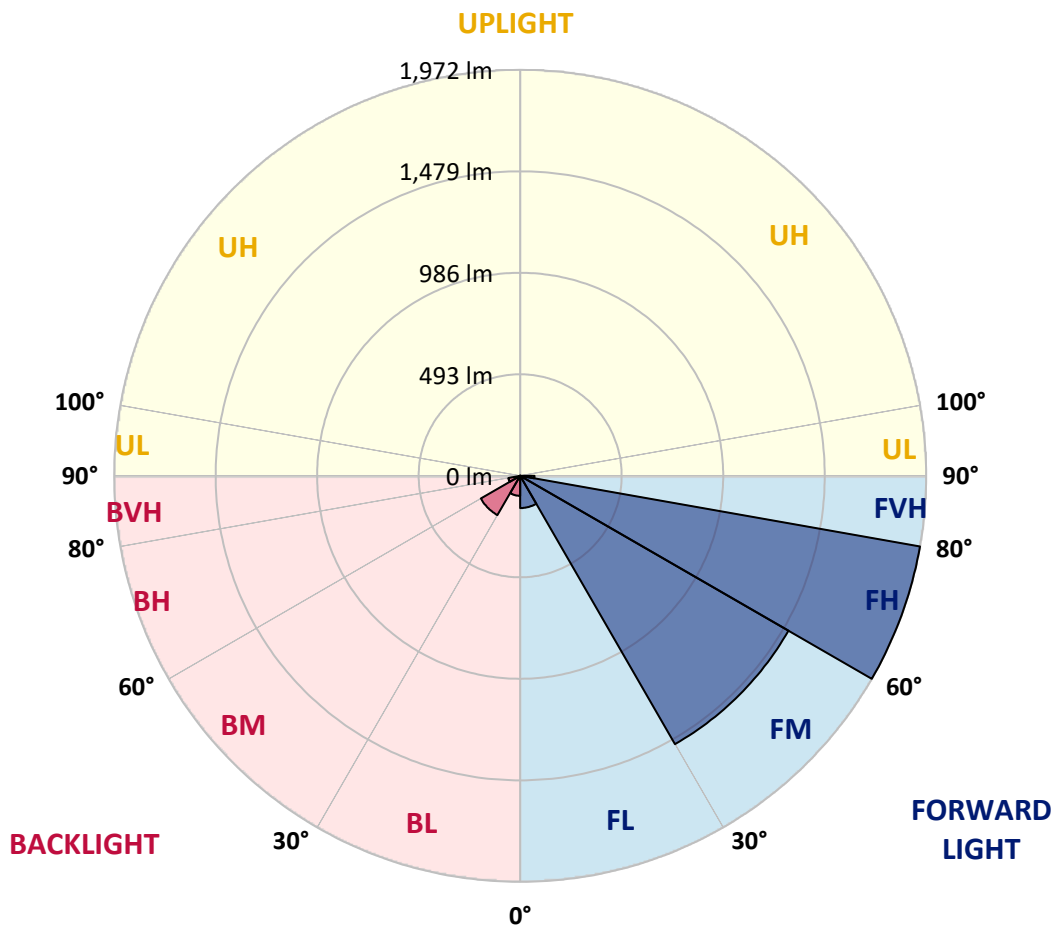


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	156.7	3.8			
FM (30°-60°)	1505.1	36.9			
FH (60°-80°)	1972.1	48.3			G2/5000
FVH (80°-90°)	69.7	1.7			G1/100
BL (0°-30°)	97.1	2.4	B0/110		
BM (30°-60°)	220.6	5.4	B1/1000		
BH (60°-80°)	58.2	1.4	B0/110		G0/110
BVH (80°-90°)	1.4	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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	217.1	217.1	217.1	217.1	217.1	217.1	217.1	217.1	217.1	217.1	217.1
2.5°	258.8	248.8	234.3	235.2	237.7	239.7	245.2	242.9	238.6	238.4	258.8
5°	274.2	263.1	262.2	263.5	262.8	266.5	261.9	276.7	289.1	304.1	328.1
7.5°	266.7	261.5	254.9	261.7	261.5	259.7	262.6	292.5	322.6	341.7	381.3
10°	245.2	239.3	244.3	246.5	244.9	252.9	272.6	297.0	333.1	372.9	392.2
12.5°	239.0	242.7	244.5	244.5	259.7	263.7	293.9	317.0	359.8	391.3	447.3
15°	262.8	269.9	257.4	254.7	259.4	261.7	295.2	323.1	377.9	435.5	482.4
17.5°	300.7	300.2	281.0	270.3	277.8	283.2	301.8	334.4	366.6	470.1	538.1
20°	326.7	327.2	292.5	270.3	295.0	298.2	318.8	344.9	370.2	487.6	574.6
22.5°	360.3	348.3	310.0	288.4	305.2	308.1	330.8	351.4	388.8	485.6	621.3
25°	387.7	380.0	331.7	316.8	331.7	327.6	348.3	379.3	408.7	518.0	648.7
27.5°	430.3	417.1	347.1	349.8	348.9	351.9	356.6	404.2	443.9	519.5	712.1
30°	469.9	462.2	381.6	381.6	390.4	384.7	388.1	445.7	477.9	556.2	783.5
32.5°	510.9	511.4	422.1	400.6	393.6	416.9	439.8	465.8	518.9	619.2	892.7
35°	619.5	610.4	499.8	446.1	440.5	439.1	475.8	546.3	591.6	701.3	1039.8
37.5°	838.1	806.6	667.0	549.5	528.2	520.9	562.6	634.9	680.0	821.8	1282.9
40°	1062.4	1004.6	849.7	717.1	648.0	616.7	665.2	726.6	806.8	955.0	1507.9
42.5°	1259.3	1187.9	987.2	897.9	808.0	794.4	748.8	848.8	988.1	1149.0	1728.3
45°	1451.2	1310.8	1109.6	1038.9	929.6	937.4	921.9	1008.5	1176.4	1361.5	1923.9
47.5°	1583.3	1457.1	1259.5	1167.8	1124.1	1079.0	1201.3	1291.3	1344.1	1496.5	2092.9
50°	1725.6	1597.8	1388.5	1324.3	1266.8	1312.3	1471.2	1483.2	1478.9	1622.5	2208.0
52.5°	1909.4	1758.7	1536.4	1463.9	1496.5	1541.9	1725.2	1727.4	1598.7	1728.6	2290.9
55°	2079.3	1912.3	1733.5	1665.1	1733.3	1771.6	1974.9	1900.3	1668.5	1800.6	2331.7
57.5°	2318.8	2125.5	1995.7	1875.2	2013.4	1976.7	2194.4	2083.6	1746.9	1848.4	2316.8
60°	2621.5	2394.0	2264.0	2136.4	2284.6	2309.5	2408.8	2175.1	1777.3	1864.1	2226.8
62.5°	2929.4	2700.6	2529.5	2443.0	2611.1	2693.1	2607.2	2220.7	1740.8	1833.5	2023.1
65°	3311.4	3018.5	2818.6	2767.9	3079.4	3200.0	2842.0	2231.8	1670.3	1665.1	1626.6
67.5°	3573.1	3287.9	3104.6	3189.5	3565.9	3575.6	3052.7	2235.2	1433.1	1303.7	1067.6
70°	3635.2	3329.8	3247.8	3497.9	3954.0	3831.4	3120.7	2063.0	1062.9	773.8	488.0
72.5°	3191.1	2897.0	3003.7	3439.7	4036.5	3980.3	2970.4	1488.4	598.4	309.5	149.8
75°	1957.4	1779.5	2253.3	2916.3	3543.2	3507.0	2317.4	769.0	241.1	123.7	56.0
77.5°	851.3	790.5	1175.9	1935.0	2546.1	2513.7	1357.9	283.2	124.6	87.0	28.3
80°	281.6	273.3	445.5	916.3	1491.3	1462.8	572.1	117.8	88.8	69.8	15.9
82.5°	66.8	66.4	155.4	421.7	759.7	735.9	175.6	65.0	64.3	55.1	8.4
85°	16.8	17.2	43.0	172.4	308.6	272.1	45.8	32.4	45.3	37.4	4.3
87.5°	0.0	0.0	11.1	24.7	46.7	29.2	5.0	8.6	12.7	13.4	2.3
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°	217.1	217.1	217.1	217.1	217.1	217.1	217.1	217.1	217.1	217.1	217.1
2.5°	263.3	260.8	240.4	245.4	253.1	252.4	257.4	253.5	250.1	266.9	265.3
5°	334.9	321.3	314.9	323.8	319.0	307.9	317.2	315.6	312.9	318.6	322.9
7.5°	388.6	376.1	370.5	351.9	324.9	303.6	307.0	299.1	291.6	300.4	309.5
10°	406.3	399.5	398.8	362.5	337.1	306.3	269.9	238.4	230.0	218.9	223.9
12.5°	454.3	458.4	432.8	390.4	341.5	282.3	217.5	172.9	154.8	143.0	143.7
15°	493.7	508.0	470.8	394.7	300.4	215.2	144.8	104.7	93.4	90.4	89.5
17.5°	552.4	566.2	482.6	364.1	242.2	145.9	93.1	81.6	82.2	84.3	83.8
20°	595.9	593.9	472.4	310.0	178.5	95.6	77.9	76.4	80.0	85.9	84.5
22.5°	637.8	623.8	466.1	259.9	115.6	76.8	75.2	75.0	78.4	84.1	85.6
25°	667.7	670.0	455.4	203.5	84.1	71.4	72.7	74.8	78.2	84.3	83.4
27.5°	753.4	689.9	411.0	147.7	70.9	68.4	71.8	75.9	77.0	84.7	85.0
30°	808.9	765.2	382.0	99.5	65.5	63.2	70.0	75.5	76.8	86.8	87.5
32.5°	905.6	797.6	348.5	73.9	60.9	61.6	65.9	73.2	79.5	90.2	90.6
35°	1025.9	901.6	287.8	66.4	59.4	58.2	60.3	68.7	79.1	90.6	92.9
37.5°	1255.0	963.9	228.2	64.3	59.4	57.3	59.4	64.3	77.7	95.2	99.9
40°	1408.4	1090.7	164.5	63.9	58.2	56.4	57.1	62.1	73.9	92.4	99.5
42.5°	1597.4	1144.2	121.2	62.8	57.1	54.4	54.8	61.2	70.0	86.8	92.0
45°	1752.1	1183.2	95.4	62.3	54.4	53.5	54.4	60.5	66.4	74.5	79.3
47.5°	1869.7	1228.5	76.6	59.4	53.7	53.5	52.3	56.6	60.3	62.3	65.5
50°	1955.8	1218.3	63.4	54.8	51.4	52.8	50.8	51.4	52.3	51.2	54.8
52.5°	2008.6	1181.6	52.8	49.4	48.7	49.8	47.4	45.3	43.7	42.8	45.1
55°	2027.9	1108.0	44.9	42.4	44.0	44.4	42.4	38.7	36.0	34.7	36.5
57.5°	1991.4	995.8	39.0	35.1	38.7	38.7	36.0	32.2	29.0	26.7	28.5
60°	1899.0	871.9	34.7	29.2	33.1	33.3	30.1	26.1	23.6	21.3	22.4
62.5°	1726.8	736.8	30.4	25.4	28.5	28.8	24.9	21.1	19.3	16.8	17.7
65°	1382.4	563.5	25.8	22.4	24.7	24.0	20.6	17.9	15.6	13.4	13.8
67.5°	897.2	347.8	22.4	20.4	20.8	20.2	17.4	15.6	13.1	11.3	11.6
70°	401.7	149.8	19.7	18.4	18.1	17.0	14.7	14.5	12.9	11.3	11.3
72.5°	123.9	56.4	17.0	16.5	15.6	14.3	12.9	13.8	12.7	10.9	10.6
75°	48.9	25.8	14.0	14.0	13.6	11.8	11.6	12.5	11.8	10.0	9.5
77.5°	25.6	16.3	11.6	12.0	11.8	9.1	10.4	11.3	10.9	8.4	7.0
80°	15.2	10.0	8.6	9.7	9.5	6.3	7.9	7.3	5.2	2.5	0.7
82.5°	8.4	4.5	3.9	5.7	5.7	2.3	4.1	3.6	2.0	0.0	0.0
85°	4.1	3.2	2.9	3.2	2.3	0.7	2.0	2.0	1.1	0.0	0.0
87.5°	2.0	1.8	1.4	1.1	0.9	0.0	0.7	0.9	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)