

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: P596821

Luminaire Tested: **MSA-SA4D-827-U-T3-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596821
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-827-U-T3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS
EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14282 lumens
Efficiency: N/A
Efficacy: 55.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G3

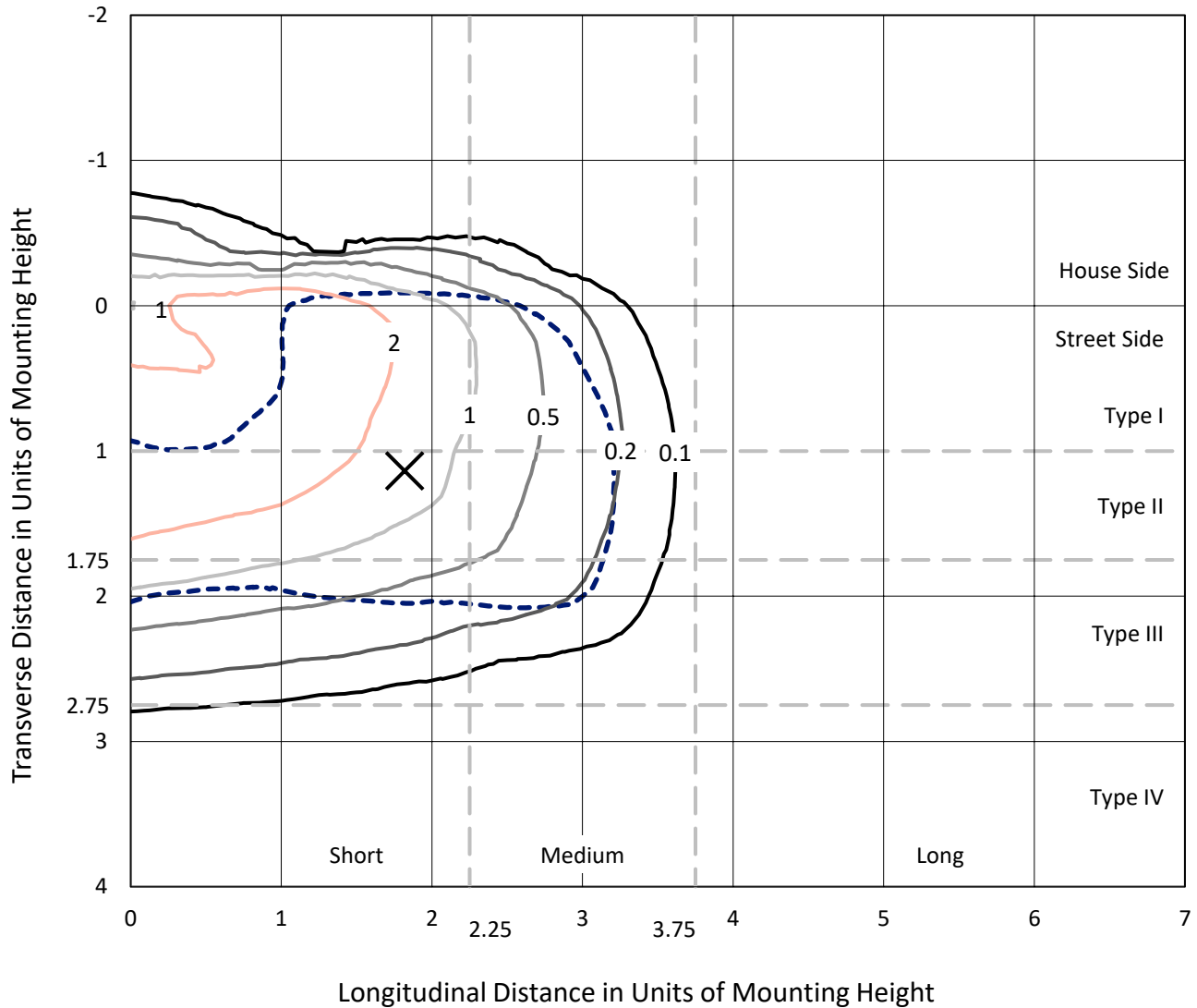
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

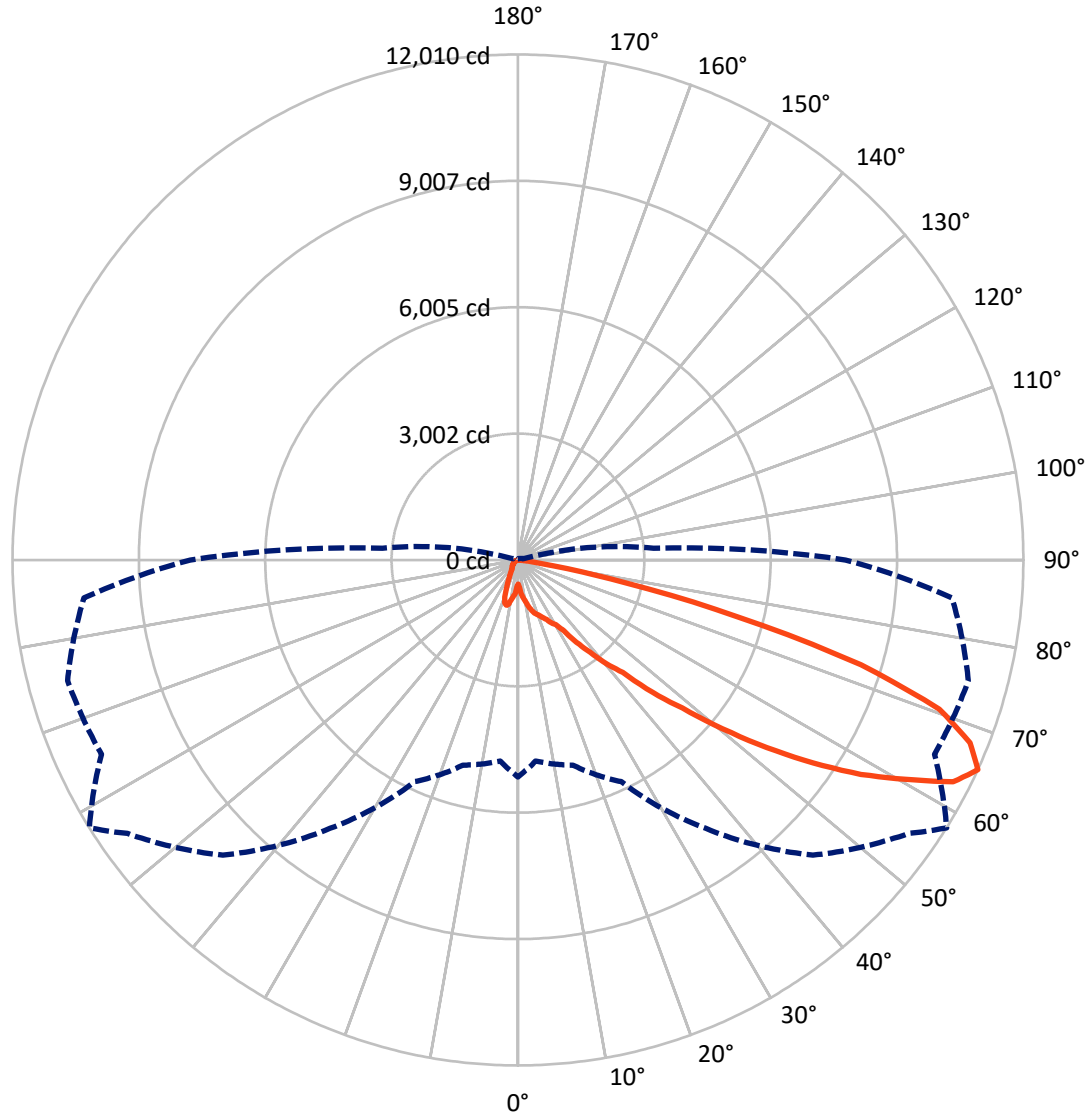
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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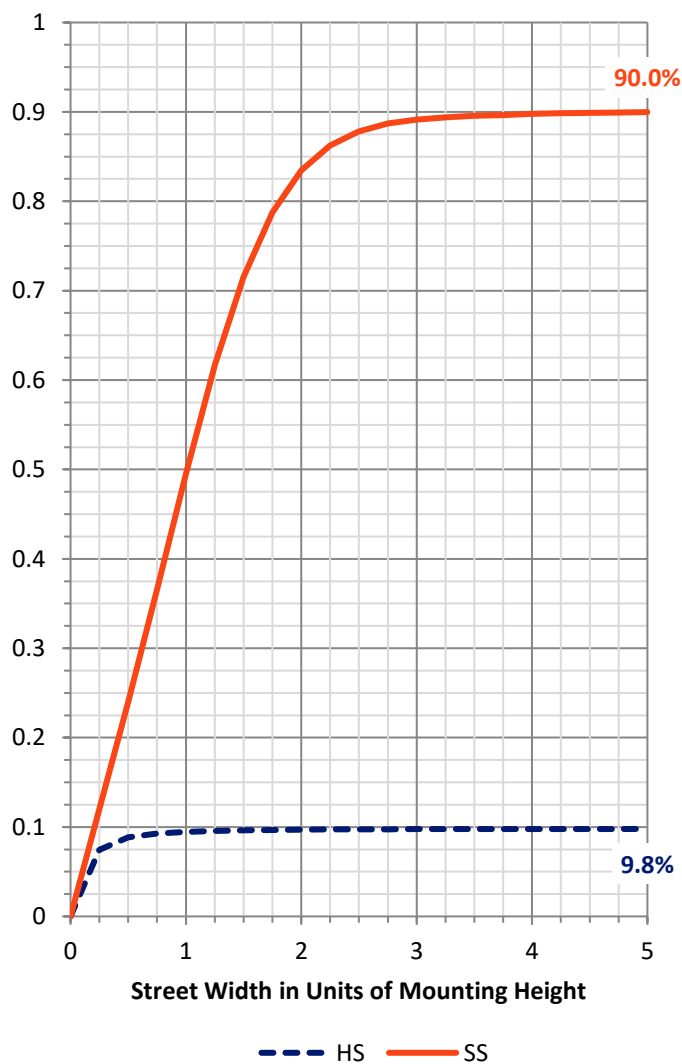
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1409.3	0.0	1409.3
	% Fixture	9.9	0.0	9.9
Street Side	Lumens	12872.7	0.0	12872.7
	% Fixture	90.1	0.0	90.1
Total	Lumens	14282.0	0.0	14282.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.3	0.6
10°-20°	293.2	2.1
20°-30°	567.5	4.0
30°-40°	1132.2	7.9
40°-50°	2314.6	16.2
50°-60°	4105.4	28.7
60°-70°	4328.2	30.3
70°-80°	1403.2	9.8
80°-90°	57.4	0.4
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°	14282.0	100.0
0°-180°	14282.0	100.0

Coefficient of Utilization



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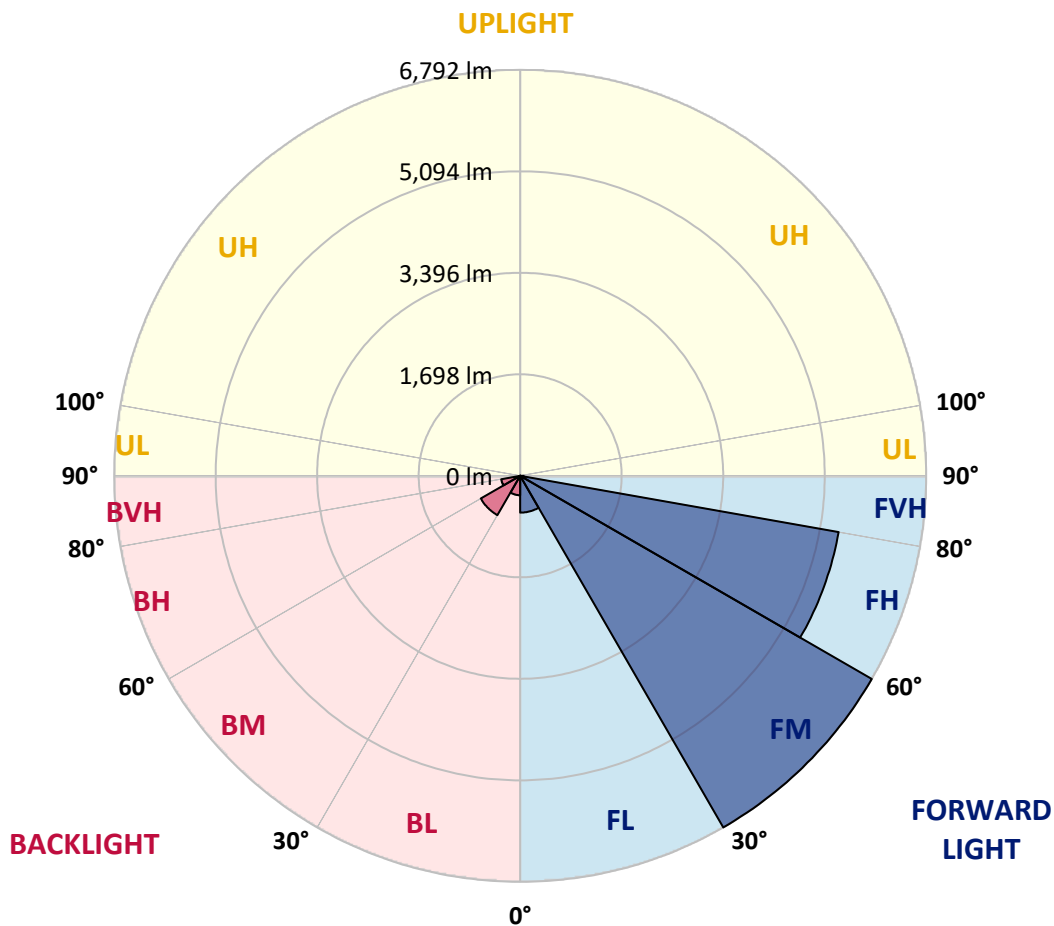
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	616.1	4.3			
FM (30°-60°)	6791.8	47.6			
FH (60°-80°)	5409.8	37.9			G3/7500
FVH (80°-90°)	54.9	0.4			G1/100
BL (0°-30°)	324.8	2.3	B1/500		
BM (30°-60°)	760.4	5.3	B1/1000		
BH (60°-80°)	321.6	2.3	B1/500		G1/500
BVH (80°-90°)	2.4	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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	571.7	571.7	571.7	571.7	571.7	571.7	571.7	571.7	571.7	571.7	571.7
2.5°	698.0	677.1	644.1	649.7	656.2	669.0	658.6	648.9	638.5	624.8	677.1
5°	842.7	808.1	804.9	797.7	792.1	791.3	804.1	800.1	805.7	831.5	858.0
7.5°	895.8	881.3	854.0	865.2	847.5	833.9	891.0	909.5	944.8	956.9	1026.1
10°	890.2	869.3	880.5	886.1	898.2	948.1	984.2	1004.3	1034.9	1100.8	1087.2
12.5°	915.9	934.4	946.5	947.3	1009.2	1100.8	1126.6	1143.5	1198.1	1223.9	1291.4
15°	1001.9	1032.5	1013.2	1021.2	1041.3	1153.1	1213.4	1250.4	1327.6	1411.2	1428.1
17.5°	1125.0	1144.3	1104.1	1075.1	1130.6	1191.7	1301.1	1339.7	1388.7	1584.1	1620.3
20°	1280.2	1313.1	1226.3	1111.3	1184.5	1256.8	1375.9	1394.3	1446.6	1701.5	1758.6
22.5°	1642.8	1593.8	1461.1	1281.8	1260.1	1292.2	1405.6	1478.0	1566.4	1767.5	1900.1
25°	2000.7	1983.8	1788.4	1588.1	1443.4	1371.0	1521.4	1561.6	1706.3	1924.3	1997.4
27.5°	2398.7	2432.5	2106.0	1984.6	1700.7	1464.3	1593.8	1694.3	1865.6	1981.4	2157.5
30°	2923.8	2869.9	2487.1	2365.7	2041.7	1720.8	1781.1	1787.6	2039.3	2169.5	2336.8
32.5°	3335.5	3370.1	2889.2	2702.7	2443.7	2115.6	1921.9	2005.5	2185.6	2475.9	2634.3
35°	3781.0	3777.8	3309.0	3058.1	2719.5	2438.1	2339.2	2400.3	2626.3	2955.1	2997.0
37.5°	4446.8	4389.7	3836.5	3469.0	3181.1	2940.7	2865.1	2783.9	3017.1	3330.7	3487.5
40°	5074.8	4877.8	4366.4	3930.5	3562.3	3464.2	3190.8	3240.6	3309.8	3723.9	4157.3
42.5°	5709.3	5587.0	4903.5	4538.5	4085.7	3852.5	3674.0	3650.7	3979.6	4470.1	4918.0
45°	6546.4	6172.4	5625.6	5304.8	4780.5	4546.5	4402.6	4488.6	4784.5	5501.0	5799.3
47.5°	7249.2	6905.0	6435.4	5948.1	5398.1	5661.0	5390.8	5254.9	5661.0	6401.6	6798.0
50°	7853.1	7469.5	6994.3	6633.2	6543.9	6796.4	6249.6	6299.5	6563.2	7433.3	7656.8
52.5°	8292.1	7888.4	7473.5	7299.0	7664.9	7791.9	7517.7	7407.6	7647.2	8313.0	8421.6
55°	8622.6	8209.3	7885.2	8125.7	8833.3	8791.5	8888.0	8511.6	8740.8	9230.5	9179.1
57.5°	8642.7	8153.0	7963.2	8350.0	9321.4	9968.7	10250.9	9610.9	9741.1	9947.8	9832.0
60°	8010.7	7523.4	7508.1	8057.3	9462.9	10273.5	10891.0	10579.0	10404.5	10558.1	10338.6
62.5°	6751.4	6410.5	6569.7	7176.8	8936.2	10105.4	11232.0	11607.5	10928.0	10962.6	10650.6
65°	5155.2	4797.4	5046.7	5811.4	7784.7	9917.2	11328.5	12009.6	10918.4	11077.6	10351.5
67.5°	3414.3	3206.8	3489.1	4331.8	6189.3	8754.5	11278.6	11587.4	10571.8	10628.1	9241.0
70°	1762.6	1712.0	1940.3	2605.4	4161.3	6725.7	10788.9	10620.0	9868.2	9155.7	7127.7
72.5°	564.5	566.9	786.4	1190.1	2243.5	4094.6	8292.9	8524.5	7896.5	6697.5	4351.9
75°	250.1	246.1	328.9	499.4	935.2	1835.8	5152.0	5402.1	4916.4	3684.5	1829.4
77.5°	180.1	174.5	210.7	291.9	463.2	622.4	2415.6	2607.0	2229.0	1276.9	418.9
80°	127.1	126.2	152.8	205.1	289.5	276.6	763.1	855.6	685.1	309.6	123.0
82.5°	71.6	74.0	106.1	144.7	176.1	138.3	214.7	236.4	230.8	164.8	53.9
85°	34.6	38.6	69.2	104.5	92.5	53.9	76.4	82.8	96.5	95.7	27.3
87.5°	0.0	0.0	28.1	47.4	24.9	8.0	23.3	26.5	25.7	30.6	6.4
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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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	571.7	571.7	571.7	571.7	571.7	571.7	571.7	571.7	571.7	571.7	571.7
2.5°	687.5	682.7	621.6	626.4	640.1	634.5	639.3	628.0	615.2	667.4	666.6
5°	869.3	833.1	813.8	796.1	799.3	763.1	784.0	793.7	792.1	821.8	829.9
7.5°	1028.5	980.2	941.6	904.6	848.3	797.7	829.0	849.2	862.8	914.3	934.4
10°	1103.3	1063.9	1048.6	976.2	936.0	904.6	866.8	839.5	850.8	837.1	850.8
12.5°	1267.3	1240.8	1182.1	1108.9	1060.6	996.3	855.6	738.2	665.8	666.6	661.8
15°	1416.9	1415.3	1327.6	1206.2	1066.3	882.9	663.4	515.4	447.1	427.8	421.4
17.5°	1612.3	1588.1	1428.1	1248.8	997.1	683.5	451.9	353.0	346.6	357.8	353.0
20°	1736.9	1701.5	1478.0	1186.9	821.8	462.4	340.9	312.8	332.1	348.2	344.2
22.5°	1861.5	1808.5	1515.8	1111.3	584.6	338.5	308.0	303.2	315.2	335.3	338.5
25°	1929.9	1919.4	1589.7	969.8	400.5	296.7	296.7	295.1	299.1	313.6	311.2
27.5°	2128.5	1987.0	1534.3	756.7	309.6	272.6	276.6	275.0	260.5	275.0	275.8
30°	2252.3	2187.2	1538.3	538.8	272.6	241.2	251.7	238.8	217.1	229.2	226.8
32.5°	2501.6	2339.2	1526.2	363.5	248.5	230.0	213.9	195.4	179.3	184.1	180.1
35°	2791.9	2668.1	1363.0	291.9	231.6	203.4	177.7	159.2	142.3	146.4	145.5
37.5°	3369.3	2976.1	1227.9	262.9	220.3	186.6	156.8	131.1	122.2	124.6	127.1
40°	3904.0	3489.9	976.2	250.1	201.0	166.5	129.5	111.0	105.3	106.9	109.4
42.5°	4703.3	3898.4	737.4	237.2	181.7	140.7	107.8	95.7	90.1	93.3	94.9
45°	5476.9	4245.8	550.8	226.0	165.6	121.4	90.9	82.8	76.4	78.8	82.0
47.5°	6249.6	4631.7	410.9	208.3	148.0	104.5	78.0	72.4	68.4	69.2	73.2
50°	6941.2	4811.9	323.3	186.6	133.5	90.9	70.8	65.1	63.5	64.3	67.5
52.5°	7449.4	4813.5	272.6	167.3	119.8	80.4	66.7	60.3	59.5	61.1	64.3
55°	7908.5	4684.8	236.4	150.4	107.8	73.2	63.5	57.9	57.9	59.5	62.7
57.5°	8213.3	4448.4	205.1	132.7	97.3	69.2	61.1	55.5	54.7	53.9	56.3
60°	8362.1	4125.9	173.7	116.6	87.6	66.7	59.5	49.1	48.2	46.6	48.2
62.5°	8268.0	3722.3	145.5	100.5	78.0	63.5	52.3	42.6	41.0	37.8	40.2
65°	7787.1	3231.8	123.0	86.0	67.5	53.9	44.2	36.2	32.2	28.1	27.3
67.5°	6803.7	2625.5	102.9	74.0	57.9	44.2	36.2	32.2	24.9	21.7	20.9
70°	5098.9	1792.4	85.2	63.5	48.2	37.8	30.6	28.9	23.3	20.9	19.3
72.5°	2991.3	967.4	71.6	55.5	41.0	31.4	24.9	26.5	23.3	19.3	17.7
75°	1194.9	321.6	57.1	44.2	33.0	22.5	20.9	21.7	20.9	17.7	14.5
77.5°	272.6	101.3	44.2	34.6	25.7	14.5	16.9	18.5	18.5	14.5	10.5
80°	85.2	40.2	25.7	21.7	18.5	8.0	12.1	12.9	8.8	4.0	0.0
82.5°	27.3	11.3	8.8	8.8	8.0	1.6	2.4	1.6	0.0	0.0	0.0
85°	10.5	7.2	5.6	5.6	3.2	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	4.0	3.2	2.4	3.2	1.6	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)