

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: P367649

Luminaire Tested: **MSA-SA2D-830-U-T3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367649
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-SA2D-830-U-T3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 7915 lumens
Efficiency: N/A
Efficacy: 61.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

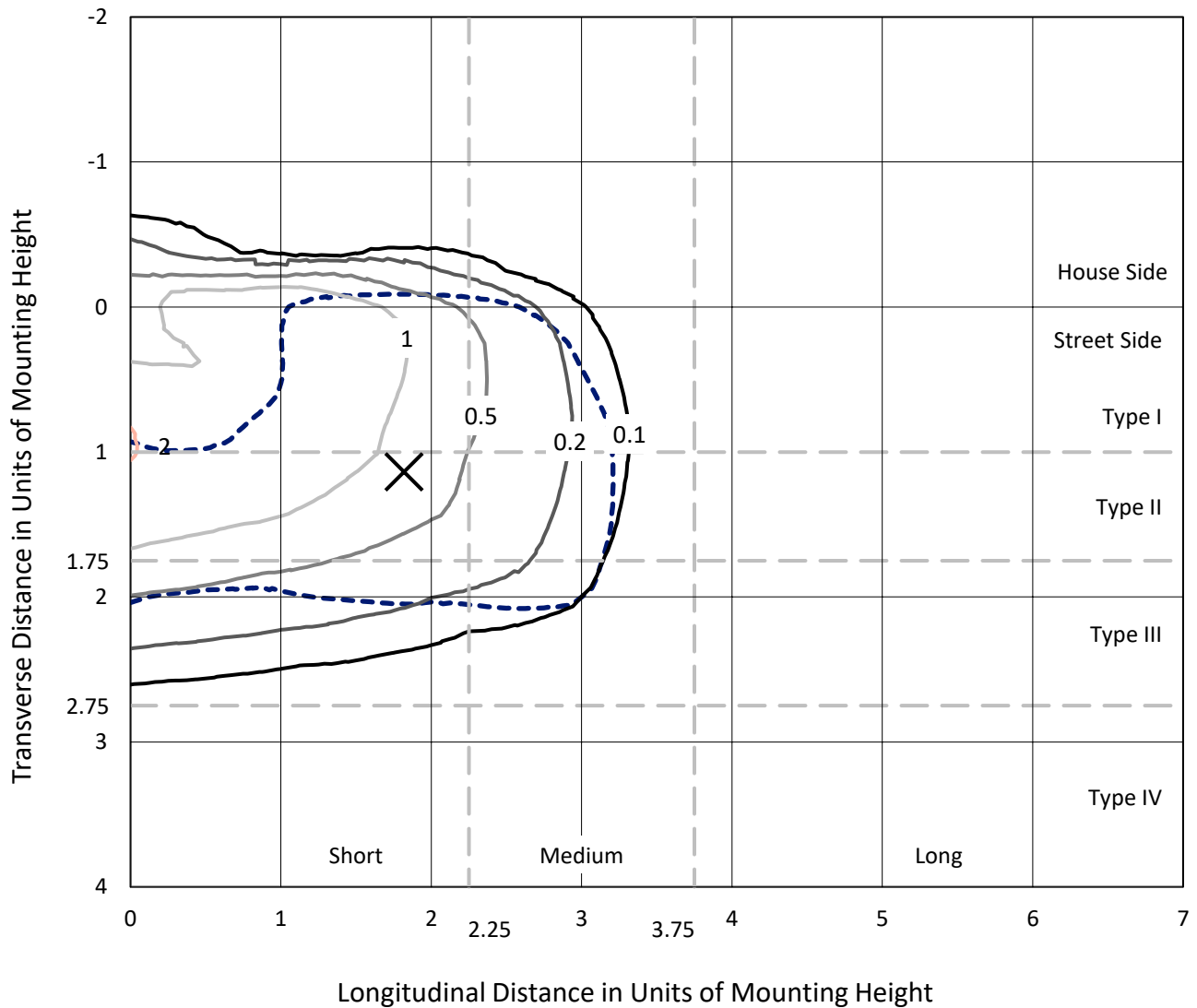
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P367649
 CATALOG NUMBER: MSA-SA2D-830-U-T3-HSS

Iso-Footcandle Lines of Horizontal Illumination

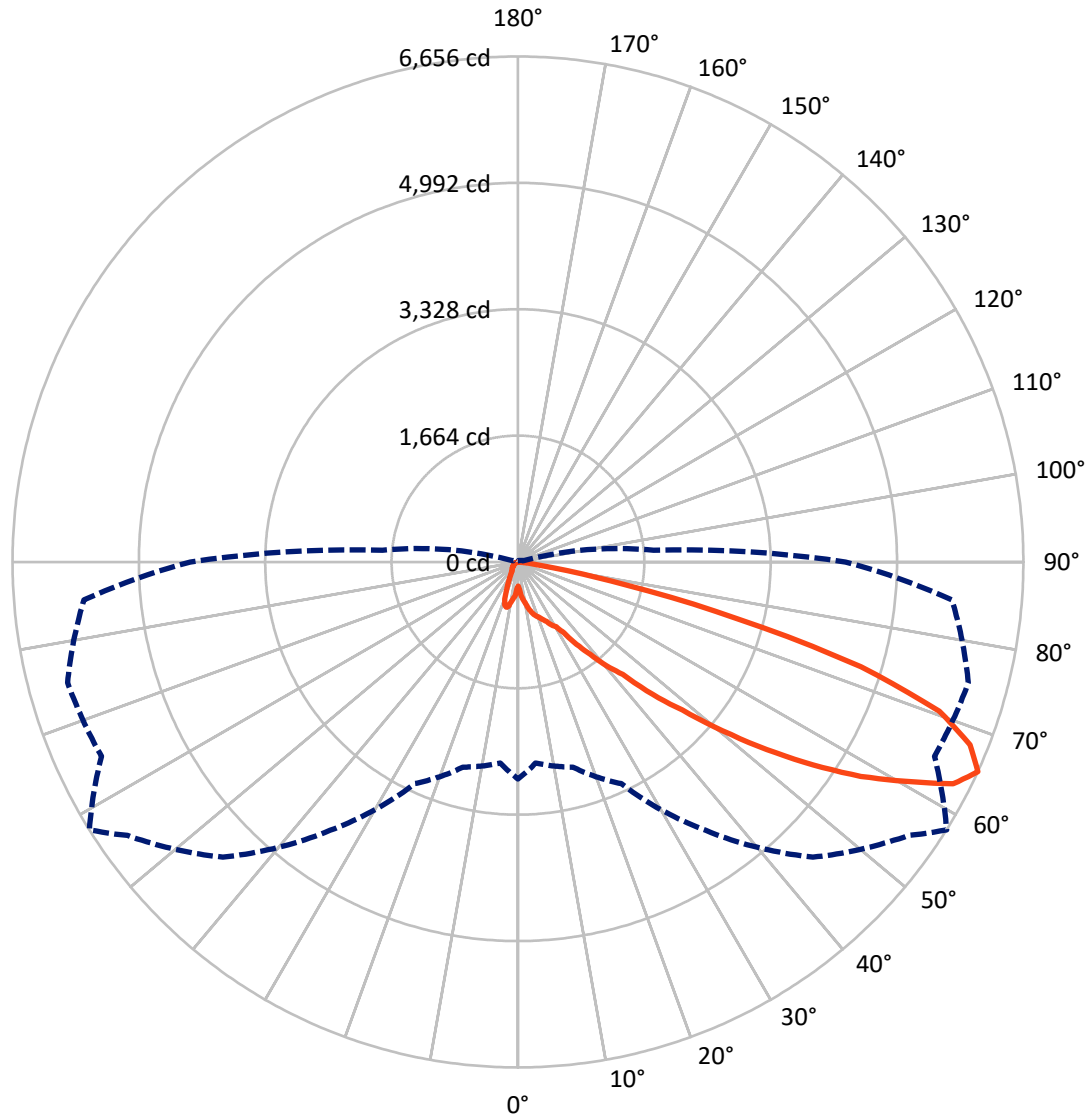
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.1 fc
 Type III - Short - N/A

REPORT NUMBER: P367649
CATALOG NUMBER: MSA-SA2D-830-U-T3-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P367649

CATALOG NUMBER: MSA-SA2D-830-U-T3-HSS

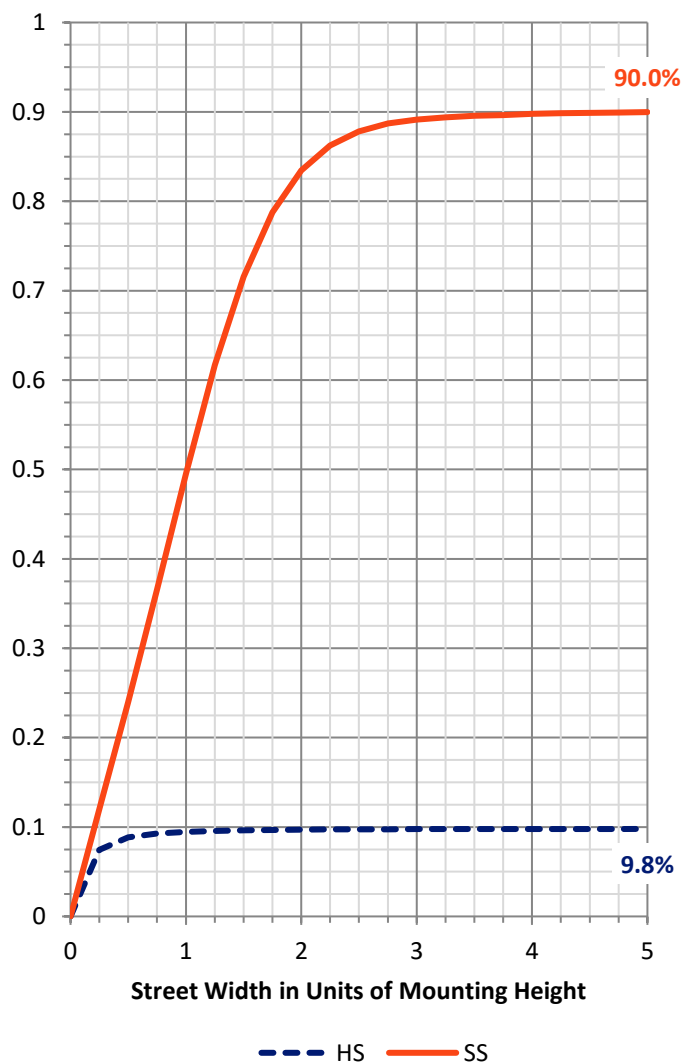
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	781.0	0.0	781.0
	% Fixture	9.9	0.0	9.9
Street Side	Lumens	7134.0	0.0	7134.0
	% Fixture	90.1	0.0	90.1
Total	Lumens	7915.0	0.0	7915.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.5	0.6
10°-20°	162.5	2.1
20°-30°	314.5	4.0
30°-40°	627.4	7.9
40°-50°	1282.7	16.2
50°-60°	2275.2	28.7
60°-70°	2398.7	30.3
70°-80°	777.7	9.8
80°-90°	31.8	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°	7915.0	100.0
0°-180°	7915.0	100.0

Coefficient of Utilization



REPORT NUMBER: P367649

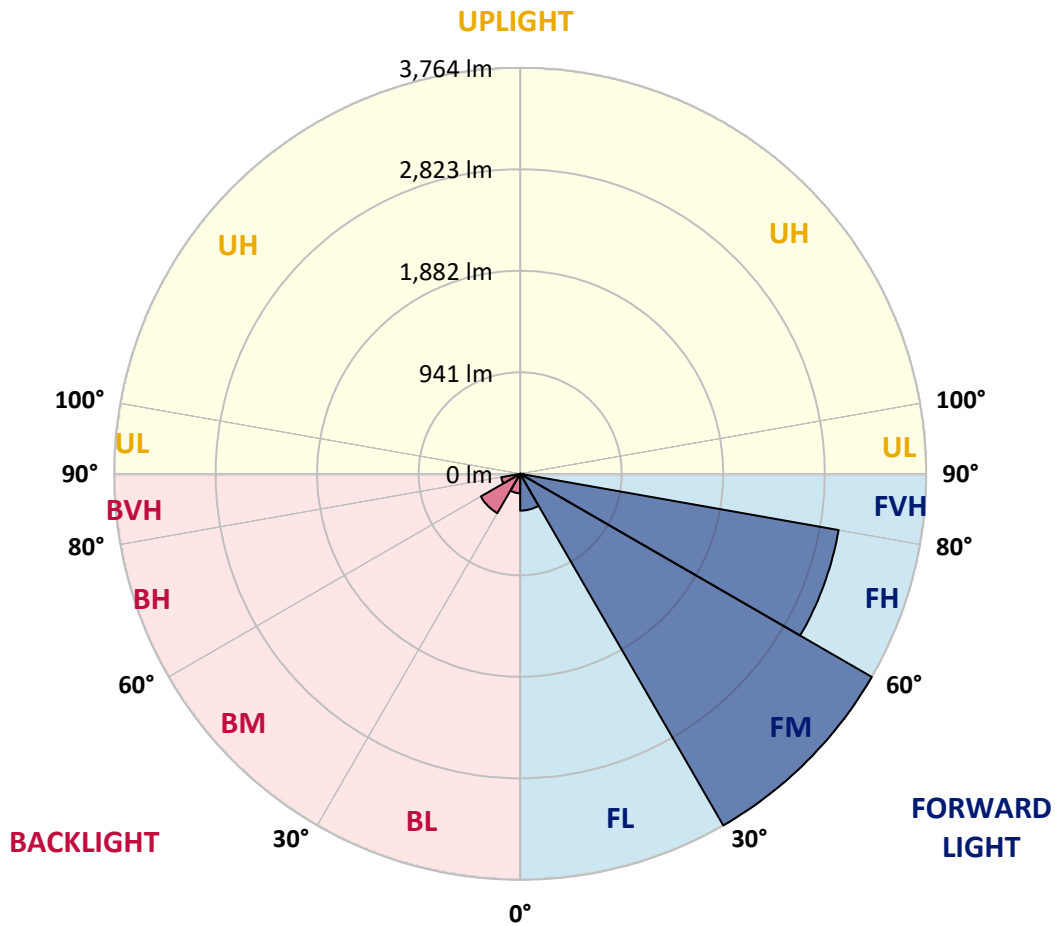
CATALOG NUMBER: MSA-SA2D-830-U-T3-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	341.5	4.3			
FM (30°-60°)	3764.0	47.6			
FH (60°-80°)	2998.1	37.9			G2/5000
FVH (80°-90°)	30.5	0.4			G1/100
BL (0°-30°)	180.0	2.3	B1/500		
BM (30°-60°)	421.4	5.3	B1/1000		
BH (60°-80°)	178.3	2.3	B1/500		G1/500
BVH (80°-90°)	1.3	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type III Short





REPORT NUMBER: P367649

CATALOG NUMBER: MSA-SA2D-830-U-T3-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	316.8	316.8	316.8	316.8	316.8	316.8	316.8	316.8	316.8	316.8	316.8
2.5°	386.8	375.2	357.0	360.1	363.6	370.8	365.0	359.6	353.8	346.3	375.2
5°	467.0	447.9	446.1	442.1	439.0	438.5	445.6	443.4	446.5	460.8	475.5
7.5°	496.4	488.4	473.3	479.5	469.7	462.1	493.8	504.0	523.6	530.3	568.6
10°	493.3	481.7	488.0	491.1	497.8	525.4	545.5	556.6	573.5	610.1	602.5
12.5°	507.6	517.8	524.5	525.0	559.3	610.1	624.3	633.7	664.0	678.3	715.7
15°	555.3	572.2	561.5	566.0	577.1	639.0	672.5	693.0	735.8	782.1	791.5
17.5°	623.4	634.1	611.9	595.8	626.6	660.4	721.0	742.4	769.6	877.9	898.0
20°	709.5	727.7	679.6	615.9	656.4	696.5	762.5	772.7	801.7	943.0	974.6
22.5°	910.4	883.3	809.7	710.3	698.3	716.1	779.0	819.1	868.1	979.5	1053.0
25°	1108.8	1099.4	991.1	880.1	799.9	759.8	843.2	865.4	945.6	1066.4	1107.0
27.5°	1329.3	1348.1	1167.1	1099.8	942.5	811.5	883.3	939.0	1033.9	1098.1	1195.7
30°	1620.3	1590.5	1378.4	1311.1	1131.5	953.7	987.1	990.7	1130.1	1202.3	1295.0
32.5°	1848.5	1867.7	1601.2	1497.8	1354.3	1172.5	1065.1	1111.4	1211.2	1372.1	1459.9
35°	2095.4	2093.6	1833.8	1694.8	1507.2	1351.2	1296.4	1330.2	1455.5	1637.7	1660.9
37.5°	2464.4	2432.7	2126.1	1922.5	1763.0	1629.7	1587.8	1542.8	1672.0	1845.8	1932.7
40°	2812.4	2703.2	2419.8	2178.3	1974.2	1919.8	1768.3	1795.9	1834.3	2063.8	2304.0
42.5°	3164.0	3096.3	2717.5	2515.2	2264.3	2135.1	2036.1	2023.2	2205.5	2477.3	2725.5
45°	3628.0	3420.7	3117.7	2939.9	2649.3	2519.6	2439.9	2487.6	2651.6	3048.6	3214.0
47.5°	4017.4	3826.7	3566.5	3296.4	2991.6	3137.3	2987.6	2912.3	3137.3	3547.7	3767.4
50°	4352.1	4139.5	3876.2	3676.1	3626.6	3766.5	3463.5	3491.1	3637.3	4119.5	4243.4
52.5°	4595.4	4371.7	4141.8	4045.1	4247.8	4318.2	4166.3	4105.2	4238.0	4607.0	4667.2
55°	4778.6	4549.5	4369.9	4503.2	4895.4	4872.2	4925.7	4717.1	4844.1	5115.5	5087.0
57.5°	4789.7	4518.3	4413.2	4627.5	5165.9	5524.6	5681.0	5326.3	5398.5	5513.0	5448.8
60°	4439.5	4169.4	4160.9	4465.3	5244.3	5693.5	6035.7	5862.8	5766.1	5851.2	5729.6
62.5°	3741.6	3552.6	3640.9	3977.3	4952.4	5600.4	6224.7	6432.8	6056.2	6075.4	5902.5
65°	2857.0	2658.7	2796.8	3220.6	4314.2	5496.1	6278.2	6655.6	6050.9	6139.1	5736.7
67.5°	1892.2	1777.2	1933.6	2400.7	3430.1	4851.7	6250.5	6421.7	5858.8	5890.0	5121.3
70°	976.8	948.8	1075.3	1443.9	2306.2	3727.3	5979.1	5885.6	5468.9	5074.1	3950.1
72.5°	312.8	314.2	435.8	659.5	1243.3	2269.2	4595.9	4724.2	4376.2	3711.7	2411.8
75°	138.6	136.4	182.3	276.7	518.3	1017.4	2855.2	2993.8	2724.6	2041.9	1013.8
77.5°	99.8	96.7	116.8	161.8	256.7	344.9	1338.7	1444.8	1235.3	707.7	232.2
80°	70.4	70.0	84.7	113.6	160.4	153.3	422.9	474.2	379.7	171.6	68.2
82.5°	39.7	41.0	58.8	80.2	97.6	76.7	119.0	131.0	127.9	91.4	29.9
85°	19.2	21.4	38.3	57.9	51.2	29.9	42.3	45.9	53.5	53.0	15.2
87.5°	0.0	0.0	15.6	26.3	13.8	4.5	12.9	14.7	14.3	16.9	3.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P367649
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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	316.8	316.8	316.8	316.8	316.8	316.8	316.8	316.8	316.8	316.8	316.8
2.5°	381.0	378.3	344.5	347.2	354.7	351.6	354.3	348.0	340.9	369.9	369.4
5°	481.7	461.7	451.0	441.2	443.0	422.9	434.5	439.8	439.0	455.4	459.9
7.5°	570.0	543.2	521.8	501.3	470.1	442.1	459.5	470.6	478.2	506.7	517.8
10°	611.4	589.6	581.1	541.0	518.7	501.3	480.4	465.2	471.5	463.9	471.5
12.5°	702.3	687.6	655.1	614.5	587.8	552.1	474.2	409.1	369.0	369.4	366.8
15°	785.2	784.3	735.8	668.5	590.9	489.3	367.7	285.7	247.8	237.1	233.5
17.5°	893.5	880.1	791.5	692.1	552.6	378.8	250.4	195.6	192.1	198.3	195.6
20°	962.6	943.0	819.1	657.8	455.4	256.2	189.0	173.4	184.0	193.0	190.7
22.5°	1031.7	1002.2	840.0	615.9	324.0	187.6	170.7	168.0	174.7	185.8	187.6
25°	1069.5	1063.7	881.0	537.4	221.9	164.4	164.4	163.5	165.8	173.8	172.5
27.5°	1179.6	1101.2	850.3	419.3	171.6	151.1	153.3	152.4	144.4	152.4	152.9
30°	1248.2	1212.1	852.5	298.6	151.1	133.7	139.5	132.4	120.3	127.0	125.7
32.5°	1386.4	1296.4	845.8	201.4	137.7	127.5	118.5	108.3	99.4	102.1	99.8
35°	1547.3	1478.6	755.4	161.8	128.3	112.7	98.5	88.2	78.9	81.1	80.7
37.5°	1867.2	1649.3	680.5	145.7	122.1	103.4	86.9	72.6	67.7	69.1	70.4
40°	2163.6	1934.1	541.0	138.6	111.4	92.2	71.7	61.5	58.4	59.3	60.6
42.5°	2606.5	2160.5	408.7	131.5	100.7	78.0	59.7	53.0	49.9	51.7	52.6
45°	3035.3	2353.0	305.3	125.2	91.8	67.3	50.4	45.9	42.3	43.7	45.5
47.5°	3463.5	2566.9	227.7	115.4	82.0	57.9	43.2	40.1	37.9	38.3	40.6
50°	3846.8	2666.7	179.1	103.4	74.0	50.4	39.2	36.1	35.2	35.7	37.4
52.5°	4128.4	2667.6	151.1	92.7	66.4	44.6	37.0	33.4	33.0	33.9	35.7
55°	4382.9	2596.3	131.0	83.3	59.7	40.6	35.2	32.1	32.1	33.0	34.8
57.5°	4551.8	2465.3	113.6	73.5	53.9	38.3	33.9	30.7	30.3	29.9	31.2
60°	4634.2	2286.6	96.3	64.6	48.6	37.0	33.0	27.2	26.7	25.8	26.7
62.5°	4582.1	2062.9	80.7	55.7	43.2	35.2	29.0	23.6	22.7	20.9	22.3
65°	4315.6	1791.0	68.2	47.7	37.4	29.9	24.5	20.1	17.8	15.6	15.2
67.5°	3770.6	1455.0	57.0	41.0	32.1	24.5	20.1	17.8	13.8	12.0	11.6
70°	2825.8	993.3	47.2	35.2	26.7	20.9	16.9	16.0	12.9	11.6	10.7
72.5°	1657.8	536.1	39.7	30.7	22.7	17.4	13.8	14.7	12.9	10.7	9.8
75°	662.2	178.3	31.6	24.5	18.3	12.5	11.6	12.0	11.6	9.8	8.0
77.5°	151.1	56.2	24.5	19.2	14.3	8.0	9.4	10.2	10.2	8.0	5.8
80°	47.2	22.3	14.3	12.0	10.2	4.5	6.7	7.1	4.9	2.2	0.0
82.5°	15.2	6.2	4.9	4.9	4.5	0.9	1.3	0.9	0.0	0.0	0.0
85°	5.8	4.0	3.1	3.1	1.8	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	2.2	1.8	1.3	1.8	0.9	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)