

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: P368065

Luminaire Tested: **MSA-SA3D-727-U-T2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368065  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3D-727-U-T2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12555 lumens  
Efficiency: N/A  
Efficacy: 65.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G2

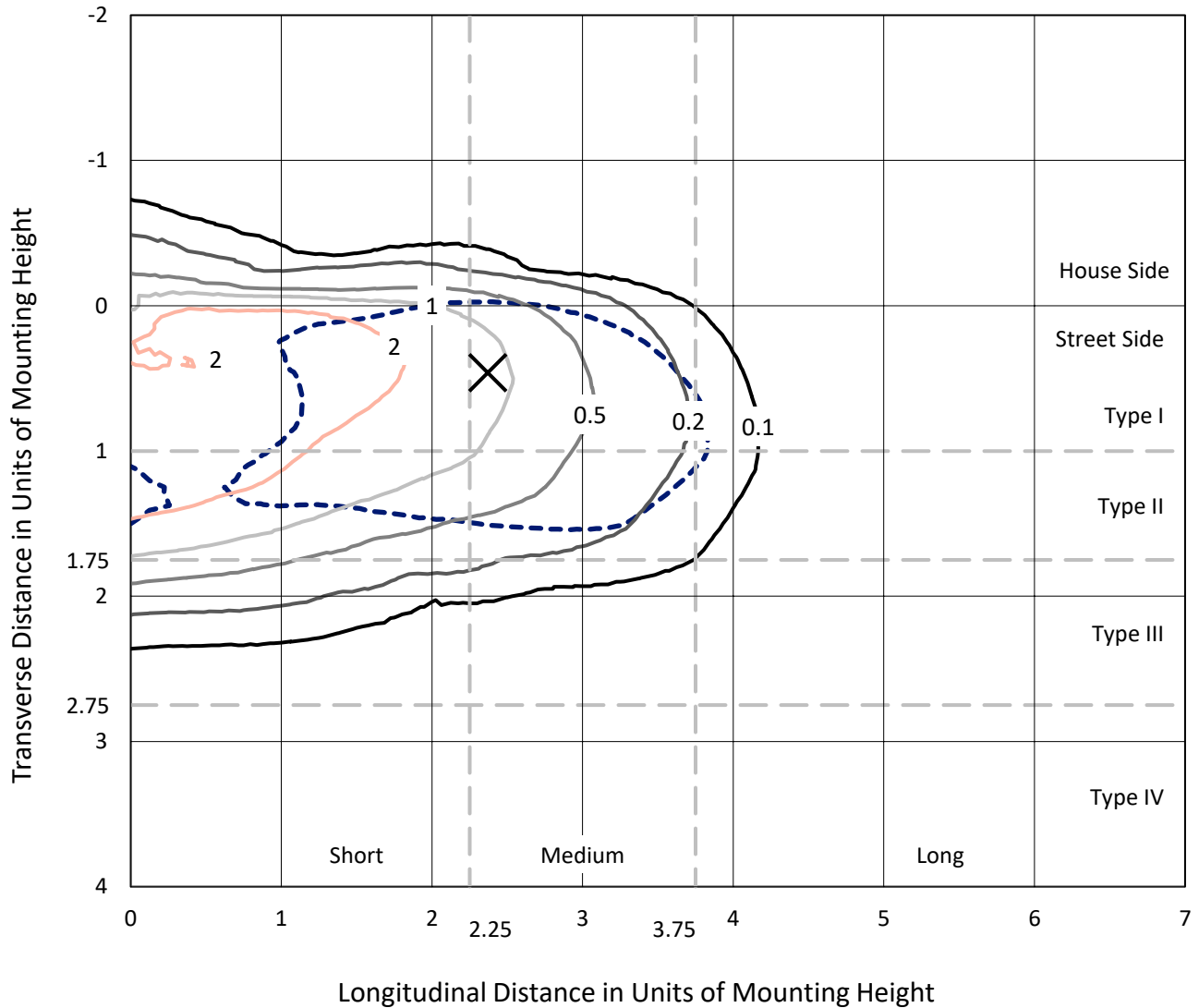
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

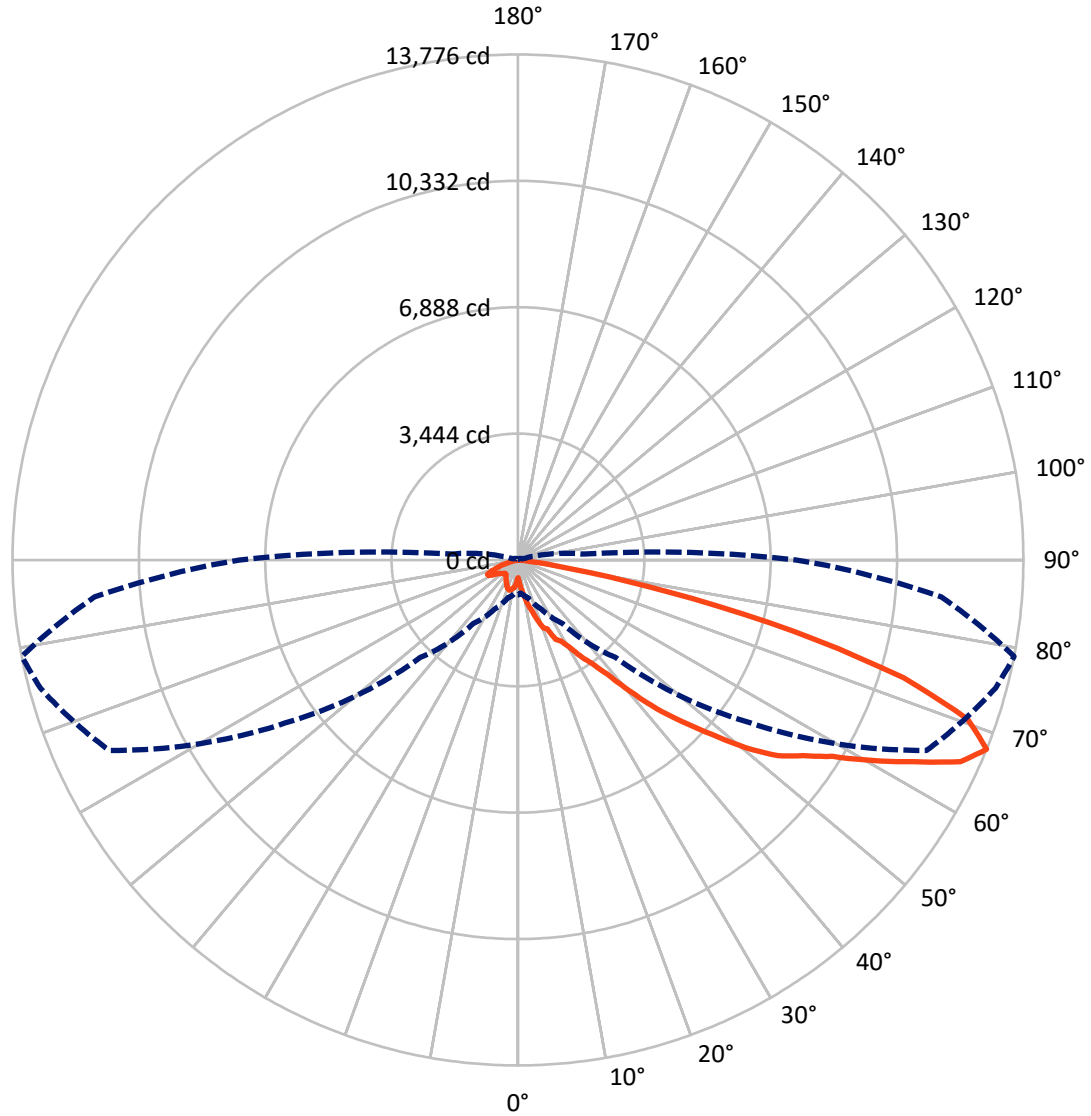
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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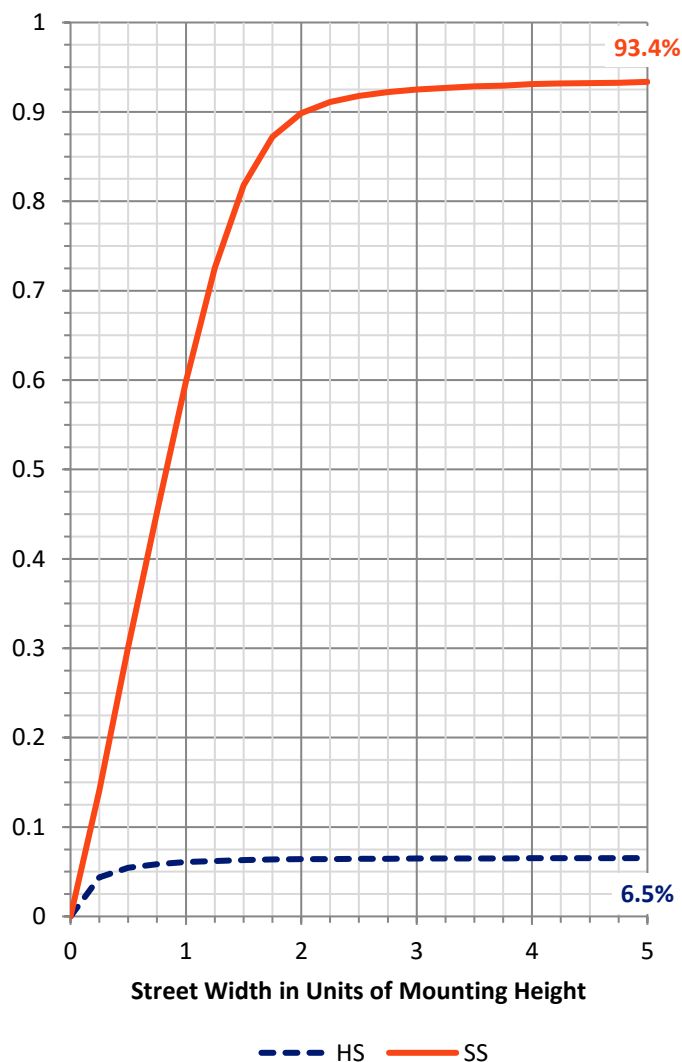
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	825.0	0.0	825.0
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	11730.0	0.0	11730.0
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	12555.0	0.0	12555.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.4	0.6
10°-20°	280.5	2.2
20°-30°	541.2	4.3
30°-40°	1063.1	8.5
40°-50°	2129.7	17.0
50°-60°	3404.1	27.1
60°-70°	3425.1	27.3
70°-80°	1545.2	12.3
80°-90°	95.6	0.8
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°	12555.0	100.0
0°-180°	12555.0	100.0

**Coefficient of Utilization**



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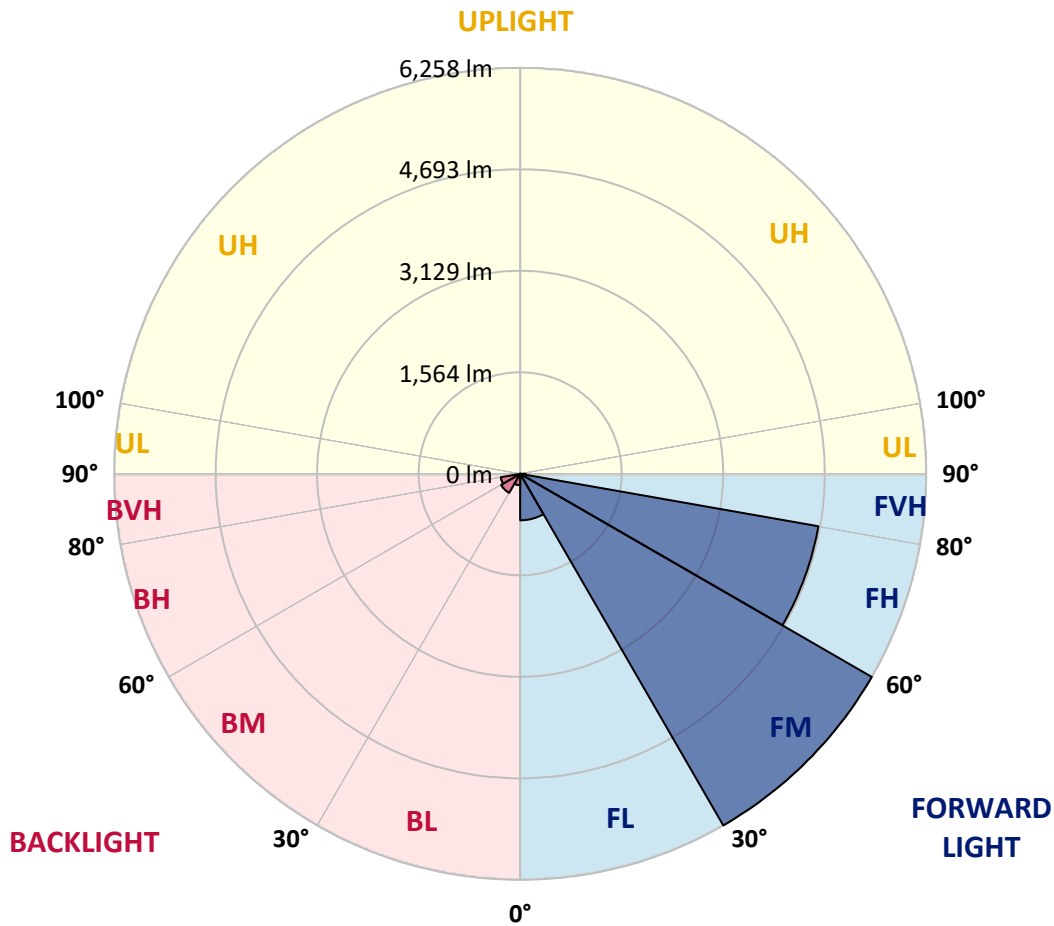
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	716.8	5.7			
FM (30°-60°)	6257.6	49.8			
FH (60°-80°)	4666.2	37.2			G2/5000
FVH (80°-90°)	89.5	0.7			G1/100
BL (0°-30°)	175.4	1.4	B1/500		
BM (30°-60°)	339.4	2.7	B1/1000		
BH (60°-80°)	304.1	2.4	B1/500		G1/500
BVH (80°-90°)	6.1	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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	483.8	483.8	483.8	483.8	483.8	483.8	483.8	483.8	483.8	483.8	483.8
2.5°	653.3	629.8	591.7	613.2	611.8	622.9	602.1	579.3	542.6	579.3	582.1
5°	940.6	897.0	869.3	863.7	833.3	804.9	798.7	775.2	757.2	724.6	753.7
7.5°	1171.7	1151.7	1102.5	1097.0	1022.2	980.7	993.9	983.5	915.0	881.0	909.4
10°	1270.0	1235.4	1242.3	1235.4	1203.6	1215.3	1188.3	1157.2	1102.5	1046.5	975.9
12.5°	1308.1	1302.5	1360.0	1353.1	1427.8	1517.8	1457.6	1405.7	1279.0	1265.2	1169.0
15°	1389.7	1424.3	1416.0	1445.1	1492.9	1645.8	1644.4	1656.9	1522.6	1450.6	1311.5
17.5°	1462.4	1488.0	1446.5	1479.7	1609.8	1702.6	1826.4	1778.0	1793.2	1719.9	1504.6
20°	1431.3	1460.3	1418.8	1398.7	1627.8	1803.6	1969.0	1933.7	2025.1	1979.4	1682.5
22.5°	1625.7	1571.1	1466.6	1401.5	1572.4	1801.5	2019.5	2167.0	2151.0	2038.9	1847.9
25°	1865.9	1832.7	1707.4	1592.5	1607.7	1789.1	2178.7	2395.4	2442.4	2394.7	2005.0
27.5°	2189.8	2182.2	1926.1	1876.3	1728.2	1734.4	2203.6	2683.3	2576.0	2501.2	2188.4
30°	2612.7	2552.5	2248.6	2183.6	1964.9	1857.6	2355.9	2931.7	2852.8	2751.1	2360.7
32.5°	3067.4	3076.4	2688.8	2474.3	2298.5	2171.1	2295.7	3048.0	3195.4	3113.1	2576.0
35°	3583.7	3623.8	3149.7	2897.8	2555.9	2368.4	2554.5	3405.1	3669.5	3452.9	2864.6
37.5°	4378.9	4377.5	3823.8	3322.1	3073.6	2870.1	2985.7	3729.7	4252.3	3947.7	3382.3
40°	5078.6	4926.4	4411.4	3834.9	3447.3	3392.0	3308.2	4174.0	4874.4	4691.0	3842.5
42.5°	5601.2	5493.9	4871.7	4423.2	3942.9	3767.1	3737.3	4825.3	5792.9	5536.1	4499.3
45°	6226.1	5874.5	5416.4	5012.2	4522.9	4471.6	4401.7	5486.3	6861.5	6282.9	5070.3
47.5°	6786.0	6455.2	6021.9	5502.9	4940.9	5363.1	5094.5	6066.9	7638.7	7095.4	5700.1
50°	7257.3	6905.8	6420.6	6025.4	5784.6	6071.1	5623.3	6545.2	8478.2	8038.0	6289.1
52.5°	7497.5	7099.5	6724.4	6480.1	6627.5	6563.2	6340.3	7124.5	9193.8	8864.4	6810.9
55°	7300.3	6911.3	6754.2	6875.3	7323.1	7136.9	7154.9	8022.1	9869.3	9415.3	7265.0
57.5°	6425.4	6070.4	6140.3	6471.8	7330.0	7817.3	8083.7	8894.2	10411.2	10101.9	7965.4
60°	4860.6	4574.8	4833.6	5421.9	6640.7	7681.6	8742.6	9766.2	11185.7	11088.8	9025.7
62.5°	2968.4	2813.4	3180.2	3913.8	5291.8	7016.5	9126.7	10928.9	12014.1	12117.3	10150.3
65°	1514.3	1444.4	1750.3	2395.4	3575.4	5763.8	8849.2	11651.5	12870.3	13250.9	11222.4
67.5°	953.7	908.7	1072.1	1461.0	2109.5	3759.5	7748.0	12283.4	13475.2	13776.2	11580.2
70°	661.0	632.6	773.8	1002.9	1330.9	2025.1	5752.7	11693.7	12995.5	13009.4	10714.4
72.5°	419.4	397.3	535.0	742.6	982.1	1045.8	3297.8	9175.8	11124.1	10996.1	8676.8
75°	272.0	260.9	339.8	544.0	754.4	645.0	1629.9	6191.5	7976.4	7775.7	5763.1
77.5°	195.2	188.3	227.7	363.4	537.1	451.2	730.9	3690.3	4573.4	4134.6	2797.5
80°	117.7	117.0	164.7	227.7	382.0	318.4	337.7	1675.6	1773.2	1445.8	854.7
82.5°	58.8	60.9	92.0	146.7	245.7	208.3	154.3	557.8	476.2	350.9	173.0
85°	13.8	17.3	48.4	101.0	123.2	83.1	73.4	146.0	130.8	99.0	50.5
87.5°	0.0	0.0	15.2	24.2	33.2	13.8	24.9	27.7	35.3	27.7	10.4
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°	483.8	483.8	483.8	483.8	483.8	483.8	483.8	483.8	483.8	483.8	483.8
2.5°	582.7	574.4	523.9	510.8	509.4	494.9	498.3	484.5	485.2	516.3	516.3
5°	742.6	694.2	645.7	602.8	573.7	532.2	517.0	510.8	505.2	517.7	525.3
7.5°	872.0	800.8	713.6	620.1	533.6	474.1	465.8	450.6	445.0	457.5	467.2
10°	929.5	840.9	721.2	584.8	503.8	455.4	415.3	393.8	389.7	389.0	392.4
12.5°	1051.3	941.3	729.5	571.7	483.8	430.5	384.8	348.8	315.6	319.1	315.6
15°	1148.9	1018.8	729.5	539.8	435.3	382.0	301.8	283.8	278.9	286.5	280.3
17.5°	1296.3	1095.6	692.8	483.1	393.8	296.9	266.5	265.1	274.8	285.8	278.9
20°	1384.9	1106.0	631.2	418.0	323.2	257.5	246.4	235.3	249.2	258.2	254.7
22.5°	1476.9	1106.7	569.6	383.4	260.2	234.6	216.6	207.6	209.7	218.0	219.4
25°	1516.4	1079.7	512.2	337.7	236.0	209.7	191.0	181.3	177.9	182.0	180.6
27.5°	1623.7	1027.8	449.9	287.9	224.2	186.2	168.9	157.1	146.7	153.6	155.0
30°	1638.9	1011.2	416.0	256.1	209.0	164.7	149.5	137.0	129.4	139.1	139.1
32.5°	1687.3	919.8	398.6	242.9	193.1	152.3	131.5	122.5	121.1	127.3	128.0
35°	1762.1	879.7	373.0	232.5	178.6	137.7	118.3	114.2	112.8	117.7	117.7
37.5°	2015.4	829.8	344.7	223.5	166.1	130.1	114.9	108.0	108.7	112.8	115.6
40°	2183.6	836.1	302.4	212.5	151.6	123.2	108.0	103.1	102.4	104.5	106.6
42.5°	2495.7	840.9	283.8	200.7	140.5	114.9	101.0	97.6	94.8	96.9	99.0
45°	2844.5	866.5	274.1	191.0	134.3	110.0	94.8	92.7	86.5	87.9	90.7
47.5°	3180.9	959.9	262.3	177.2	128.7	107.3	88.6	83.7	79.6	78.9	81.7
50°	3562.9	1050.6	249.2	162.0	123.2	103.1	82.4	74.7	72.0	72.0	74.1
52.5°	3904.8	1137.1	236.7	151.6	119.0	95.5	76.8	69.2	67.1	67.1	69.9
55°	4264.7	1227.8	225.6	141.9	113.5	87.9	72.0	65.1	64.4	63.0	65.1
57.5°	4900.1	1425.7	211.8	133.6	105.9	81.7	67.8	60.9	59.5	57.4	59.5
60°	5825.4	1729.6	193.8	125.3	96.9	77.5	64.4	56.1	54.0	50.5	51.2
62.5°	6730.0	1975.2	173.0	114.9	88.6	73.4	58.8	50.5	47.1	42.9	43.6
65°	7505.1	2072.1	150.9	102.4	80.3	63.7	51.2	44.3	39.4	33.9	33.2
67.5°	7596.5	1829.9	129.4	90.7	72.0	54.0	43.6	39.4	31.8	27.0	25.6
70°	6836.5	1363.4	108.0	80.3	62.3	45.7	37.4	34.6	29.8	25.6	23.5
72.5°	5444.0	1006.3	90.7	71.3	54.7	38.8	31.8	32.5	29.8	24.9	22.1
75°	3600.3	575.8	74.1	59.5	45.7	31.1	29.1	29.1	28.4	23.5	20.8
77.5°	1732.3	248.5	56.8	47.1	36.7	23.5	26.3	26.3	27.0	21.5	17.3
80°	491.4	74.7	35.3	31.8	27.0	15.9	20.8	20.1	18.0	12.5	7.6
82.5°	87.9	29.1	15.9	16.6	15.2	6.2	11.8	11.1	9.0	4.8	0.7
85°	24.2	11.1	9.0	9.7	7.6	2.1	4.8	6.2	4.8	2.8	0.0
87.5°	6.2	4.8	6.2	6.9	5.5	0.7	2.1	0.7	2.1	0.7	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)