

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: P596637

Luminaire Tested: **MSA-SA2D-827-U-SL4-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596637
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-SA2D-827-U-SL4-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 8200 lumens
Efficiency: N/A
Efficacy: 63.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

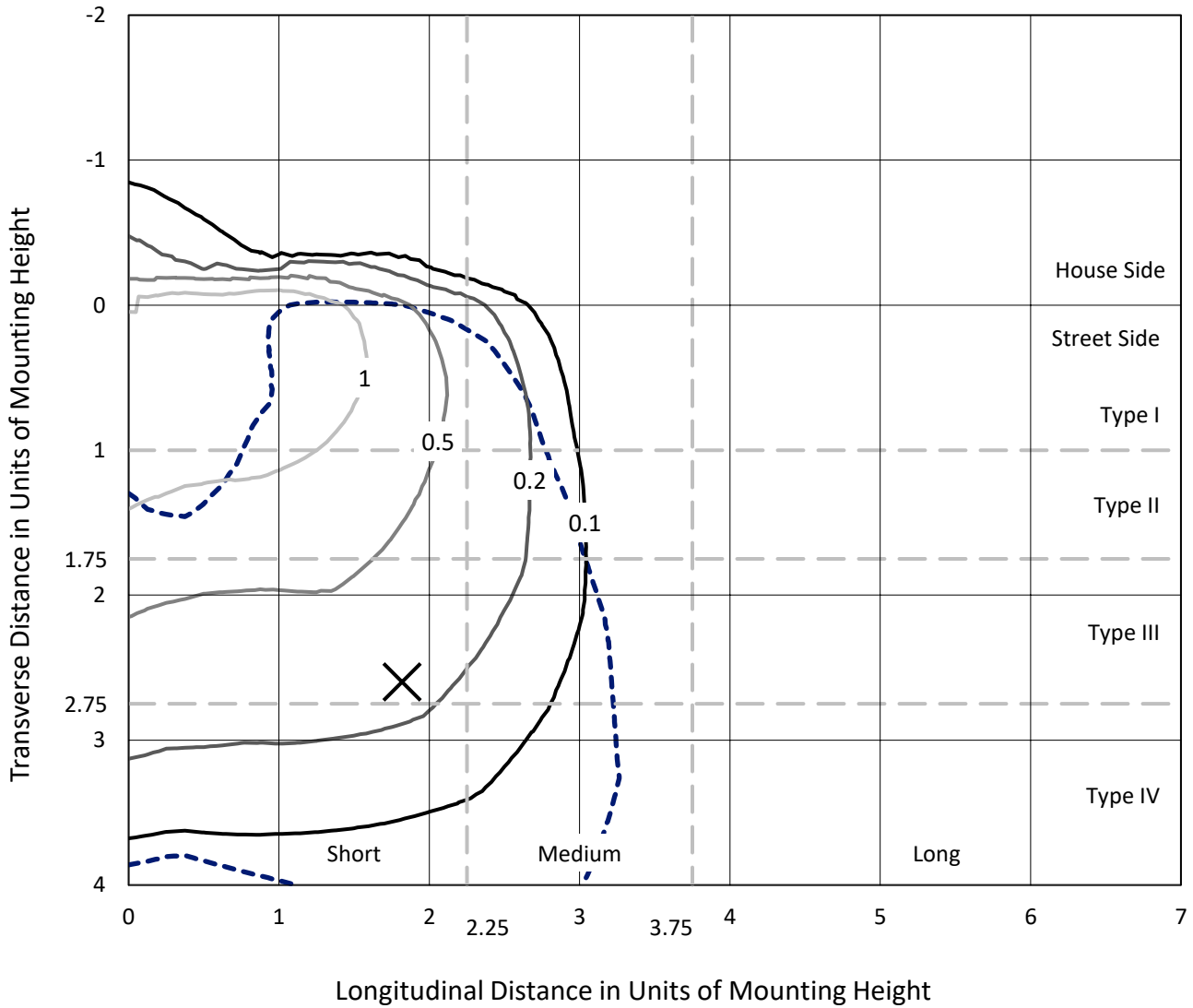
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

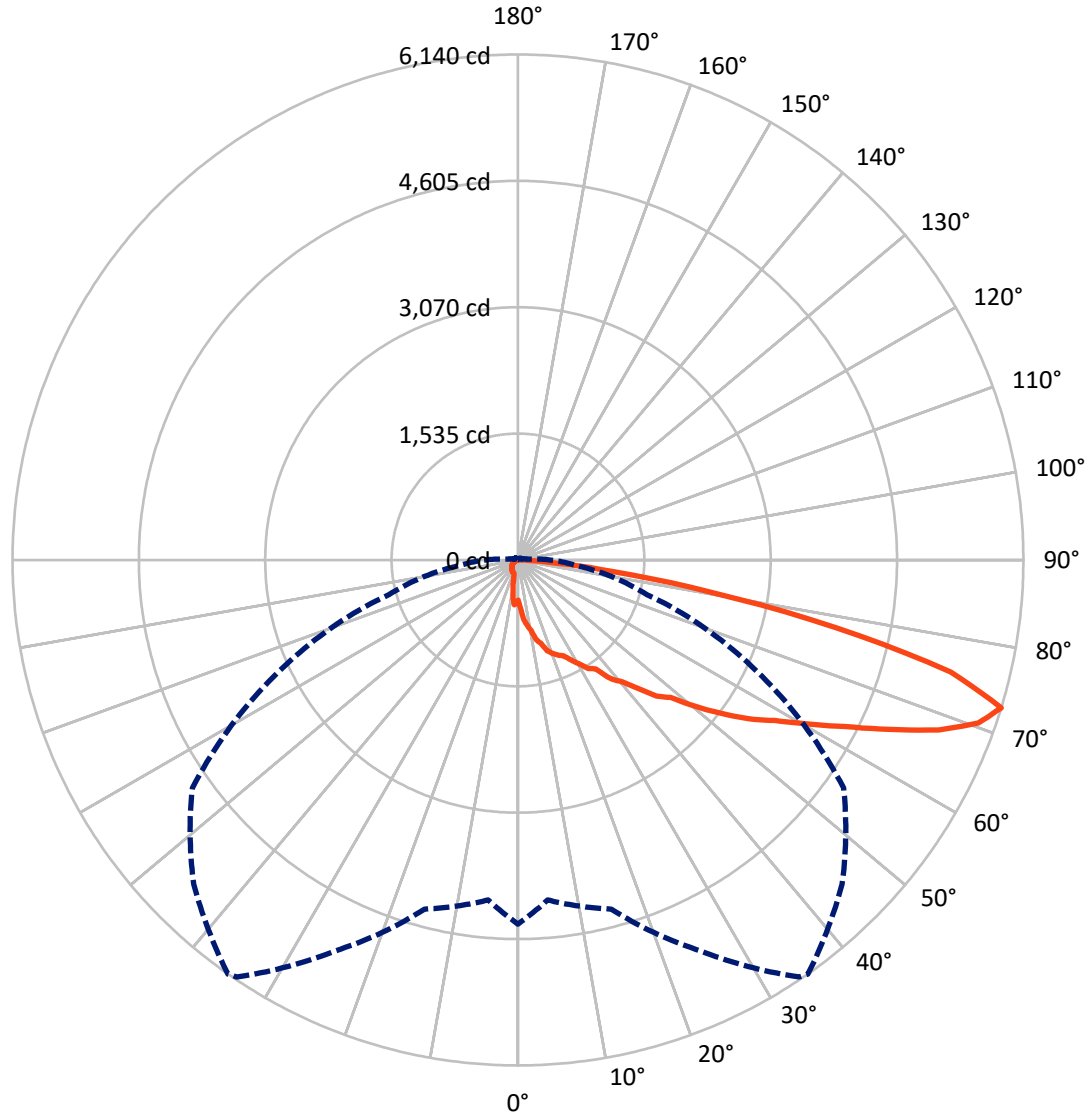
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.9 fc
 Type IV - Short - N/A

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CATALOG NUMBER: MSA-SA2D-827-U-SL4-HSS

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	639.6	0.0	639.6
	% Fixture	7.8	0.0	7.8
Street Side	Lumens	7560.4	0.0	7560.4
	% Fixture	92.2	0.0	92.2
Total	Lumens	8200.0	0.0	8200.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.3	0.8
10°-20°	209.9	2.6
20°-30°	382.2	4.7
30°-40°	659.2	8.0
40°-50°	1171.8	14.3
50°-60°	1748.6	21.3
60°-70°	2234.0	27.2
70°-80°	1554.3	19.0
80°-90°	177.8	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°	8200.0	100.0
0°-180°	8200.0	100.0

Coefficient of Utilization



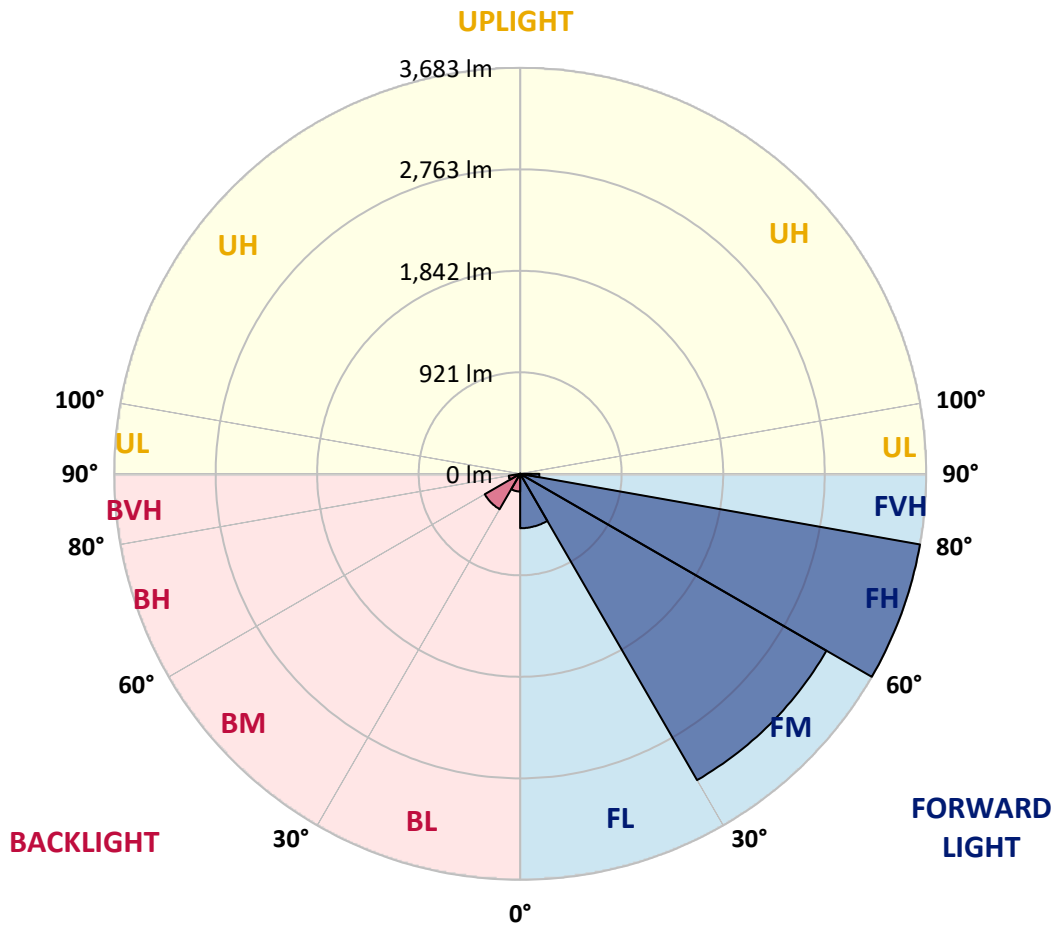
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	493.4	6.0			
FM (30°-60°)	3208.7	39.1			
FH (60°-80°)	3683.5	44.9			G2/5000
FVH (80°-90°)	174.8	2.1			G2/225
BL (0°-30°)	160.9	2.0	B1/500		
BM (30°-60°)	370.9	4.5	B1/1000		
BH (60°-80°)	104.9	1.3	B0/110		G0/110
BVH (80°-90°)	3.0	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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CATALOG NUMBER: MSA-SA2D-827-U-SL4-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	488.5	488.5	488.5	488.5	488.5	488.5	488.5	488.5	488.5	488.5	488.5
2.5°	621.6	597.3	557.7	560.6	578.3	582.0	587.4	573.4	561.0	539.2	581.6
5°	796.4	761.4	739.1	732.1	721.8	722.6	697.5	706.5	704.1	720.1	739.5
7.5°	894.9	875.5	847.5	839.7	801.8	797.6	766.7	808.4	812.5	806.7	838.4
10°	934.1	908.5	911.8	882.5	863.6	868.5	873.5	876.8	882.1	887.5	848.7
12.5°	957.2	961.7	1006.6	976.1	995.1	995.1	1028.5	993.0	994.3	955.5	962.1
15°	1061.0	1086.2	1066.0	1065.6	1045.0	1050.3	1089.1	1061.0	1075.5	1063.9	1019.4
17.5°	1191.3	1196.2	1157.9	1141.0	1159.6	1160.0	1143.5	1142.2	1092.0	1176.9	1122.9
20°	1232.9	1261.0	1206.5	1140.6	1217.7	1214.0	1212.7	1193.4	1109.7	1227.6	1183.1
22.5°	1346.3	1306.3	1269.2	1225.9	1256.0	1256.0	1251.5	1209.0	1176.5	1223.0	1242.0
25°	1381.7	1386.7	1338.5	1324.4	1325.3	1288.2	1284.9	1266.7	1235.4	1315.0	1277.0
27.5°	1503.8	1501.7	1385.9	1425.0	1375.1	1375.6	1284.5	1325.3	1330.6	1319.5	1362.0
30°	1623.7	1657.1	1482.3	1531.8	1479.4	1463.8	1374.7	1411.0	1420.5	1407.7	1461.3
32.5°	1776.6	1825.7	1655.9	1607.2	1527.3	1571.8	1510.3	1424.6	1471.6	1585.8	1615.9
35°	1938.6	1962.5	1781.6	1713.6	1623.3	1622.9	1620.8	1627.8	1679.8	1808.4	1833.9
37.5°	2229.7	2173.2	2009.5	1853.7	1873.9	1829.0	1797.7	1830.6	1884.6	2096.5	2205.8
40°	2392.1	2351.3	2120.8	2028.5	1928.3	1944.8	2029.7	2026.0	2169.9	2391.7	2555.3
42.5°	2550.0	2511.2	2284.5	2209.9	2081.3	2126.2	2163.3	2210.3	2505.0	2862.8	2952.7
45°	2690.5	2576.7	2416.8	2419.7	2352.9	2358.3	2423.8	2467.1	2893.3	3260.2	3323.3
47.5°	2775.4	2681.9	2528.5	2525.6	2521.5	2496.4	2805.1	2844.7	3202.9	3638.6	3644.4
50°	2895.0	2777.9	2643.5	2646.0	2741.2	2794.4	3162.9	3158.8	3501.8	3954.4	3821.2
52.5°	3043.8	2900.7	2752.8	2862.8	3010.0	3096.5	3395.8	3517.8	3822.9	4152.6	3890.5
55°	3234.2	3055.3	2912.7	3053.7	3374.8	3408.2	3623.8	3881.4	4172.8	4355.0	3912.7
57.5°	3457.6	3244.1	3128.7	3355.8	3676.1	3676.9	3955.6	4268.9	4387.6	4437.5	3887.6
60°	3698.4	3449.4	3333.2	3537.6	4008.4	4042.2	4324.5	4482.8	4605.7	4479.1	3842.7
62.5°	3910.3	3635.3	3545.0	3785.4	4372.8	4452.7	4646.1	4623.4	4763.1	4531.5	3728.5
65°	4162.5	3876.0	3816.7	4171.6	4848.5	4958.5	5007.2	4872.8	4815.9	4491.1	3431.3
67.5°	4412.3	4144.4	4142.7	4599.9	5472.1	5510.1	5458.9	5224.4	4754.5	4134.9	2886.7
70°	4588.3	4300.6	4409.0	5069.0	6038.9	5932.6	5717.4	5390.5	4310.9	3169.1	1885.9
72.5°	4423.0	4145.6	4390.1	5235.9	6109.0	6139.5	5567.8	4828.7	3202.9	1620.8	682.6
75°	3361.2	3191.4	3811.7	4645.2	5423.9	5430.9	4647.3	3405.7	1577.1	440.2	188.8
77.5°	1693.0	1639.0	2412.7	3297.7	3957.2	3945.7	3193.0	1824.5	507.4	146.3	95.2
80°	857.0	813.7	1026.8	1779.1	2350.0	2367.3	1823.2	817.0	256.0	79.6	66.0
82.5°	526.4	499.6	561.8	805.1	1140.6	1168.2	691.7	517.3	158.7	47.0	60.2
85°	101.8	107.2	322.8	403.1	455.5	444.8	204.9	425.8	47.8	28.0	43.7
87.5°	0.0	1.6	74.6	131.5	131.9	117.1	46.6	94.4	6.6	7.8	5.4
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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 CATALOG NUMBER: MSA-SA2D-827-U-SL4-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	488.5	488.5	488.5	488.5	488.5	488.5	488.5	488.5	488.5	488.5	488.5
2.5°	588.6	582.5	530.9	525.2	526.4	517.7	514.9	496.7	492.2	520.2	525.2
5°	731.3	690.0	642.2	624.9	598.1	552.8	546.2	534.6	521.9	526.8	523.1
7.5°	818.7	763.8	712.7	621.6	546.2	480.2	469.5	449.7	429.9	430.4	443.1
10°	832.7	786.5	716.0	605.1	519.0	436.5	364.8	312.9	289.4	268.4	274.5
12.5°	913.9	871.0	741.2	600.2	479.4	350.8	256.8	206.1	183.8	176.4	175.6
15°	979.0	945.2	784.0	584.9	391.6	246.9	183.8	169.0	164.9	171.9	169.8
17.5°	1075.9	1014.9	779.5	521.9	298.4	187.6	169.4	167.4	172.3	176.4	177.7
20°	1118.3	1030.5	748.6	422.9	223.4	171.9	165.3	161.2	170.2	182.6	180.1
22.5°	1161.2	1057.3	712.3	346.3	179.7	164.5	160.8	157.5	164.5	176.4	179.3
25°	1180.6	1100.2	671.9	270.4	166.9	155.8	153.3	154.6	160.4	171.1	169.8
27.5°	1278.3	1105.1	594.8	213.5	161.6	149.6	149.6	152.5	152.5	166.9	165.7
30°	1339.3	1188.8	532.2	179.7	155.4	141.0	145.9	147.2	145.1	160.8	162.0
32.5°	1446.5	1211.9	471.2	164.9	145.5	139.7	138.9	139.7	141.4	156.6	157.1
35°	1611.3	1325.7	387.9	159.1	140.6	133.6	127.8	132.3	136.4	147.6	149.6
37.5°	1933.7	1442.3	316.2	154.6	138.1	127.8	125.7	124.9	132.3	145.1	149.2
40°	2194.6	1648.9	257.2	150.9	133.1	124.5	119.1	119.5	126.1	135.6	141.8
42.5°	2564.0	1798.1	218.1	145.1	126.1	117.5	111.3	115.0	117.9	127.8	131.9
45°	2872.3	1913.9	192.1	141.4	119.1	110.9	105.9	110.1	107.2	112.1	117.9
47.5°	3117.6	2014.9	172.7	132.3	114.6	107.2	101.0	99.8	94.8	96.0	101.4
50°	3252.4	1998.0	156.6	123.3	108.8	103.5	94.8	86.2	79.6	79.1	82.4
52.5°	3300.2	1907.7	143.5	115.4	101.8	95.2	85.3	73.4	66.8	64.7	67.6
55°	3313.4	1777.9	131.5	106.8	95.2	84.9	74.6	61.8	54.8	51.5	54.4
57.5°	3270.5	1578.0	120.0	98.5	87.4	75.0	63.9	50.7	44.1	40.0	42.5
60°	3164.6	1324.0	109.6	88.2	79.1	66.4	54.0	40.8	33.8	30.1	31.3
62.5°	2930.0	1038.0	98.5	78.7	70.5	58.1	45.3	32.2	25.6	22.3	22.7
65°	2573.0	773.7	85.7	69.7	62.7	50.3	36.3	24.7	19.4	16.5	16.1
67.5°	2049.9	524.3	73.0	60.2	55.6	42.5	28.9	19.4	15.3	13.2	12.4
70°	1204.9	264.2	60.6	51.9	47.8	35.5	22.7	15.7	14.0	12.4	11.5
72.5°	397.4	114.2	47.4	42.9	39.6	28.4	17.7	14.4	13.6	12.0	11.1
75°	138.5	66.0	35.0	33.0	31.3	21.4	14.8	13.2	13.2	11.5	10.3
77.5°	90.7	51.1	26.0	23.9	23.5	15.7	12.8	12.4	11.5	9.5	7.8
80°	75.4	28.9	18.1	16.9	16.5	9.9	10.3	9.1	7.0	4.1	1.6
82.5°	69.7	17.3	9.5	10.3	9.5	3.7	5.8	4.9	3.7	1.6	0.0
85°	40.8	7.8	5.4	5.4	4.1	0.8	2.9	2.9	1.6	0.4	0.0
87.5°	4.5	3.7	2.9	2.9	2.1	0.0	1.2	0.8	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)