

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: P368165

Luminaire Tested: **MSA-SA3D-830-U-SL2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368165
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3D-830-U-SL2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12964 lumens
Efficiency: N/A
Efficacy: 67.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G2

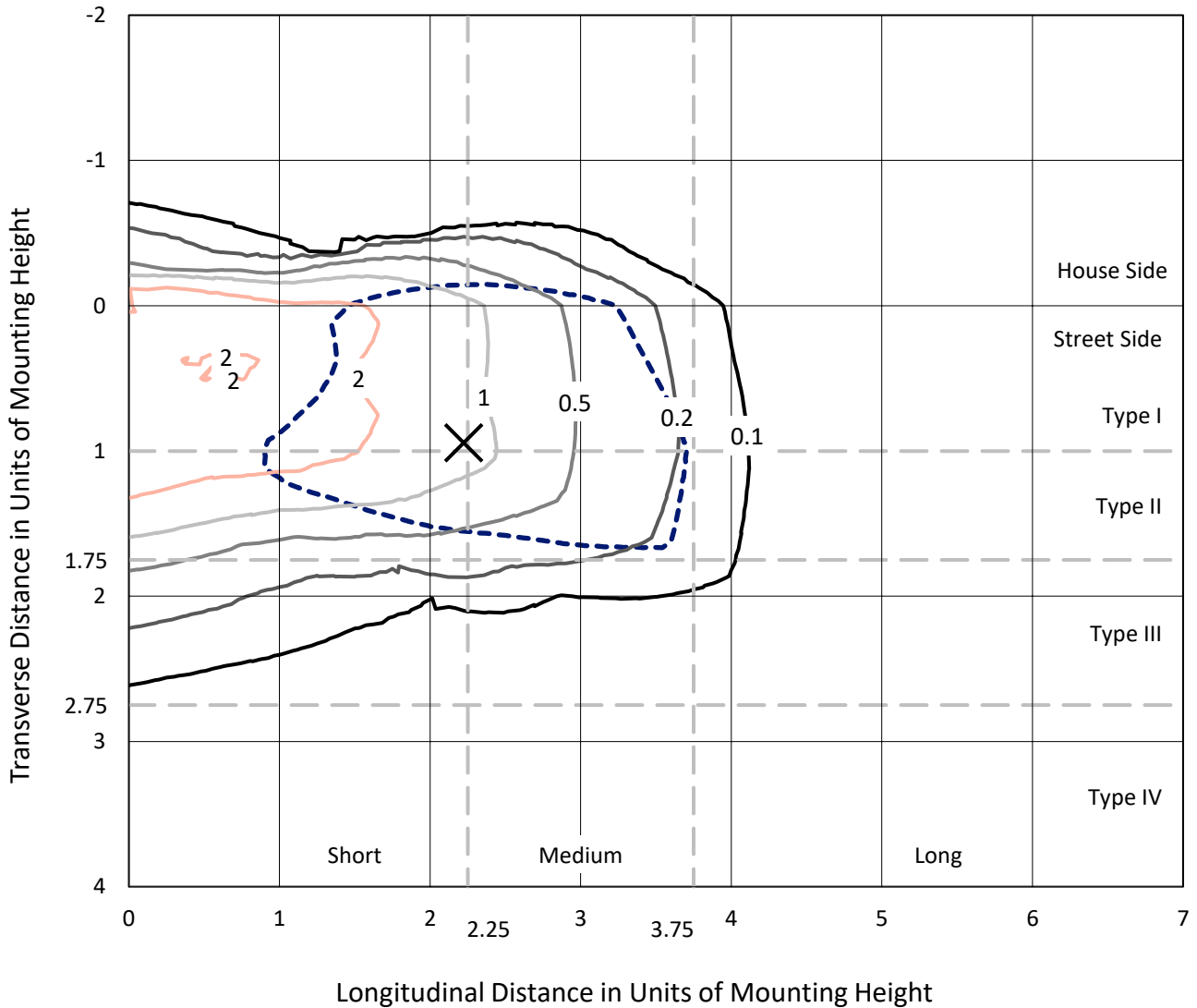
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

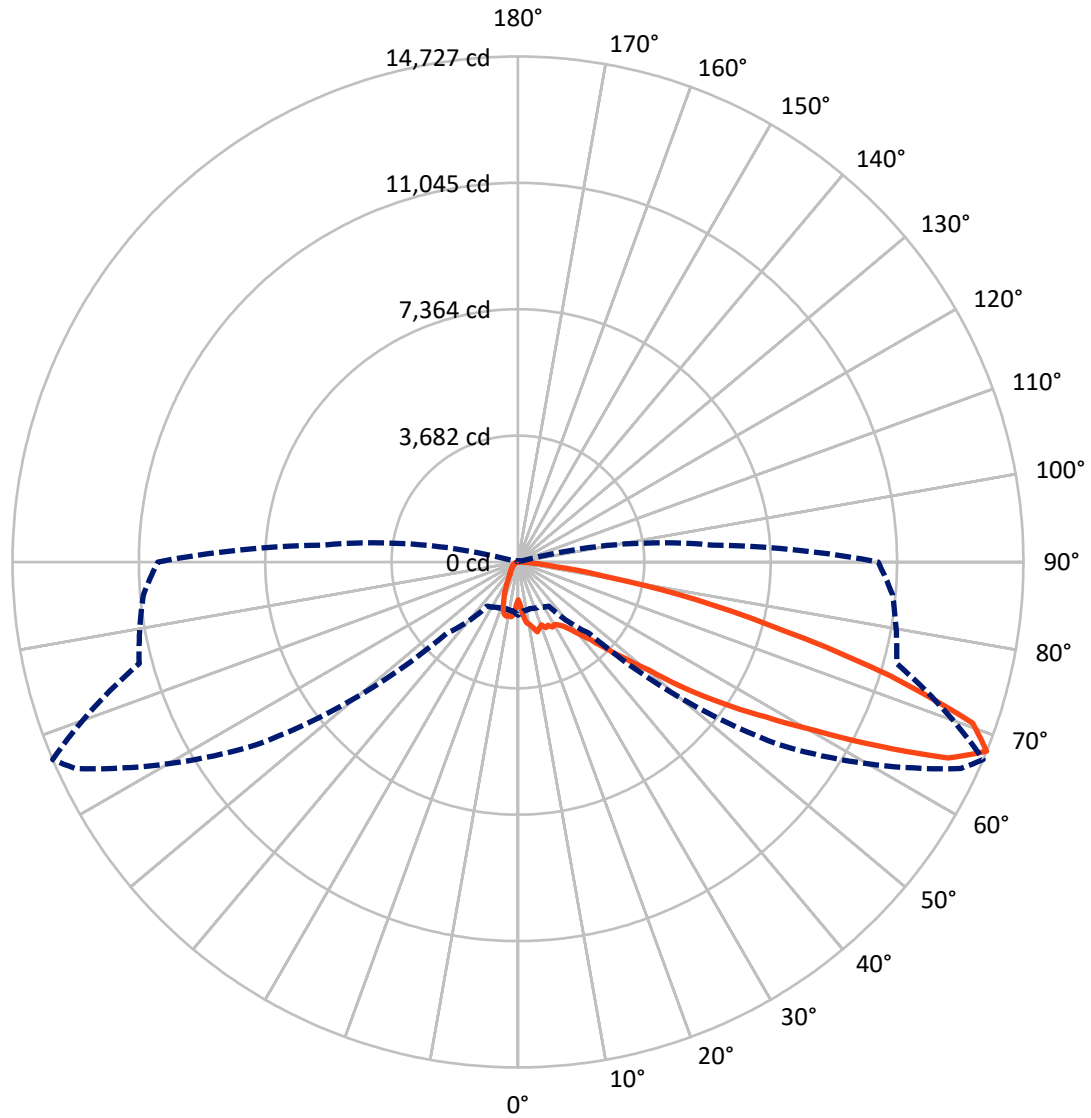
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.4 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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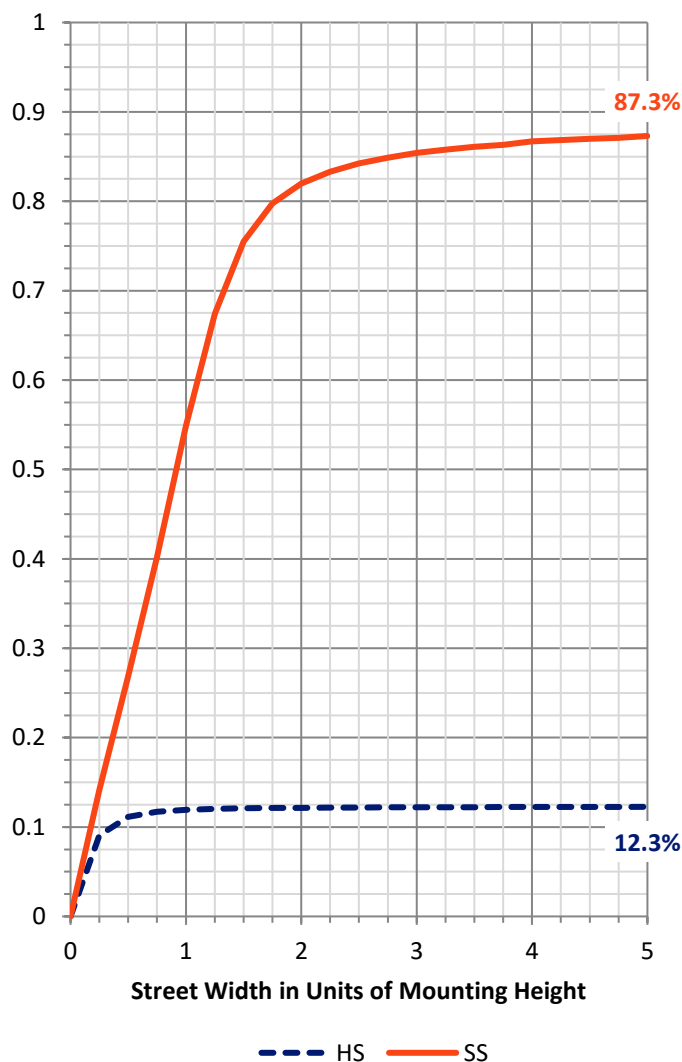
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1603.3	0.0	1603.3
	% Fixture	12.4	0.0	12.4
Street Side	Lumens	11360.7	0.0	11360.7
	% Fixture	87.6	0.0	87.6
Total	Lumens	12964.0	0.0	12964.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.6	1.1
10°-20°	410.1	3.2
20°-30°	642.7	5.0
30°-40°	1036.3	8.0
40°-50°	1904.2	14.7
50°-60°	3216.0	24.8
60°-70°	3555.4	27.4
70°-80°	1860.9	14.4
80°-90°	199.8	1.5
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°	12964.0	100.0
0°-180°	12964.0	100.0

Coefficient of Utilization

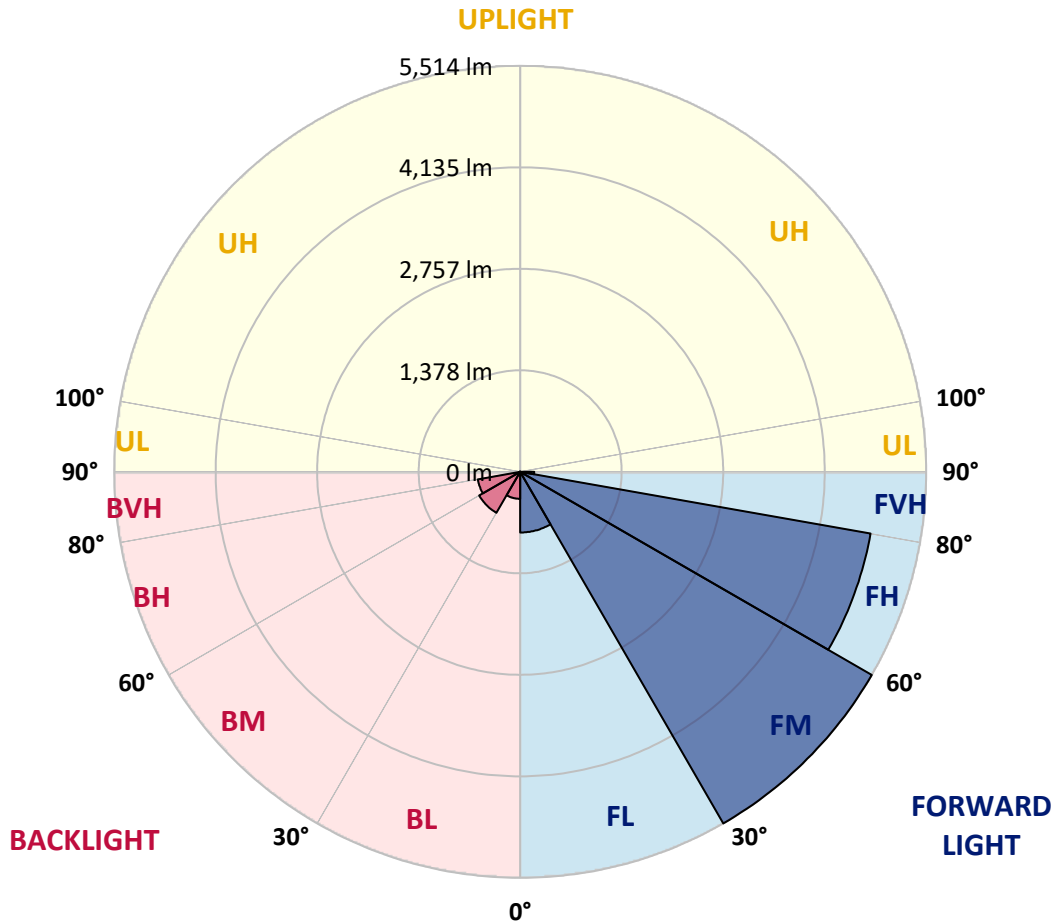


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	824.3	6.4			
FM (30°-60°)	5513.6	42.5			
FH (60°-80°)	4831.5	37.3			G2/5000
FVH (80°-90°)	191.3	1.5			G2/225
BL (0°-30°)	367.1	2.8	B1/500		
BM (30°-60°)	642.9	5.0	B1/1000		
BH (60°-80°)	584.8	4.5	B2/1000		G2/1000
BVH (80°-90°)	8.5	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2
 Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1104.2	1104.2	1104.2	1104.2	1104.2	1104.2	1104.2	1104.2	1104.2	1104.2	1104.2
2.5°	1303.4	1259.4	1184.4	1206.1	1249.5	1285.7	1268.6	1235.0	1235.7	1201.5	1324.5
5°	1516.5	1457.3	1413.9	1429.0	1427.1	1425.8	1506.6	1537.6	1550.7	1607.3	1690.8
7.5°	1577.7	1556.6	1511.2	1525.1	1479.7	1483.0	1625.0	1759.2	1780.2	1815.1	1963.7
10°	1554.0	1513.2	1529.7	1529.7	1530.3	1604.0	1699.3	1827.6	1853.2	1987.4	2003.2
12.5°	1528.3	1530.3	1595.4	1583.6	1673.0	1805.2	1837.4	1981.5	1969.0	2085.4	2258.3
15°	1623.7	1673.7	1631.6	1648.0	1656.6	1811.8	1863.7	2055.1	2110.4	2257.7	2370.1
17.5°	1787.5	1794.0	1706.6	1682.9	1744.7	1788.8	1893.3	1985.4	2022.2	2408.9	2568.1
20°	1817.0	1859.1	1770.4	1633.6	1764.4	1824.9	1897.9	1942.0	1957.8	2455.6	2679.9
22.5°	1995.3	1948.6	1806.5	1702.6	1740.1	1805.9	1851.2	1984.1	2078.8	2367.5	2787.1
25°	2086.7	2074.2	1938.7	1849.9	1811.8	1806.5	1910.4	2011.0	2041.3	2458.9	2813.4
27.5°	2305.7	2277.4	2015.0	2003.8	1878.2	1767.7	1912.4	2093.3	2149.8	2372.7	2912.0
30°	2603.6	2593.1	2243.9	2236.6	2036.7	1838.1	2018.9	2143.9	2109.7	2416.8	2977.8
32.5°	2903.5	2989.0	2631.9	2428.0	2278.0	2096.5	1988.7	2128.1	2189.3	2524.0	3098.8
35°	3265.8	3327.6	2964.0	2816.0	2482.6	2217.5	2189.3	2278.7	2305.0	2651.6	3236.2
37.5°	3899.8	3806.4	3496.6	3244.8	3069.8	2649.6	2510.2	2439.2	2500.3	2824.5	3517.0
40°	4368.0	4308.8	3927.4	3776.8	3374.3	3128.4	2764.0	2697.6	2766.0	3002.1	3712.3
42.5°	4932.9	4809.9	4450.9	4348.9	3934.6	3460.5	3090.9	3113.9	3071.2	3352.6	4055.0
45°	5443.9	5166.4	4966.5	4989.5	4768.5	4128.0	3636.1	3624.9	3589.4	3860.3	4415.4
47.5°	5787.8	5545.2	5350.5	5286.7	5260.4	5301.9	4423.9	4225.3	4199.0	4393.7	4982.9
50°	5972.6	5707.0	5466.3	5479.4	6013.4	6415.2	5236.7	4954.6	4964.5	5167.7	5758.9
52.5°	5848.3	5547.8	5294.0	5540.6	6597.4	7157.7	6582.3	5907.5	6136.4	6084.4	6799.9
55°	5274.2	5013.2	4833.0	5274.2	6661.2	7956.7	8238.9	7341.8	7290.5	7172.2	7861.4
57.5°	4308.2	4083.3	3972.1	4437.7	5963.4	8600.6	9902.7	8962.9	8525.6	8029.7	8742.6
60°	3209.9	3044.2	2928.4	3174.4	4698.8	7975.1	10992.4	10490.6	9984.2	8856.4	9534.4
62.5°	2377.4	2242.5	2119.6	2141.9	3235.6	6859.1	11410.6	12109.0	11818.4	9729.1	10281.5
65°	1897.3	1774.3	1688.1	1638.8	2003.8	5160.5	10828.6	13435.5	13770.9	10551.1	10820.7
67.5°	1549.4	1445.5	1402.7	1459.3	1571.7	2941.6	9274.0	14240.4	14727.1	11423.1	10953.6
70°	1260.7	1175.2	1170.6	1323.2	1447.5	1793.4	6821.6	13684.7	14051.0	11571.7	10157.2
72.5°	878.6	841.1	901.0	1117.3	1434.3	1493.5	3917.5	11324.5	11337.6	10220.3	8354.6
75°	497.2	491.3	586.0	891.1	1396.8	1478.4	2184.0	8002.8	8008.7	7729.8	5787.8
77.5°	273.6	255.8	341.3	602.4	1199.5	1444.2	1408.7	5464.3	5324.2	4301.6	2643.7
80°	126.3	119.0	184.8	386.0	877.3	1365.9	1129.2	3003.4	2708.1	1401.4	645.1
82.5°	52.0	49.3	84.8	247.9	554.4	1100.2	951.6	1332.4	1069.3	266.3	199.3
85°	9.2	9.9	34.9	149.9	310.4	507.0	771.4	632.6	464.9	73.7	109.2
87.5°	0.0	0.0	7.2	36.2	75.0	138.8	313.0	176.9	121.7	21.7	32.2
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°	1104.2	1104.2	1104.2	1104.2	1104.2	1104.2	1104.2	1104.2	1104.2	1104.2	1104.2
2.5°	1348.8	1337.6	1224.5	1229.8	1237.7	1230.4	1229.1	1197.6	1168.6	1264.0	1262.7
5°	1705.9	1626.3	1548.1	1517.8	1452.7	1367.2	1367.9	1340.9	1313.3	1352.1	1352.1
7.5°	1960.4	1850.6	1751.3	1574.4	1402.1	1246.2	1232.4	1195.6	1153.5	1204.1	1214.0
10°	2019.6	1924.2	1796.0	1536.2	1373.1	1221.2	1054.2	916.7	853.0	823.4	818.1
12.5°	2201.8	2130.7	1844.0	1556.6	1321.8	1064.7	791.1	628.0	516.9	508.4	496.5
15°	2323.4	2273.4	1891.4	1506.0	1104.8	765.5	497.2	381.4	336.7	332.8	326.8
17.5°	2512.2	2425.4	1846.0	1344.9	864.1	505.1	334.1	301.2	306.5	318.3	309.1
20°	2589.1	2419.4	1747.3	1111.4	607.0	338.7	290.0	272.3	286.1	297.3	292.0
22.5°	2668.0	2436.5	1659.9	916.1	396.6	280.2	258.5	249.2	250.6	261.7	262.4
25°	2667.4	2483.9	1558.6	713.5	295.3	249.2	233.5	221.6	217.0	224.9	222.9
27.5°	2796.9	2429.3	1373.8	529.4	259.8	222.9	207.8	193.3	176.9	184.8	184.8
30°	2797.6	2518.1	1244.9	380.1	238.1	198.6	185.5	163.1	144.0	150.6	151.3
32.5°	2871.9	2441.1	1125.9	290.7	221.0	184.1	155.2	134.8	123.6	127.6	127.6
35°	2956.7	2506.9	943.0	256.5	203.9	163.8	132.8	116.4	107.9	111.1	111.1
37.5°	3236.9	2493.1	816.1	238.7	192.7	148.0	121.0	102.6	98.6	100.6	103.2
40°	3338.2	2591.1	643.8	228.2	174.3	133.5	106.5	92.7	87.5	88.8	89.4
42.5°	3595.9	2612.8	514.3	219.7	157.8	115.7	94.7	84.8	78.3	78.3	80.2
45°	3880.7	2667.4	409.0	212.4	144.0	103.9	85.5	77.6	67.7	66.4	69.1
47.5°	4293.0	2876.5	333.4	197.9	127.6	96.7	78.9	67.1	59.2	56.6	59.2
50°	4982.9	3231.6	294.6	180.2	115.7	90.8	69.7	57.2	51.3	48.0	50.0
52.5°	5956.2	3845.2	274.2	163.8	105.2	81.5	62.5	50.0	44.1	41.4	42.7
55°	7037.4	4548.9	264.4	147.3	96.0	71.7	54.6	44.1	38.8	35.5	36.2
57.5°	8037.0	5210.4	254.5	131.5	86.8	63.8	48.0	38.8	33.5	30.3	30.9
60°	9022.1	5738.5	230.8	113.1	78.3	57.2	42.1	33.5	30.3	26.3	26.3
62.5°	9893.5	6054.2	196.6	98.0	70.4	50.6	37.5	30.3	27.6	23.7	23.7
65°	10486.6	6068.7	158.5	84.2	61.8	43.4	32.9	28.3	25.6	21.0	20.4
67.5°	10495.2	5674.1	126.9	75.0	54.6	38.1	29.6	27.0	23.7	19.7	18.4
70°	9393.7	4687.6	105.9	65.8	47.3	33.5	25.6	25.6	23.0	19.1	17.1
72.5°	7514.1	3582.1	88.8	57.2	42.1	28.9	23.7	24.3	22.4	19.1	17.1
75°	5050.6	2054.5	73.7	48.7	36.8	24.3	23.0	23.7	23.0	19.1	16.4
77.5°	2326.1	654.3	57.2	40.1	31.6	20.4	22.4	22.4	21.0	17.1	14.5
80°	524.1	161.1	41.4	29.6	25.6	15.1	20.4	18.4	16.4	11.8	8.5
82.5°	190.7	49.3	25.0	18.4	15.8	5.9	13.2	13.2	11.8	8.5	5.3
85°	109.2	25.6	13.8	11.8	8.5	2.6	7.2	7.9	6.6	5.9	2.6
87.5°	35.5	5.9	6.6	7.2	6.6	1.3	2.6	2.6	2.0	1.3	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)