

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: P596725

Luminaire Tested: **MSA-SA3D-827-U-SL4-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596725
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-SA3D-827-U-SL4-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 12102 lumens
Efficiency: N/A
Efficacy: 63.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

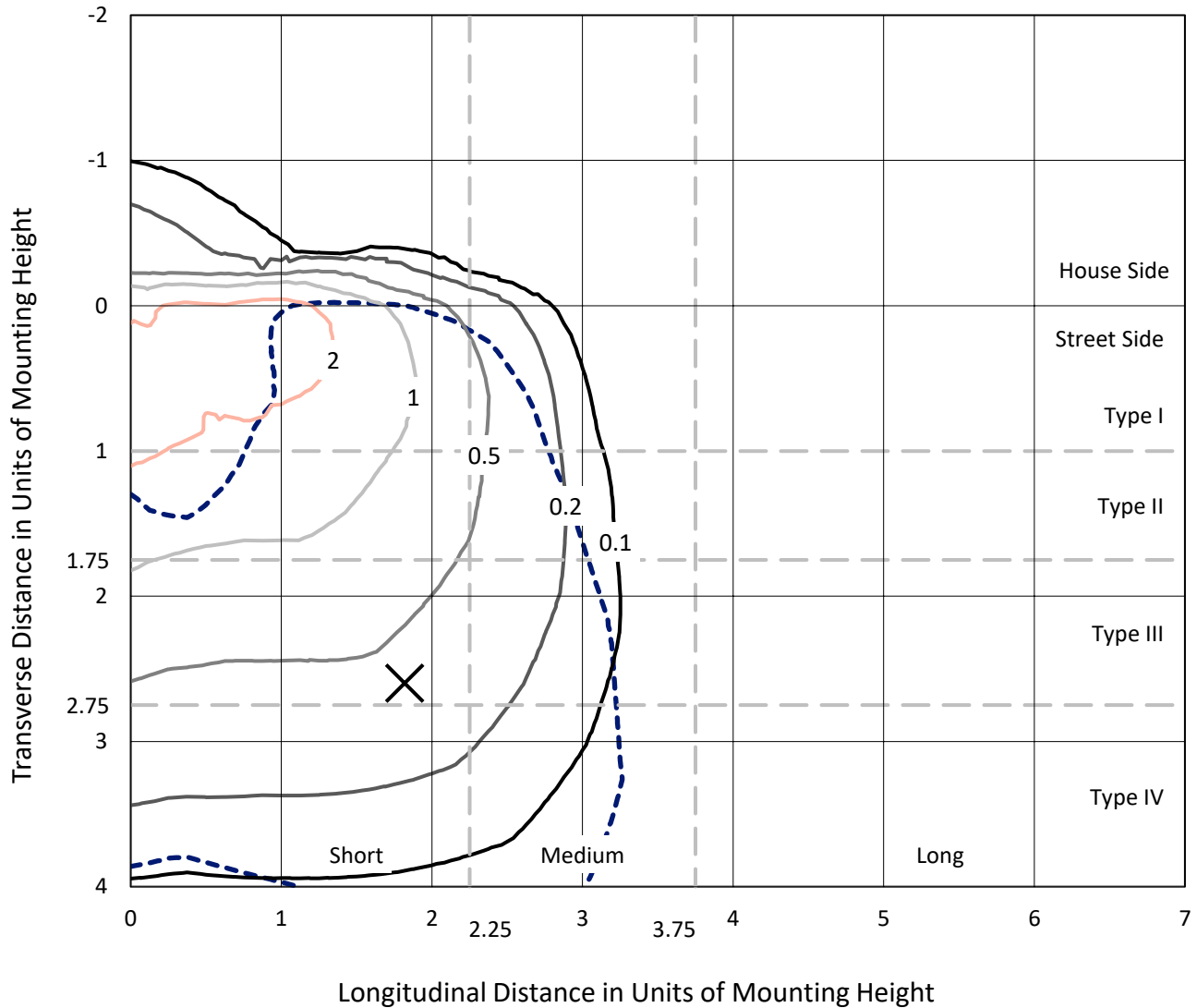
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

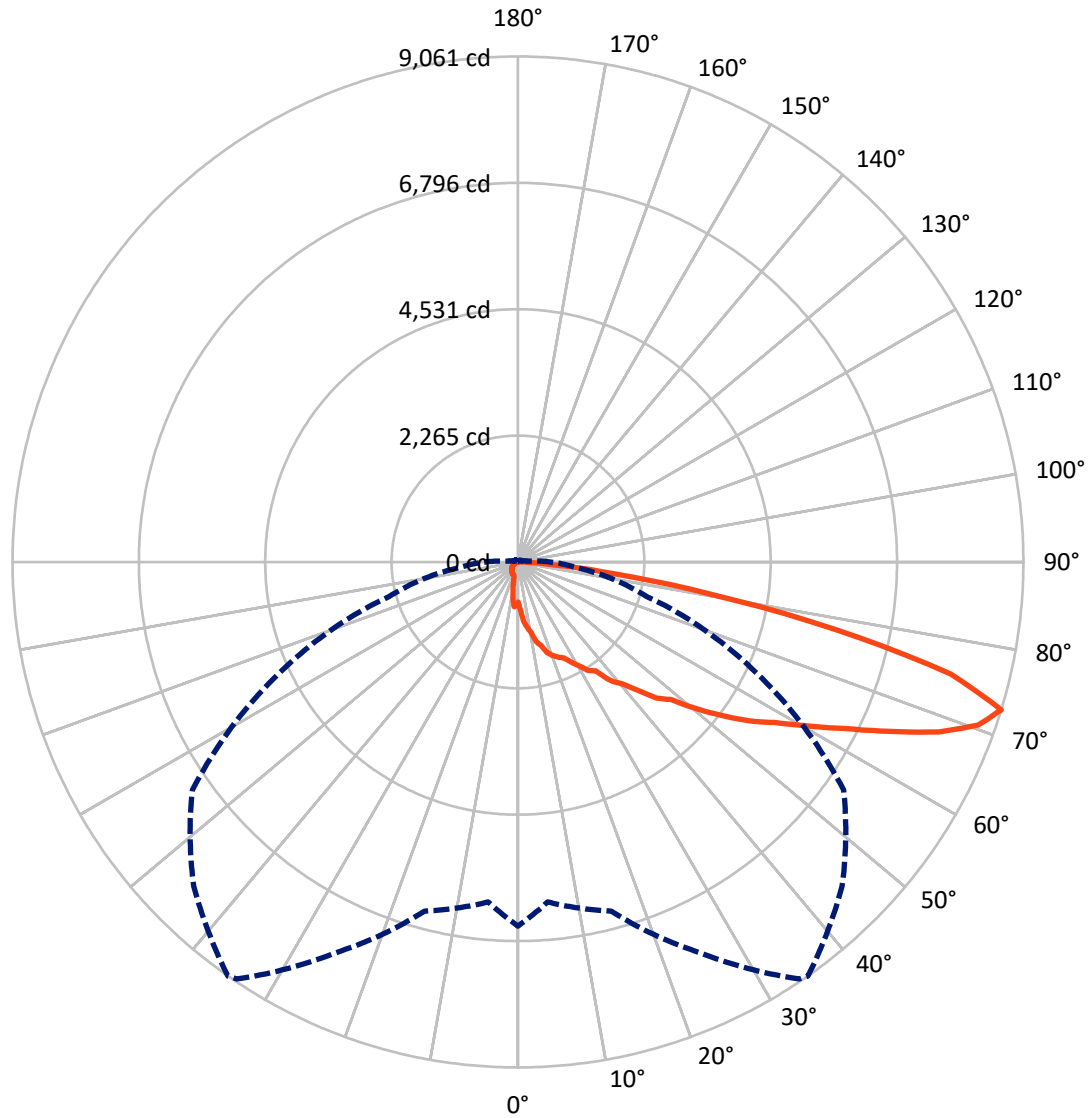
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.8 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
House Side	Lumens	943.9	0.0	943.9
	% Fixture	7.8	0.0	7.8
Street Side	Lumens	11158.1	0.0	11158.1
	% Fixture	92.2	0.0	92.2
Total	Lumens	12102.0	0.0	12102.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.9	0.8
10°-20°	309.7	2.6
20°-30°	564.0	4.7
30°-40°	972.9	8.0
40°-50°	1729.4	14.3
50°-60°	2580.7	21.3
60°-70°	3297.1	27.2
70°-80°	2293.9	19.0
80°-90°	262.4	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°	12102.0	100.0
0°-180°	12102.0	100.0

Coefficient of Utilization



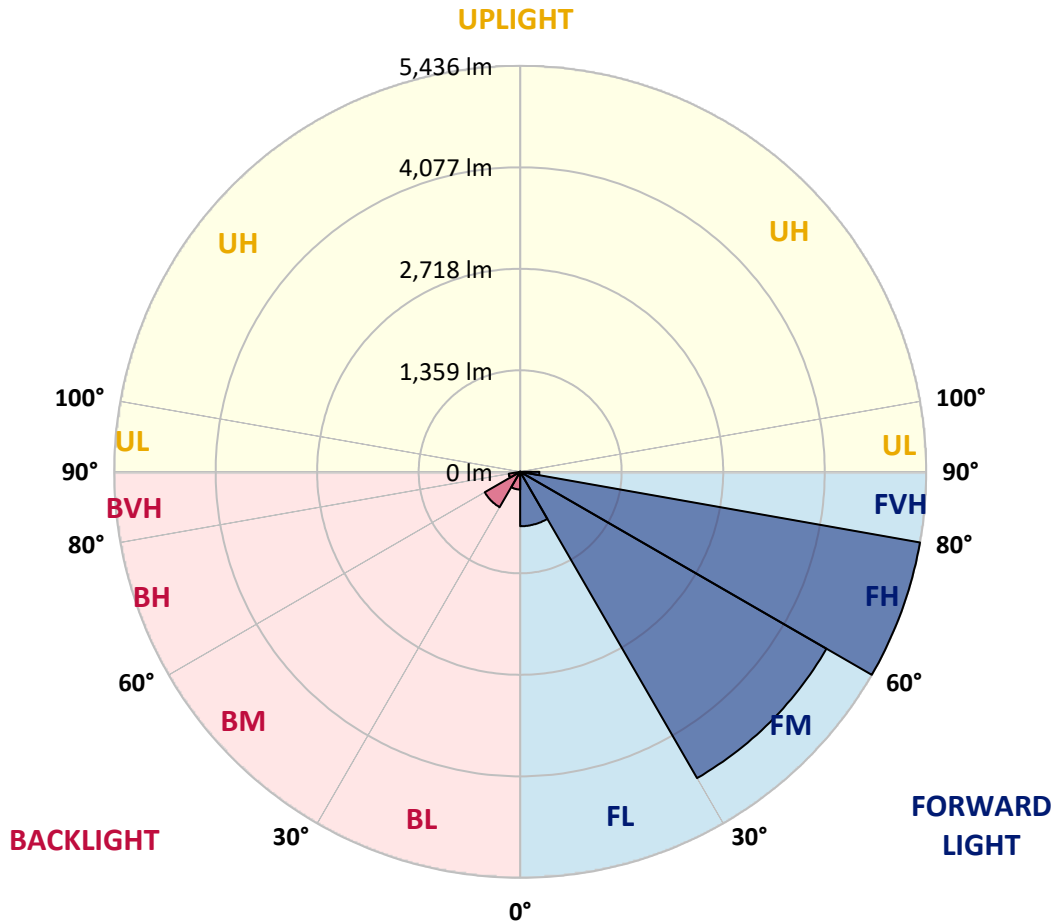
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	728.3	6.0			
FM (30°-60°)	4735.6	39.1			
FH (60°-80°)	5436.2	44.9			G3/7500
FVH (80°-90°)	258.0	2.1			G3/500
BL (0°-30°)	237.4	2.0	B1/500		
BM (30°-60°)	547.4	4.5	B1/1000		
BH (60°-80°)	154.8	1.3	B1/500		G1/500
BVH (80°-90°)	4.4	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-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	720.9	720.9	720.9	720.9	720.9	720.9	720.9	720.9	720.9	720.9	720.9
2.5°	917.4	881.5	823.1	827.4	853.5	859.0	866.9	846.2	828.0	795.7	858.4
5°	1175.4	1123.7	1090.8	1080.5	1065.3	1066.5	1029.4	1042.7	1039.1	1062.8	1091.4
7.5°	1320.8	1292.2	1250.8	1239.2	1183.3	1177.2	1131.6	1193.0	1199.1	1190.6	1237.4
10°	1378.6	1340.8	1345.7	1302.5	1274.5	1281.8	1289.1	1294.0	1301.9	1309.8	1252.6
12.5°	1412.6	1419.3	1485.6	1440.6	1468.6	1468.6	1517.9	1465.6	1467.4	1410.2	1419.9
15°	1565.9	1603.0	1573.2	1572.6	1542.2	1550.1	1607.3	1565.9	1587.2	1570.2	1504.5
17.5°	1758.2	1765.5	1708.9	1684.0	1711.3	1711.9	1687.6	1685.8	1611.6	1736.9	1657.2
20°	1819.6	1861.0	1780.7	1683.4	1797.1	1791.6	1789.8	1761.2	1637.7	1811.7	1746.0
22.5°	1986.9	1927.9	1873.2	1809.3	1853.7	1853.7	1847.0	1784.3	1736.3	1805.0	1833.0
25°	2039.2	2046.5	1975.4	1954.7	1955.9	1901.1	1896.3	1869.5	1823.3	1940.7	1884.7
27.5°	2219.3	2216.3	2045.3	2103.1	2029.5	2030.1	1895.7	1955.9	1963.8	1947.4	2010.0
30°	2396.4	2445.6	2187.7	2260.7	2183.4	2160.3	2028.9	2082.4	2096.4	2077.6	2156.7
32.5°	2622.1	2694.5	2443.8	2372.0	2254.0	2319.7	2229.1	2102.5	2171.9	2340.4	2384.8
35°	2861.1	2896.4	2629.4	2529.0	2395.7	2395.1	2392.1	2402.4	2479.1	2668.9	2706.6
37.5°	3290.7	3207.3	2965.8	2735.8	2765.6	2699.3	2653.1	2701.8	2781.5	3094.2	3255.4
40°	3530.4	3470.1	3130.0	2993.8	2845.9	2870.3	2995.6	2990.1	3202.4	3529.7	3771.3
42.5°	3763.4	3706.2	3371.6	3261.5	3071.6	3138.0	3192.7	3262.1	3697.0	4225.1	4357.7
45°	3970.8	3802.9	3566.9	3571.1	3472.6	3480.5	3577.2	3641.1	4270.1	4811.6	4904.7
47.5°	4096.1	3958.0	3731.7	3727.5	3721.4	3684.3	4139.9	4198.3	4727.0	5370.1	5378.6
50°	4272.6	4099.8	3901.5	3905.1	4045.6	4124.1	4668.0	4661.9	5168.1	5836.1	5639.6
52.5°	4492.2	4281.1	4062.7	4225.1	4442.3	4570.1	5011.7	5191.8	5642.0	6128.7	5741.8
55°	4773.2	4509.2	4298.7	4506.8	4980.7	5030.0	5348.2	5728.4	6158.5	6427.4	5774.6
57.5°	5103.0	4787.8	4617.5	4952.7	5425.4	5426.6	5837.9	6300.2	6475.5	6549.1	5737.5
60°	5458.3	5090.8	4919.3	5221.0	5915.8	5965.6	6382.4	6616.0	6797.3	6610.5	5671.2
62.5°	5771.0	5365.2	5232.0	5586.6	6453.6	6571.6	6856.9	6823.4	7029.7	6687.8	5502.7
65°	6143.3	5720.5	5632.9	6156.7	7155.6	7318.0	7389.8	7191.5	7107.5	6628.2	5064.0
67.5°	6512.0	6116.5	6114.1	6788.8	8076.1	8132.0	8056.6	7710.4	7016.9	6102.5	4260.4
70°	6771.7	6347.1	6507.1	7481.1	8912.6	8755.6	8438.0	7955.6	6362.3	4677.1	2783.3
72.5°	6527.8	6118.3	6479.1	7727.5	9016.0	9061.0	8217.2	7126.4	4727.0	2392.1	1007.5
75°	4960.6	4710.0	5625.6	6855.7	8004.9	8015.2	6858.7	5026.3	2327.6	649.7	278.6
77.5°	2498.6	2418.9	3560.8	4866.9	5840.3	5823.3	4712.4	2692.6	748.9	216.0	140.5
80°	1264.8	1200.9	1515.4	2625.7	3468.3	3493.8	2690.8	1205.8	377.8	117.4	97.3
82.5°	776.9	737.3	829.2	1188.1	1683.4	1724.1	1020.8	763.5	234.2	69.4	88.8
85°	150.3	158.2	476.4	595.0	672.2	656.4	302.4	628.4	70.6	41.4	64.5
87.5°	0.0	2.4	110.1	194.1	194.7	172.8	68.7	139.3	9.7	11.6	7.9
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°	720.9	720.9	720.9	720.9	720.9	720.9	720.9	720.9	720.9	720.9	720.9
2.5°	868.7	859.6	783.6	775.1	776.9	764.1	759.8	733.1	726.4	767.8	775.1
5°	1079.2	1018.4	947.8	922.3	882.7	815.8	806.1	789.1	770.2	777.5	772.0
7.5°	1208.2	1127.3	1051.9	917.4	806.1	708.7	692.9	663.7	634.5	635.1	654.0
10°	1228.9	1160.8	1056.7	893.1	765.9	644.3	538.4	461.8	427.1	396.0	405.2
12.5°	1348.7	1285.5	1093.8	885.8	707.5	517.7	379.0	304.2	271.3	260.4	259.2
15°	1444.9	1395.0	1157.1	863.3	577.9	364.4	271.3	249.4	243.3	253.7	250.6
17.5°	1587.8	1497.8	1150.4	770.2	440.5	276.8	250.0	247.0	254.3	260.4	262.2
20°	1650.5	1520.9	1104.8	624.2	329.7	253.7	244.0	237.9	251.3	269.5	265.9
22.5°	1713.8	1560.5	1051.3	511.0	265.2	242.7	237.3	232.4	242.7	260.4	264.6
25°	1742.4	1623.7	991.6	399.1	246.4	230.0	226.3	228.1	236.7	252.5	250.6
27.5°	1886.5	1631.0	877.9	315.1	238.5	220.8	220.8	225.1	225.1	246.4	244.6
30°	1976.6	1754.5	785.4	265.2	229.4	208.1	215.4	217.2	214.1	237.3	239.1
32.5°	2134.8	1788.6	695.4	243.3	214.8	206.2	205.0	206.2	208.7	231.2	231.8
35°	2378.1	1956.5	572.5	234.8	207.5	197.1	188.6	195.3	201.4	217.8	220.8
37.5°	2853.8	2128.7	466.6	228.1	203.8	188.6	185.6	184.3	195.3	214.1	220.2
40°	3238.9	2433.5	379.6	222.7	196.5	183.7	175.8	176.4	186.2	200.2	209.3
42.5°	3784.0	2653.7	321.8	214.1	186.2	173.4	164.3	169.7	174.0	188.6	194.7
45°	4239.1	2824.6	283.5	208.7	175.8	163.7	156.4	162.4	158.2	165.5	174.0
47.5°	4601.1	2973.7	254.9	195.3	169.1	158.2	149.0	147.2	139.9	141.7	149.7
50°	4800.0	2948.8	231.2	181.9	160.6	152.7	139.9	127.1	117.4	116.8	121.7
52.5°	4870.6	2815.5	211.7	170.3	150.3	140.5	125.9	108.3	98.6	95.5	99.8
55°	4890.1	2623.9	194.1	157.6	140.5	125.3	110.1	91.3	80.9	76.0	80.3
57.5°	4826.8	2328.8	177.0	145.4	129.0	110.7	94.3	74.8	65.1	59.0	62.7
60°	4670.4	1954.1	161.8	130.2	116.8	97.9	79.7	60.2	49.9	44.4	46.2
62.5°	4324.3	1531.9	145.4	116.2	104.0	85.8	66.9	47.5	37.7	32.9	33.5
65°	3797.4	1141.9	126.5	102.8	92.5	74.2	53.5	36.5	28.6	24.3	23.7
67.5°	3025.4	773.8	107.7	88.8	82.1	62.7	42.6	28.6	22.5	19.5	18.3
70°	1778.3	390.0	89.4	76.7	70.6	52.3	33.5	23.1	20.7	18.3	17.0
72.5°	586.5	168.5	70.0	63.3	58.4	42.0	26.2	21.3	20.1	17.6	16.4
75°	204.4	97.3	51.7	48.7	46.2	31.6	21.9	19.5	19.5	17.0	15.2
77.5°	133.8	75.4	38.3	35.3	34.7	23.1	18.9	18.3	17.0	14.0	11.6
80°	111.3	42.6	26.8	24.9	24.3	14.6	15.2	13.4	10.3	6.1	2.4
82.5°	102.8	25.6	14.0	15.2	14.0	5.5	8.5	7.3	5.5	2.4	0.0
85°	60.2	11.6	7.9	7.9	6.1	1.2	4.3	4.3	2.4	0.6	0.0
87.5°	6.7	5.5	4.3	4.3	3.0	0.0	1.8	1.2	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)