

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: P368181

Luminaire Tested: **MSA-SA3D-830-U-T4W-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368181
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-15)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3D-830-U-T4W-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS
EACH AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11924 lumens
Efficiency: N/A
Efficacy: 62.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

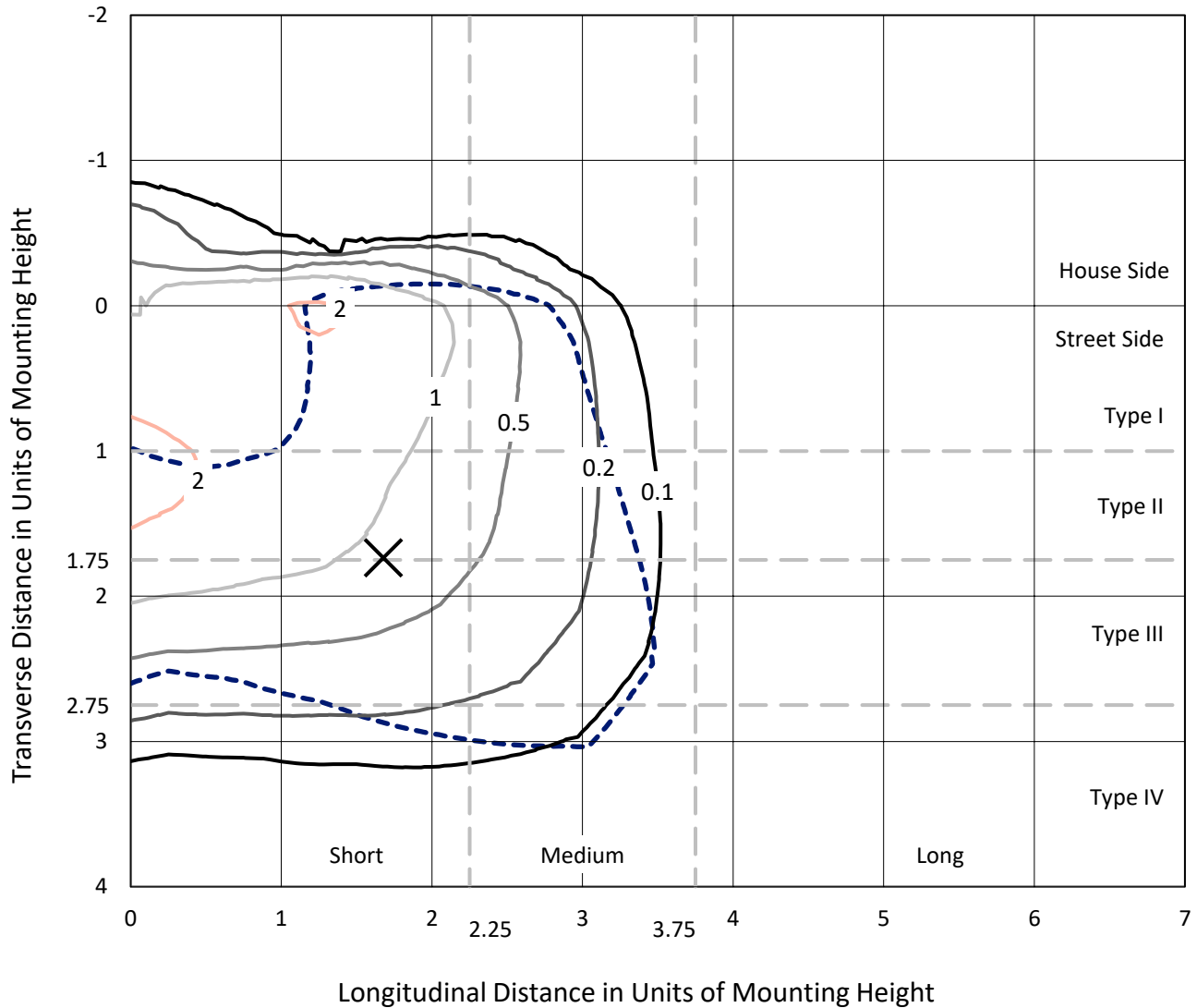
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

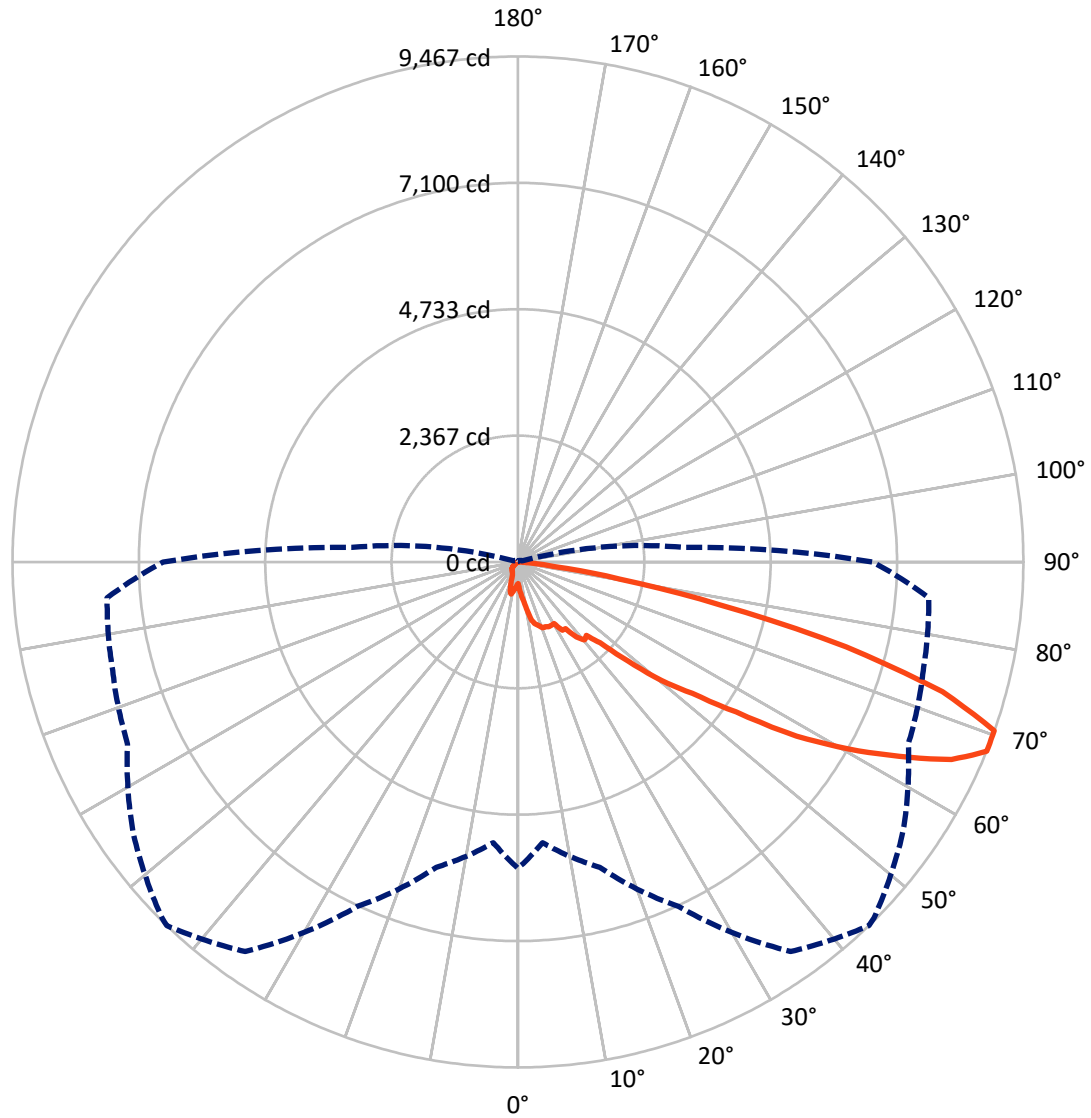
✕ Max cd
 - - - 1/2 Max cd



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 44-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1211.2	0.0	1211.2
	% Fixture	10.2	0.0	10.2
Street Side	Lumens	10712.8	0.0	10712.8
	% Fixture	89.8	0.0	89.8
Total	Lumens	11924.0	0.0	11924.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.5	0.5
10°-20°	249.3	2.1
20°-30°	441.6	3.7
30°-40°	717.8	6.0
40°-50°	1436.4	12.0
50°-60°	2946.8	24.7
60°-70°	4048.0	33.9
70°-80°	1902.6	16.0
80°-90°	121.9	1.0
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°	11924.0	100.0
0°-180°	11924.0	100.0

Coefficient of Utilization

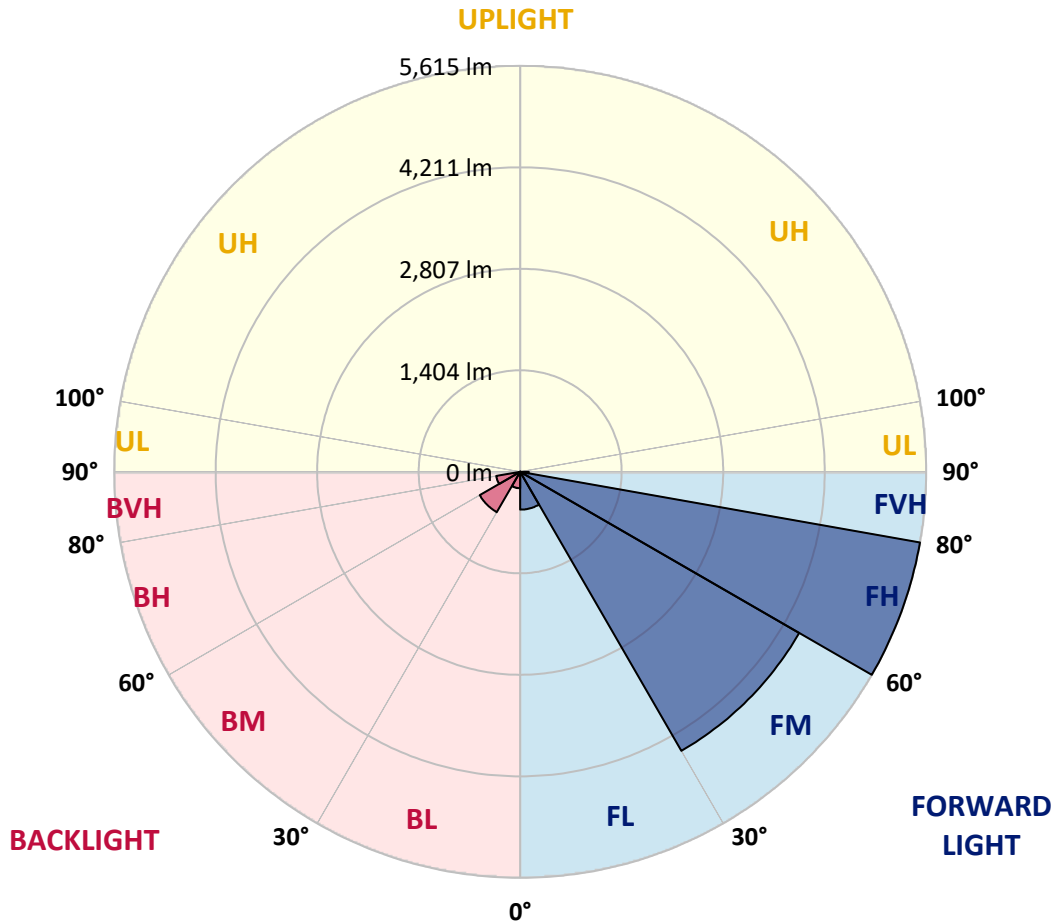


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	523.0	4.4			
FM (30°-60°)	4455.8	37.4			
FH (60°-80°)	5614.6	47.1			G3/7500
FVH (80°-90°)	119.4	1.0			G2/225
BL (0°-30°)	227.4	1.9	B1/500		
BM (30°-60°)	645.2	5.4	B1/1000		
BH (60°-80°)	336.1	2.8	B1/500		G1/500
BVH (80°-90°)	2.5	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	401.7	401.7	401.7	401.7	401.7	401.7	401.7	401.7	401.7	401.7	401.7
2.5°	510.9	494.5	470.8	476.0	478.7	485.9	486.6	477.4	451.1	443.8	476.0
5°	716.0	675.9	668.7	653.6	623.3	606.9	602.9	619.4	598.3	591.8	600.3
7.5°	914.6	880.4	842.9	822.6	759.4	720.6	718.7	725.2	729.2	706.2	718.0
10°	1046.8	1009.3	1001.4	953.4	898.8	889.6	885.7	860.7	840.3	823.2	766.0
12.5°	1166.4	1165.8	1180.2	1111.2	1102.7	1111.9	1108.6	1019.2	998.8	927.1	910.7
15°	1325.6	1365.0	1302.5	1244.7	1171.0	1202.6	1194.1	1136.8	1123.0	1074.4	1004.0
17.5°	1490.6	1501.1	1396.6	1307.8	1288.7	1247.3	1255.9	1235.5	1165.8	1204.6	1134.9
20°	1494.5	1517.5	1405.8	1259.1	1317.7	1315.7	1316.3	1296.6	1204.6	1295.3	1231.5
22.5°	1549.8	1493.2	1389.3	1296.0	1306.5	1316.3	1326.9	1302.5	1282.8	1305.2	1317.0
25°	1527.4	1505.1	1405.1	1343.3	1333.4	1341.3	1344.0	1374.9	1362.4	1416.3	1386.7
27.5°	1585.3	1553.1	1374.2	1385.4	1350.5	1341.3	1325.6	1428.8	1465.6	1422.9	1501.8
30°	1684.6	1680.0	1427.5	1443.9	1416.9	1336.1	1378.2	1512.9	1559.0	1532.7	1628.7
32.5°	1839.7	1855.5	1583.3	1476.8	1490.6	1526.8	1511.0	1512.9	1629.3	1687.8	1764.1
35°	2060.0	2051.5	1735.2	1601.7	1529.4	1535.3	1557.7	1664.8	1815.4	1811.5	1892.3
37.5°	2492.6	2399.3	2004.1	1729.3	1751.0	1780.6	1764.1	1908.1	1922.6	1927.8	2121.2
40°	3130.4	3006.2	2428.2	1998.2	1789.1	1920.0	1912.1	1947.6	2044.2	2080.4	2362.5
42.5°	3970.7	3803.7	3174.5	2492.6	1973.2	1883.1	1931.8	1998.9	2323.7	2426.9	2735.9
45°	4899.2	4561.2	3918.8	3197.5	2434.8	2155.3	2192.2	2317.1	2767.5	2938.4	3279.7
47.5°	5500.8	5203.6	4655.9	3822.1	2916.1	2769.5	2772.8	2799.7	3288.9	3605.8	4063.5
50°	6023.5	5707.2	5199.0	4475.1	3767.6	3490.1	3427.0	3302.7	3953.0	4386.3	4893.9
52.5°	6761.2	6391.7	5742.1	5241.1	4738.7	4085.2	4062.8	4104.9	4736.1	5191.8	5745.4
55°	7426.7	6977.6	6357.5	6041.9	5846.0	4959.7	4978.7	5049.1	5741.4	5982.7	6502.8
57.5°	7720.6	7234.0	6915.1	6773.1	6668.5	6154.4	6089.9	6047.8	6534.4	6626.5	7296.5
60°	7913.2	7450.3	7305.7	7338.5	7655.5	7109.7	7051.2	6806.6	7190.6	7266.2	8007.9
62.5°	7791.6	7369.5	7400.4	7674.5	8378.1	8019.1	7850.1	7441.1	7727.1	7788.3	8518.8
65°	7025.6	6585.7	6982.8	7646.3	8929.1	8920.5	8842.3	8027.0	8024.3	8102.6	8558.2
67.5°	5738.8	5277.2	5919.6	7116.3	8906.1	9466.9	9430.1	8804.2	8067.1	7858.0	7723.2
70°	3989.8	3589.4	4317.9	5876.9	8112.4	9463.0	9403.8	9326.2	7729.1	6763.9	5988.0
72.5°	2073.2	1852.9	2531.4	4049.6	6466.7	8314.3	8509.6	8382.0	6599.5	4914.3	3526.3
75°	704.2	631.9	1044.1	2149.4	4298.8	6349.0	6577.8	6448.3	4482.3	2636.6	1394.6
77.5°	272.9	253.8	374.1	872.5	2156.7	3868.8	4117.4	3985.2	2403.9	965.9	328.1
80°	155.2	149.9	206.5	393.2	950.8	1924.6	2099.5	1904.2	866.6	325.5	85.5
82.5°	65.8	67.7	115.1	212.4	478.0	679.2	757.5	691.1	362.9	222.9	31.6
85°	14.5	17.8	54.6	118.4	200.5	194.0	203.2	225.5	222.9	163.7	13.8
87.5°	0.0	0.0	17.1	32.2	48.0	31.6	25.0	44.1	68.4	65.8	5.9
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°	401.7	401.7	401.7	401.7	401.7	401.7	401.7	401.7	401.7	401.7	401.7
2.5°	482.0	475.4	434.0	431.3	434.0	426.7	426.1	410.9	412.3	446.5	449.1
5°	600.3	567.4	531.9	520.8	510.2	486.6	499.7	499.7	499.7	521.4	528.0
7.5°	707.5	663.4	613.5	571.4	530.6	501.0	521.4	535.9	544.4	572.7	585.8
10°	756.1	712.7	668.0	608.2	576.6	565.5	541.8	529.3	544.4	538.5	545.7
12.5°	860.0	820.6	743.7	681.8	658.2	620.0	550.3	501.7	469.5	464.2	462.9
15°	961.3	937.0	833.7	750.9	668.7	580.6	461.6	397.1	362.9	357.0	357.7
17.5°	1089.5	1054.7	902.8	783.8	644.4	485.9	356.4	301.1	298.5	313.0	314.3
20°	1175.0	1117.8	937.6	756.8	564.1	367.6	278.8	265.6	286.7	313.0	310.3
22.5°	1256.5	1194.7	983.6	733.1	437.2	278.8	256.4	257.7	275.5	303.8	311.0
25°	1310.4	1288.1	1040.2	677.9	333.4	241.3	245.3	255.1	270.2	297.2	297.2
27.5°	1472.8	1368.3	1033.6	570.7	256.4	224.9	234.1	246.6	254.5	286.7	290.0
30°	1571.5	1537.3	1067.8	461.6	224.9	203.8	221.6	232.8	238.0	274.8	276.2
32.5°	1692.4	1616.8	1109.2	340.6	209.1	202.5	198.6	207.1	222.2	254.5	256.4
35°	1839.7	1817.4	1050.1	267.6	203.8	189.4	181.5	186.1	195.9	217.6	222.2
37.5°	2140.2	2007.4	1014.5	229.5	203.8	184.8	176.2	164.4	165.7	180.8	189.4
40°	2393.4	2352.6	915.3	222.9	194.6	178.2	157.1	142.7	132.8	137.4	140.7
42.5°	2858.2	2669.5	787.0	219.6	186.1	161.1	133.5	118.4	103.2	104.5	109.8
45°	3422.4	3015.4	672.6	216.3	180.2	144.0	112.4	94.7	78.9	79.6	84.8
47.5°	4175.9	3519.7	533.9	206.5	169.6	128.2	90.7	72.3	63.1	65.1	69.7
50°	5032.0	3962.2	422.1	191.3	157.1	113.1	73.6	58.5	55.2	57.2	62.5
52.5°	5796.7	4288.3	348.5	177.5	139.4	92.1	61.8	51.9	50.6	51.9	55.9
55°	6476.5	4477.7	291.3	161.7	119.7	74.3	55.9	48.0	47.3	46.7	49.3
57.5°	7114.3	4532.3	227.5	136.8	97.3	64.4	51.9	44.7	43.4	41.4	43.4
60°	7579.2	4438.9	167.0	109.8	79.6	58.5	48.7	40.1	38.1	34.8	36.2
62.5°	7803.4	4183.1	126.2	88.1	67.7	53.3	43.4	34.8	32.2	28.3	28.9
65°	7590.4	3761.7	99.3	74.3	57.9	44.7	36.8	29.6	26.3	22.4	22.4
67.5°	6646.8	3120.6	84.2	64.4	48.7	38.1	30.2	27.0	21.7	18.4	17.8
70°	4878.8	2244.8	72.3	56.5	42.1	32.9	25.6	24.3	21.0	17.8	16.4
72.5°	2753.7	1270.3	61.8	50.0	35.5	27.6	21.7	22.4	20.4	16.4	15.1
75°	1050.7	428.0	51.3	41.4	28.9	21.0	18.4	18.4	18.4	13.8	11.8
77.5°	260.4	109.1	40.8	33.5	23.0	13.8	15.1	15.8	15.8	11.8	8.5
80°	71.7	36.8	24.3	24.3	16.4	7.9	10.5	10.5	8.5	3.9	0.0
82.5°	26.3	13.8	8.5	10.5	7.2	2.6	3.9	2.6	2.0	0.0	0.0
85°	11.2	7.2	5.3	5.9	3.3	0.0	0.7	1.3	0.0	0.0	0.0
87.5°	4.6	3.3	2.6	2.6	1.3	0.0	0.0	0.0	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)