

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: P368683

Luminaire Tested: **MSA-SA4D-760-U-T3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368683
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-760-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: 19428 lumens
Efficiency: N/A
Efficacy: 75.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G3

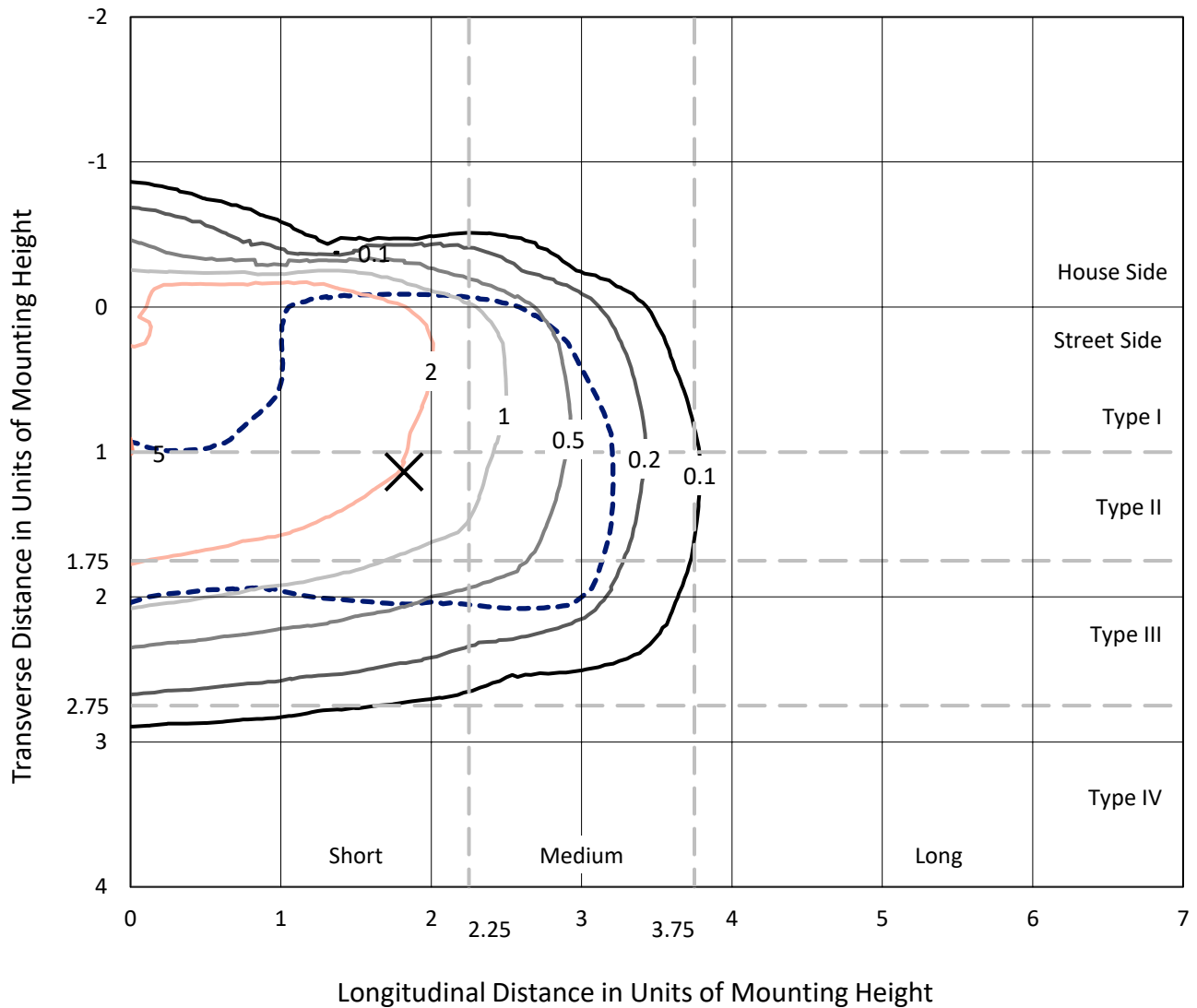
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

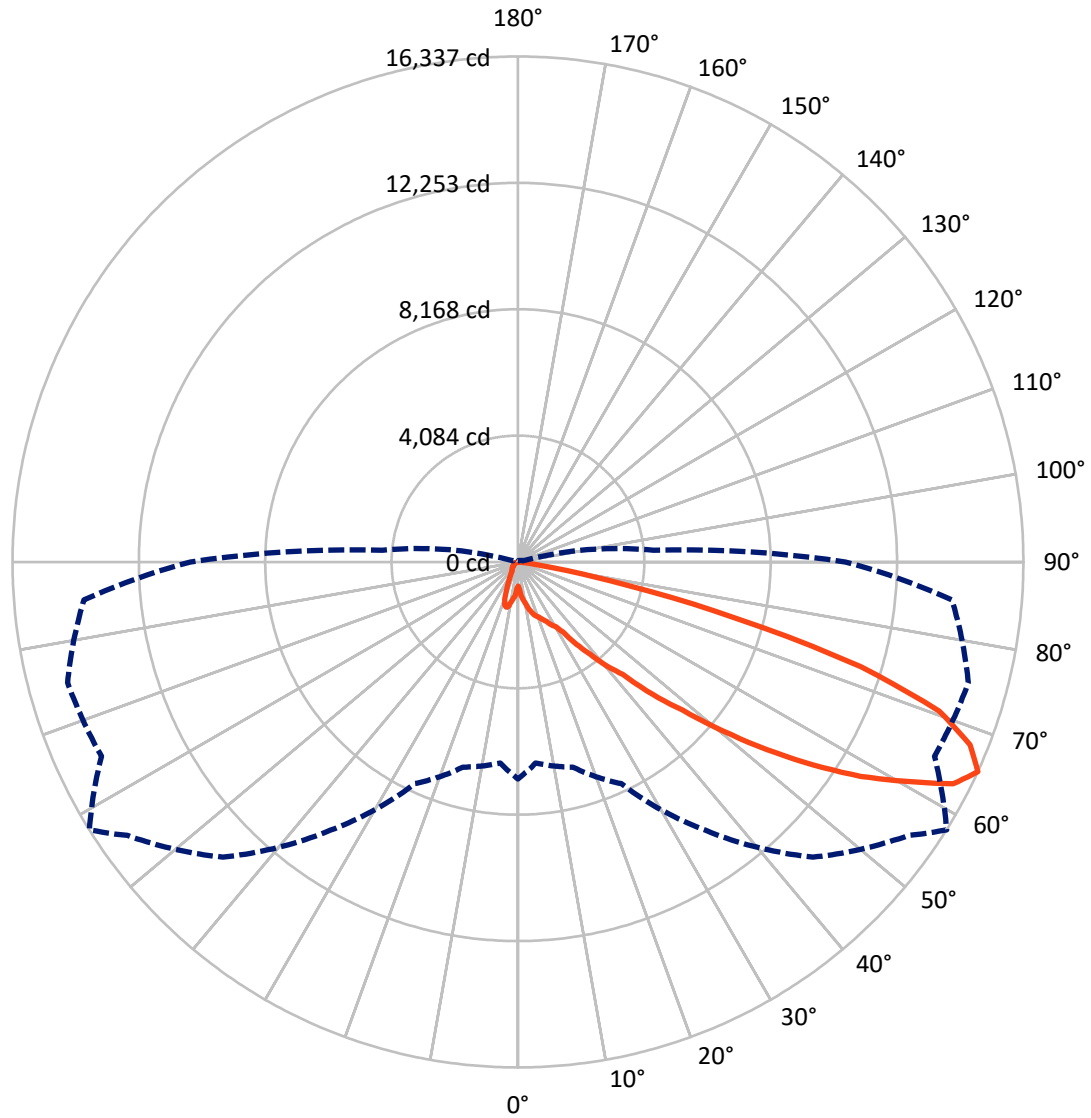
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 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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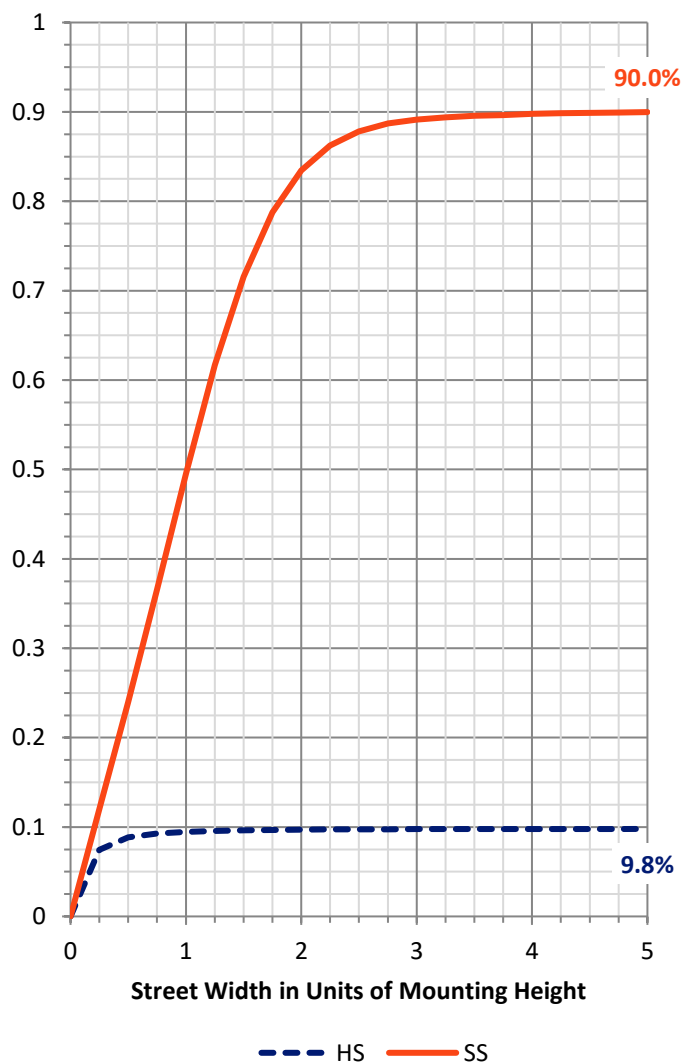
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1917.0	0.0	1917.0
	% Fixture	9.9	0.0	9.9
Street Side	Lumens	17511.0	0.0	17511.0
	% Fixture	90.1	0.0	90.1
Total	Lumens	19428.0	0.0	19428.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.3	0.6
10°-20°	398.8	2.1
20°-30°	771.9	4.0
30°-40°	1540.1	7.9
40°-50°	3148.6	16.2
50°-60°	5584.6	28.7
60°-70°	5887.7	30.3
70°-80°	1908.9	9.8
80°-90°	78.0	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°	19428.0	100.0
0°-180°	19428.0	100.0

Coefficient of Utilization



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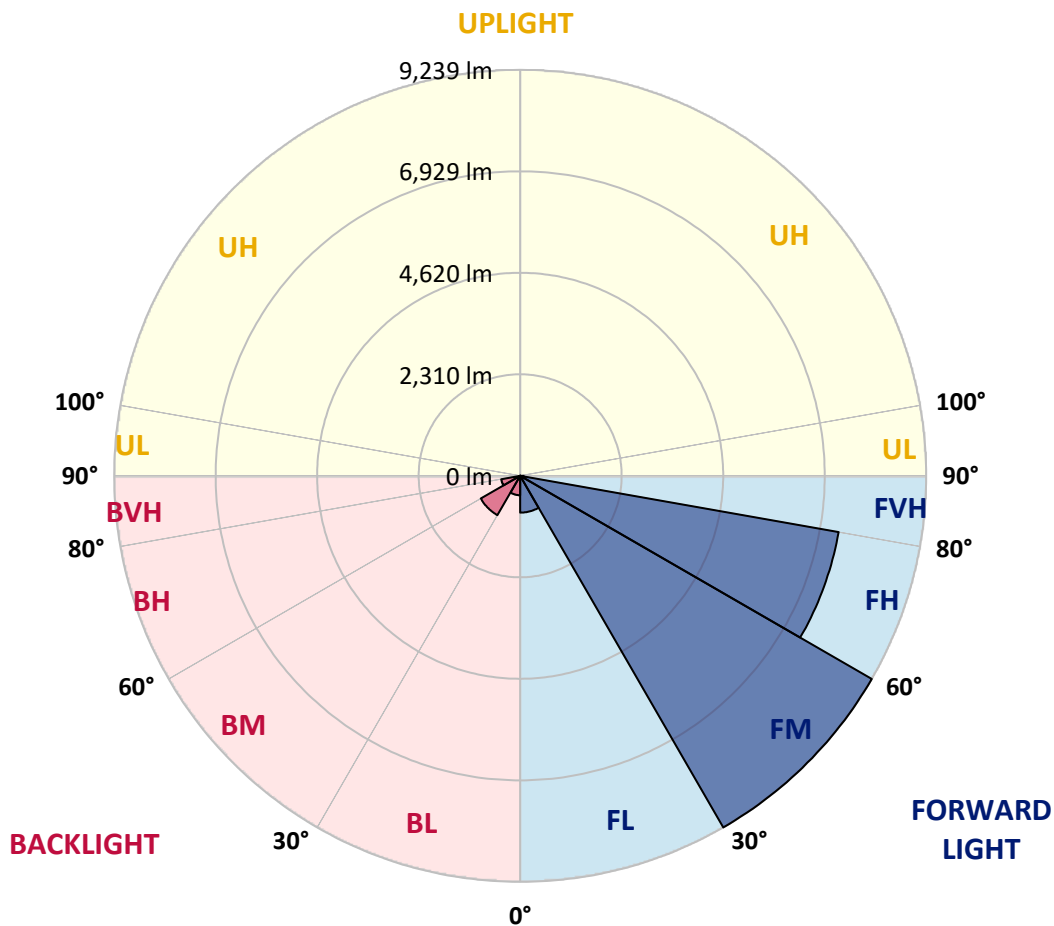
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	838.2	4.3			
FM (30°-60°)	9239.0	47.6			
FH (60°-80°)	7359.0	37.9			G3/7500
FVH (80°-90°)	74.7	0.4			G1/100
BL (0°-30°)	441.9	2.3	B1/500		
BM (30°-60°)	1034.3	5.3	B2/2500		
BH (60°-80°)	437.5	2.3	B1/500		G1/500
BVH (80°-90°)	3.3	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	777.7	777.7	777.7	777.7	777.7	777.7	777.7	777.7	777.7	777.7	777.7
2.5°	949.5	921.0	876.2	883.8	892.6	910.1	895.9	882.7	868.5	849.9	921.0
5°	1146.4	1099.3	1095.0	1085.1	1077.4	1076.4	1093.9	1088.4	1096.0	1131.0	1167.1
7.5°	1218.6	1198.9	1161.7	1177.0	1152.9	1134.3	1212.0	1237.2	1285.3	1301.7	1395.8
10°	1210.9	1182.5	1197.8	1205.4	1221.8	1289.7	1338.9	1366.2	1407.8	1497.5	1478.9
12.5°	1245.9	1271.1	1287.5	1288.6	1372.8	1497.5	1532.5	1555.5	1629.8	1664.9	1756.7
15°	1362.9	1404.5	1378.3	1389.2	1416.5	1568.6	1650.6	1700.9	1806.0	1919.7	1942.7
17.5°	1530.3	1556.6	1501.9	1462.5	1538.0	1621.1	1769.9	1822.4	1889.1	2154.9	2204.1
20°	1741.4	1786.3	1668.1	1511.7	1611.3	1709.7	1871.6	1896.7	1967.9	2314.6	2392.3
22.5°	2234.8	2168.0	1987.5	1743.6	1714.1	1757.8	1912.1	2010.5	2130.8	2404.3	2584.8
25°	2721.5	2698.5	2432.7	2160.4	1963.5	1865.0	2069.6	2124.3	2321.2	2617.6	2717.1
27.5°	3263.0	3308.9	2864.8	2699.6	2313.5	1991.9	2168.0	2304.8	2537.8	2695.3	2934.8
30°	3977.3	3904.0	3383.3	3218.1	2777.3	2340.9	2422.9	2431.6	2774.0	2951.2	3178.8
32.5°	4537.3	4584.4	3930.2	3676.5	3324.2	2877.9	2614.3	2728.1	2973.1	3368.0	3583.5
35°	5143.3	5138.9	4501.2	4159.9	3699.4	3316.6	3182.0	3265.2	3572.5	4019.9	4076.8
37.5°	6049.0	5971.4	5218.8	4718.9	4327.3	4000.2	3897.4	3786.9	4104.2	4530.8	4744.1
40°	6903.3	6635.3	5939.6	5346.8	4845.8	4712.3	4340.4	4408.2	4502.3	5065.7	5655.2
42.5°	7766.4	7600.1	6670.3	6173.7	5557.9	5240.7	4997.8	4966.1	5413.5	6080.8	6690.0
45°	8905.1	8396.5	7652.6	7216.2	6503.0	6184.7	5988.9	6105.9	6508.5	7483.1	7888.9
47.5°	9861.1	9393.0	8754.1	8091.3	7343.1	7700.8	7333.2	7148.4	7700.8	8708.2	9247.5
50°	10682.6	10160.8	9514.4	9023.2	8901.8	9245.3	8501.5	8569.3	8928.1	10111.6	10415.7
52.5°	11279.9	10730.7	10166.3	9928.9	10426.7	10599.5	10226.5	10076.6	10402.6	11308.3	11456.0
55°	11729.4	11167.2	10726.4	11053.4	12016.0	11959.1	12090.4	11578.5	11890.2	12556.4	12486.4
57.5°	11756.8	11090.6	10832.5	11358.6	12680.0	13560.6	13944.5	13073.8	13251.0	13532.1	13374.6
60°	10897.0	10234.1	10213.4	10960.5	12872.5	13975.1	14815.2	14390.8	14153.4	14362.4	14063.7
62.5°	9184.0	8720.2	8936.8	9762.7	12156.0	13746.5	15279.0	15789.8	14865.5	14912.6	14488.1
65°	7012.7	6526.0	6865.1	7905.3	10589.6	13490.5	15410.3	16336.8	14852.4	15069.0	14081.2
67.5°	4644.5	4362.3	4746.2	5892.6	8419.4	11908.8	15342.5	15762.5	14380.9	14457.5	12570.6
70°	2397.7	2328.8	2639.5	3544.1	5660.7	9149.0	14676.3	14446.6	13423.8	12454.7	9696.0
72.5°	767.9	771.2	1069.8	1618.9	3051.9	5569.9	11281.0	11596.0	10741.7	9110.7	5920.0
75°	340.2	334.7	447.4	679.3	1272.2	2497.3	7008.3	7348.5	6687.8	5012.1	2488.5
77.5°	245.0	237.4	286.6	397.1	630.1	846.6	3285.9	3546.3	3032.2	1737.0	569.9
80°	172.8	171.7	207.8	278.9	393.8	376.3	1038.1	1163.9	932.0	421.1	167.4
82.5°	97.4	100.6	144.4	196.9	239.6	188.1	292.1	321.6	313.9	224.2	73.3
85°	47.0	52.5	94.1	142.2	125.8	73.3	103.9	112.7	131.3	130.2	37.2
87.5°	0.0	0.0	38.3	64.5	33.9	10.9	31.7	36.1	35.0	41.6	8.8
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°	777.7	777.7	777.7	777.7	777.7	777.7	777.7	777.7	777.7	777.7	777.7
2.5°	935.2	928.7	845.6	852.1	870.7	863.1	869.6	854.3	836.8	907.9	906.8
5°	1182.5	1133.2	1107.0	1082.9	1087.3	1038.1	1066.5	1079.6	1077.4	1117.9	1128.9
7.5°	1399.0	1333.4	1280.9	1230.6	1154.0	1085.1	1127.8	1155.1	1173.7	1243.7	1271.1
10°	1500.8	1447.2	1426.4	1327.9	1273.3	1230.6	1179.2	1142.0	1157.3	1138.7	1157.3
12.5°	1723.9	1687.8	1608.0	1508.4	1442.8	1355.3	1163.9	1004.2	905.7	906.8	900.2
15°	1927.4	1925.2	1806.0	1640.8	1450.5	1201.1	902.4	701.2	608.2	581.9	573.2
17.5°	2193.2	2160.4	1942.7	1698.8	1356.4	929.8	614.7	480.2	471.5	486.8	480.2
20°	2362.7	2314.6	2010.5	1614.5	1117.9	629.0	463.8	425.5	451.8	473.6	468.2
22.5°	2532.3	2460.1	2061.9	1511.7	795.2	460.5	418.9	412.4	428.8	456.1	460.5
25°	2625.3	2611.0	2162.6	1319.2	544.7	403.6	403.6	401.4	406.9	426.6	423.3
27.5°	2895.4	2702.9	2087.1	1029.3	421.1	370.8	376.3	374.1	354.4	374.1	375.2
30°	3063.9	2975.3	2092.6	732.9	370.8	328.2	342.4	324.9	295.3	311.7	308.5
32.5°	3403.0	3182.0	2076.1	494.4	338.0	312.8	291.0	265.8	243.9	250.5	245.0
35°	3797.9	3629.4	1854.1	397.1	315.0	276.7	241.7	216.6	193.6	199.1	198.0
37.5°	4583.3	4048.4	1670.3	357.7	299.7	253.8	213.3	178.3	166.3	169.5	172.8
40°	5310.7	4747.3	1327.9	340.2	273.5	226.4	176.1	151.0	143.3	145.5	148.8
42.5°	6398.0	5303.0	1003.1	322.7	247.2	191.4	146.6	130.2	122.5	126.9	129.1
45°	7450.3	5775.6	749.3	307.4	225.3	165.2	123.6	112.7	103.9	107.2	111.6
47.5°	8501.5	6300.6	559.0	283.3	201.3	142.2	106.1	98.4	93.0	94.1	99.5
50°	9442.2	6545.6	439.7	253.8	181.6	123.6	96.3	88.6	86.4	87.5	91.9
52.5°	10133.5	6547.8	370.8	227.5	163.0	109.4	90.8	82.0	80.9	83.1	87.5
55°	10758.1	6372.8	321.6	204.6	146.6	99.5	86.4	78.8	78.8	80.9	85.3
57.5°	11172.7	6051.2	278.9	180.5	132.4	94.1	83.1	75.5	74.4	73.3	76.6
60°	11375.0	5612.6	236.3	158.6	119.2	90.8	80.9	66.7	65.6	63.4	65.6
62.5°	11247.0	5063.5	198.0	136.7	106.1	86.4	71.1	58.0	55.8	51.4	54.7
65°	10592.9	4396.2	167.4	117.0	91.9	73.3	60.2	49.2	43.8	38.3	37.2
67.5°	9255.1	3571.4	140.0	100.6	78.8	60.2	49.2	43.8	33.9	29.5	28.4
70°	6936.2	2438.2	115.9	86.4	65.6	51.4	41.6	39.4	31.7	28.4	26.3
72.5°	4069.2	1315.9	97.4	75.5	55.8	42.7	33.9	36.1	31.7	26.3	24.1
75°	1625.5	437.5	77.7	60.2	44.8	30.6	28.4	29.5	28.4	24.1	19.7
77.5°	370.8	137.8	60.2	47.0	35.0	19.7	23.0	25.2	25.2	19.7	14.2
80°	115.9	54.7	35.0	29.5	25.2	10.9	16.4	17.5	12.0	5.5	0.0
82.5°	37.2	15.3	12.0	12.0	10.9	2.2	3.3	2.2	0.0	0.0	0.0
85°	14.2	9.8	7.7	7.7	4.4	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	5.5	4.4	3.3	4.4	2.2	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)