

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: P367639

Luminaire Tested: **MSA-SA2D-830-U-SL3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367639  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2D-830-U-SL3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8801 lumens  
Efficiency: N/A  
Efficacy: 68.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2

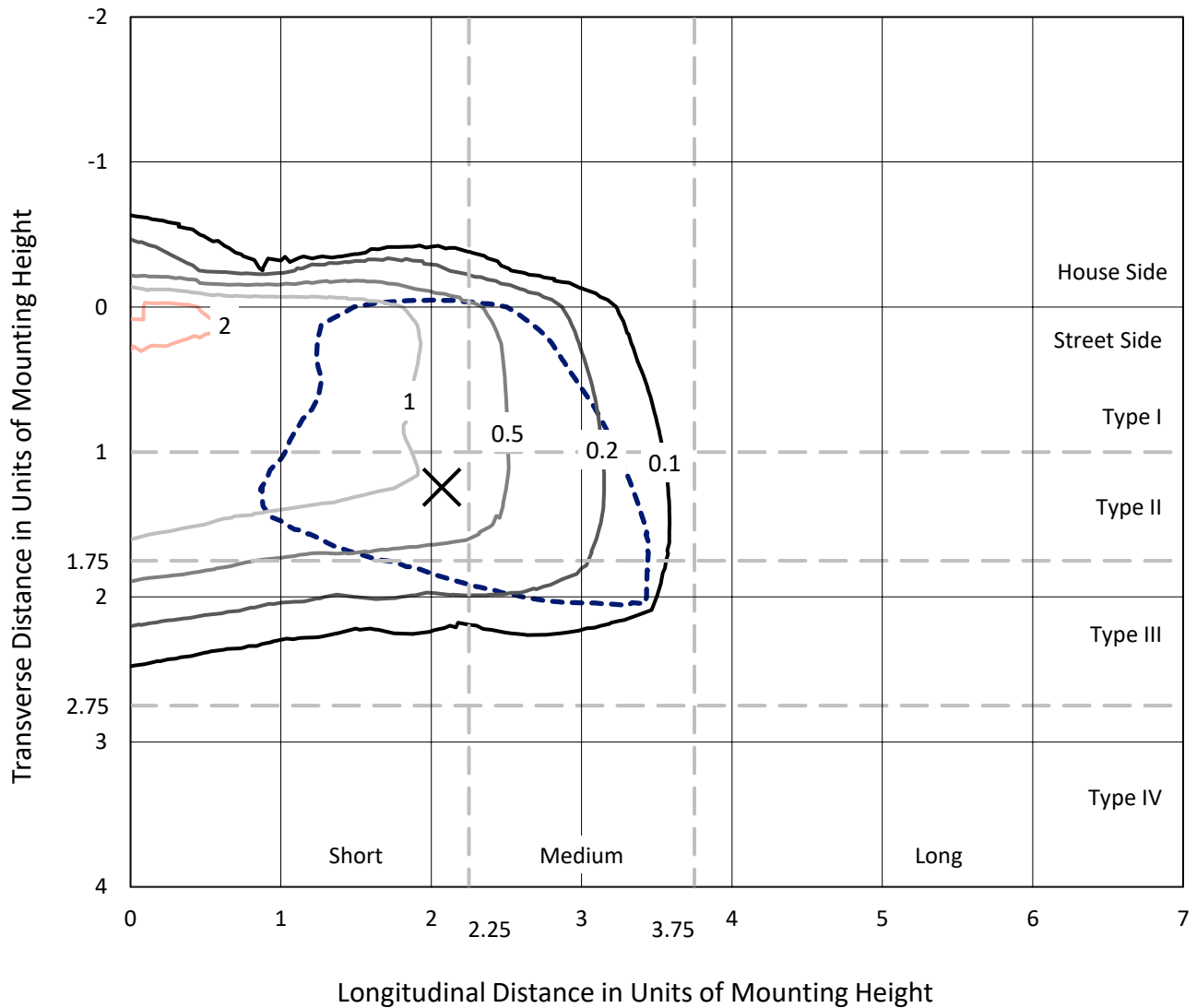
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

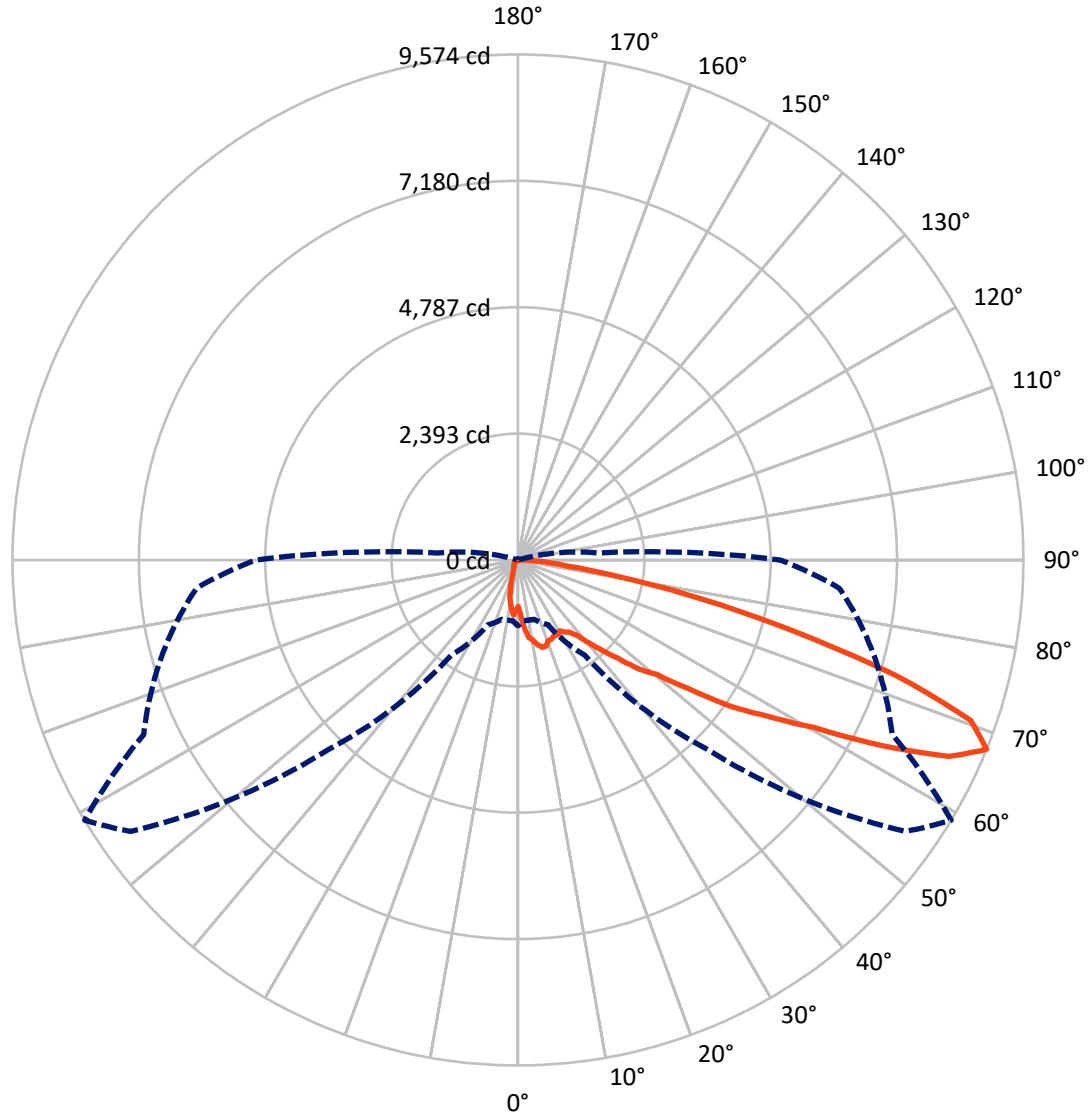
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.5 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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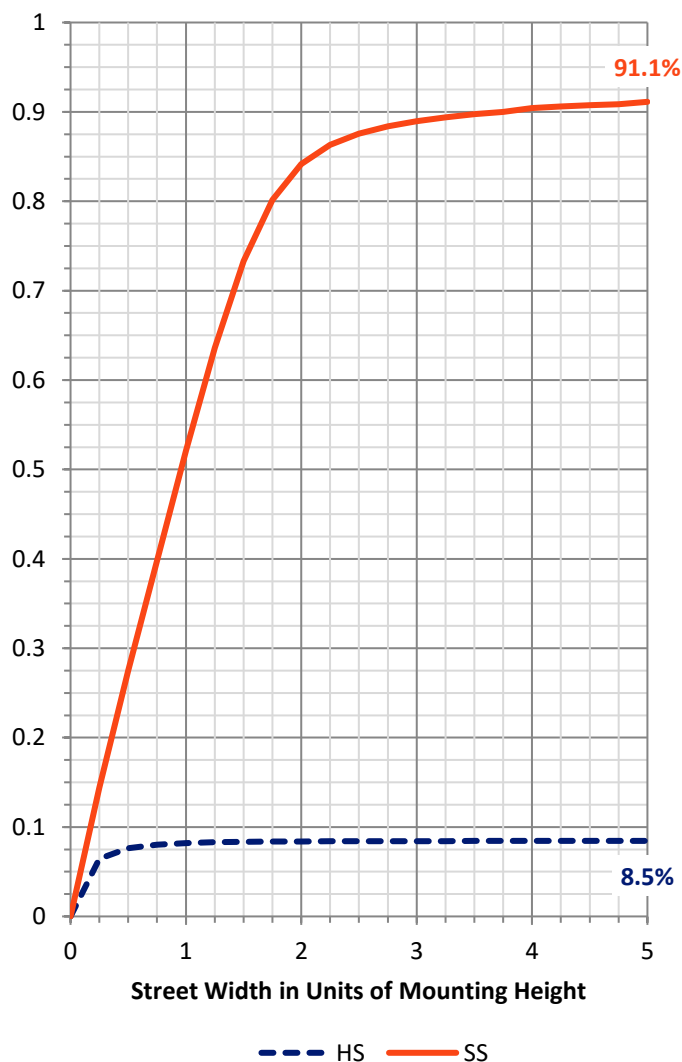
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	748.5	0.0	748.5
	% Fixture	8.5	0.0	8.5
<b>Street Side</b>	Lumens	8052.5	0.0	8052.5
	% Fixture	91.5	0.0	91.5
<b>Total</b>	Lumens	8801.0	0.0	8801.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.1	1.2
10°-20°	301.5	3.4
20°-30°	448.4	5.1
30°-40°	691.8	7.9
40°-50°	1234.7	14.0
50°-60°	2197.1	25.0
60°-70°	2558.9	29.1
70°-80°	1138.0	12.9
80°-90°	123.6	1.4
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°	8801.0	100.0
0°-180°	8801.0	100.0

**Coefficient of Utilization**



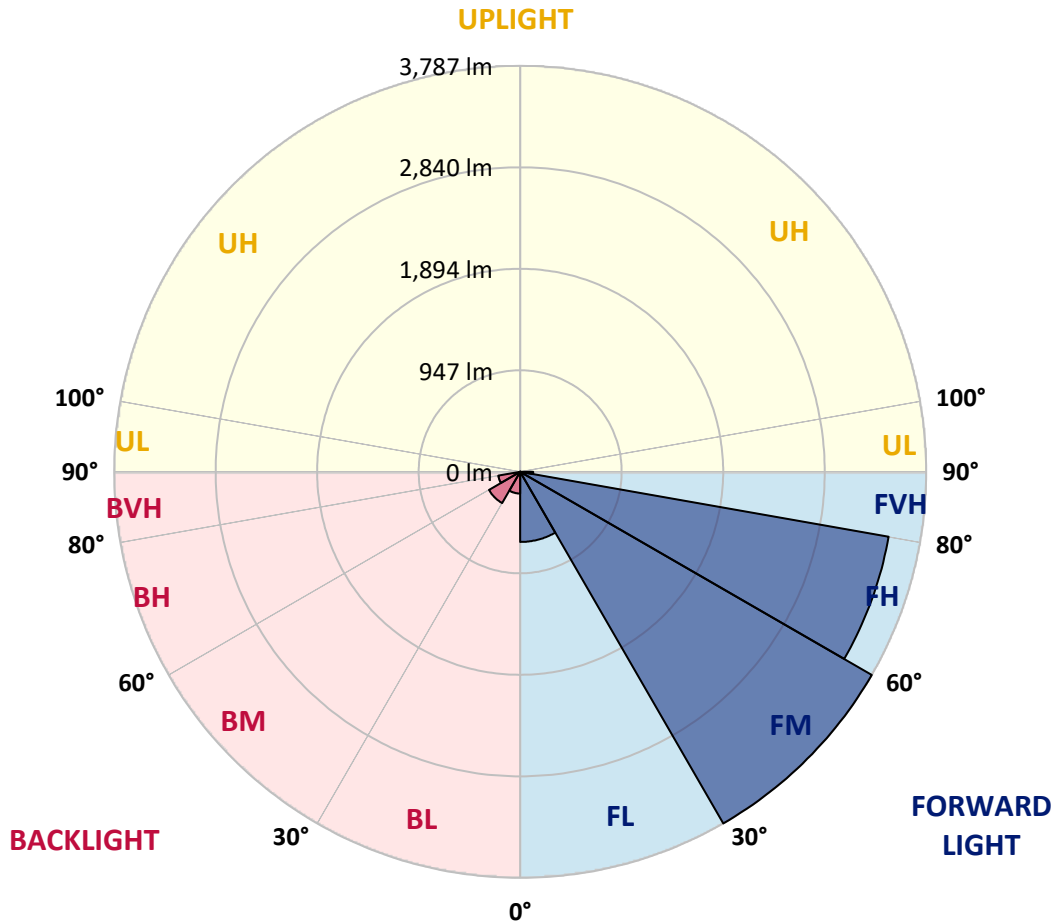
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	654.5	7.4			
FM (30°-60°)	3787.1	43.0			
FH (60°-80°)	3489.5	39.6			G2/5000
FVH (80°-90°)	121.4	1.4			G2/225
BL (0°-30°)	202.4	2.3	B1/500		
BM (30°-60°)	336.5	3.8	B1/1000		
BH (60°-80°)	207.3	2.4	B1/500		G1/500
BVH (80°-90°)	2.2	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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	880.6	880.6	880.6	880.6	880.6	880.6	880.6	880.6	880.6	880.6	880.6
2.5°	1147.9	1104.7	1043.2	1061.5	1078.0	1093.6	1067.7	1053.0	1045.9	982.6	1061.9
5°	1409.5	1355.6	1327.5	1320.4	1302.6	1262.9	1328.9	1299.5	1309.3	1321.7	1347.6
7.5°	1489.3	1464.8	1424.2	1439.4	1371.7	1365.9	1457.2	1482.6	1516.0	1493.3	1524.5
10°	1448.3	1406.0	1425.1	1419.8	1417.1	1476.8	1541.0	1542.3	1592.2	1616.3	1510.7
12.5°	1367.2	1372.1	1440.7	1435.4	1524.5	1643.9	1658.6	1643.0	1724.6	1682.7	1666.7
15°	1421.1	1461.2	1423.3	1436.3	1467.9	1617.2	1669.3	1717.5	1794.6	1819.5	1711.2
17.5°	1486.2	1490.2	1421.1	1405.1	1484.8	1554.4	1677.4	1717.0	1724.6	1943.4	1811.5
20°	1451.0	1485.3	1402.8	1301.7	1425.6	1520.0	1644.8	1632.3	1683.2	1979.9	1834.2
22.5°	1544.6	1495.5	1389.9	1313.7	1355.6	1441.6	1547.2	1628.8	1705.0	1892.6	1863.6
25°	1553.5	1535.6	1441.6	1373.9	1366.8	1388.6	1535.6	1588.2	1707.7	1971.0	1838.7
27.5°	1653.7	1633.2	1440.7	1447.4	1380.6	1313.3	1479.5	1602.9	1756.2	1923.3	1891.7
30°	1783.0	1784.8	1536.5	1557.5	1462.1	1353.8	1525.4	1559.3	1789.2	1999.5	1930.9
32.5°	1914.0	1967.9	1725.9	1615.0	1585.1	1507.6	1468.4	1624.8	1753.1	2129.7	2029.0
35°	2113.2	2149.7	1881.9	1782.5	1665.3	1577.1	1623.4	1679.6	1882.8	2302.1	2157.7
37.5°	2450.5	2384.6	2161.8	1988.9	1960.8	1830.7	1853.8	1803.5	2015.1	2505.3	2412.7
40°	2640.4	2580.7	2348.9	2264.7	2085.6	2105.6	2032.5	2061.9	2207.2	2717.0	2644.8
42.5°	2838.2	2781.2	2578.0	2518.3	2347.6	2264.7	2231.7	2337.3	2501.8	3069.5	2977.7
45°	3037.0	2892.1	2806.1	2836.0	2759.4	2595.4	2557.0	2651.1	2823.5	3502.7	3328.9
47.5°	3204.5	3082.4	3017.8	3004.0	2974.1	3201.9	3045.9	3087.3	3163.5	3885.9	3766.5
50°	3506.7	3386.4	3285.2	3257.1	3402.4	3725.5	3484.8	3404.6	3557.0	4348.9	4273.6
52.5°	3942.9	3789.7	3628.8	3629.2	3903.3	4080.6	4194.7	4053.9	4082.4	4858.3	4824.9
55°	4293.7	4098.9	3965.7	4070.8	4479.5	4578.9	5014.2	4890.8	4853.8	5330.6	5289.6
57.5°	4341.8	4108.3	4045.0	4229.5	4788.8	5423.3	5891.7	5583.3	5526.7	5725.9	5807.5
60°	3892.6	3644.8	3692.5	3989.3	4889.5	5938.0	6697.4	6445.6	6086.0	6188.9	6245.1
62.5°	2903.3	2705.4	2839.1	3232.2	4501.3	6283.0	7630.1	7746.9	6734.8	6536.5	6524.5
65°	1883.7	1759.8	1847.6	2169.8	3406.4	6243.7	8463.4	8969.7	7246.0	6819.9	6612.3
67.5°	1246.0	1152.0	1164.4	1355.2	2202.8	5078.0	8961.7	9573.5	7820.8	6980.8	6109.2
70°	928.7	854.7	859.2	962.6	1307.5	3348.9	8266.9	9097.1	8030.7	6423.3	4930.9
72.5°	669.8	620.3	661.8	776.7	1041.9	1770.9	6161.7	7492.0	7002.7	5066.4	3322.2
75°	463.9	431.4	499.1	649.7	951.0	1099.4	4071.7	5393.0	4908.2	3178.7	1501.8
77.5°	257.1	247.3	344.9	529.4	863.2	901.1	2494.2	3543.7	2722.4	1139.5	357.4
80°	112.3	108.7	167.1	397.5	725.5	814.2	1404.2	1964.8	1070.9	203.2	115.4
82.5°	48.1	46.3	71.3	239.3	527.2	680.9	865.9	945.6	368.5	62.8	65.5
85°	8.5	9.4	28.5	126.1	320.9	345.8	627.0	559.7	185.4	29.9	46.8
87.5°	0.0	0.0	4.5	24.5	60.2	98.9	271.8	196.1	35.2	9.8	8.0
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°	880.6	880.6	880.6	880.6	880.6	880.6	880.6	880.6	880.6	880.6	880.6
2.5°	1073.1	1048.1	953.2	941.2	928.3	909.1	902.0	861.0	855.6	908.2	908.2
5°	1335.6	1246.4	1156.0	1084.7	1020.9	932.7	907.8	881.9	861.0	855.6	872.1
7.5°	1474.1	1365.4	1223.3	1041.9	894.8	766.9	713.5	676.0	634.1	646.6	653.3
10°	1466.6	1351.2	1169.8	936.7	773.6	632.4	496.4	417.1	373.0	351.2	348.5
12.5°	1541.0	1432.3	1133.7	852.9	644.8	449.6	312.4	255.8	223.3	223.7	221.0
15°	1584.2	1465.7	1091.8	746.9	454.1	289.2	216.6	204.1	199.6	204.5	201.9
17.5°	1660.4	1500.9	996.9	588.7	312.4	218.4	199.2	194.3	200.1	210.3	207.7
20°	1654.6	1439.8	861.9	414.9	230.8	196.5	188.5	180.9	193.0	203.7	201.9
22.5°	1649.3	1380.1	734.8	306.1	193.0	179.1	172.5	169.3	175.6	188.1	190.7
25°	1602.0	1350.7	606.1	229.9	174.7	162.7	159.5	156.9	159.1	169.3	168.9
27.5°	1660.0	1276.3	467.9	193.0	161.8	147.5	144.8	140.4	135.9	144.8	146.2
30°	1647.9	1286.5	366.8	169.8	148.8	129.7	130.6	121.2	113.2	121.2	121.2
32.5°	1691.6	1211.7	293.7	154.2	135.9	122.1	111.0	101.2	95.4	100.3	101.2
35°	1755.3	1214.8	229.9	144.4	124.8	108.7	95.4	85.6	80.2	82.4	83.8
37.5°	1968.8	1193.4	192.1	136.8	120.8	100.7	86.9	74.0	70.4	73.1	74.4
40°	2107.8	1250.4	169.3	132.8	110.5	92.7	74.4	65.1	61.9	63.3	65.5
42.5°	2369.9	1282.1	158.2	128.3	101.2	79.3	63.7	58.4	53.9	55.7	57.5
45°	2650.2	1336.0	149.7	123.4	94.0	69.5	56.1	51.7	45.9	46.3	48.1
47.5°	2994.6	1464.3	139.9	115.0	84.2	63.3	49.9	43.2	37.9	37.4	39.7
50°	3457.2	1635.9	131.0	104.3	78.0	57.9	43.7	35.2	30.7	29.4	31.2
52.5°	3951.0	1857.8	121.7	96.7	70.4	50.8	37.4	28.5	24.5	23.6	25.0
55°	4440.3	2070.9	112.7	91.8	62.4	43.7	31.6	23.6	20.1	19.2	20.1
57.5°	4997.8	2301.2	101.2	82.0	54.8	37.9	26.3	19.6	16.5	15.6	16.0
60°	5417.5	2382.3	91.4	71.3	47.7	33.4	22.3	15.6	13.4	12.5	12.9
62.5°	5616.7	2250.0	82.0	61.9	41.9	29.0	18.7	12.9	11.1	10.2	10.2
65°	5565.0	1956.8	72.6	53.0	36.1	24.1	14.7	11.1	9.8	8.5	8.0
67.5°	4967.9	1531.2	61.9	44.6	30.3	19.6	12.5	10.7	8.9	8.0	6.7
70°	3939.8	1108.7	50.4	37.0	25.4	16.0	9.8	9.8	8.5	8.0	6.2
72.5°	2582.4	697.9	41.0	29.9	20.9	12.5	7.6	8.9	8.0	8.0	5.8
75°	1119.0	249.6	33.0	24.1	17.4	8.5	6.7	8.0	8.5	8.0	6.7
77.5°	262.0	77.5	25.8	19.2	14.3	5.8	6.7	8.0	8.5	7.6	5.8
80°	98.5	33.0	16.9	12.5	11.1	3.6	5.8	4.9	4.5	3.1	0.9
82.5°	59.7	13.8	8.9	6.2	5.3	0.9	2.7	1.8	0.9	0.9	0.0
85°	42.3	6.7	4.9	4.5	2.7	0.0	0.4	0.0	0.0	0.4	0.0
87.5°	5.8	1.8	2.2	2.2	1.8	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)