

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: P368179

Luminaire Tested: **MSA-SA3D-830-U-T4FT-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368179  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3D-830-U-T4FT-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

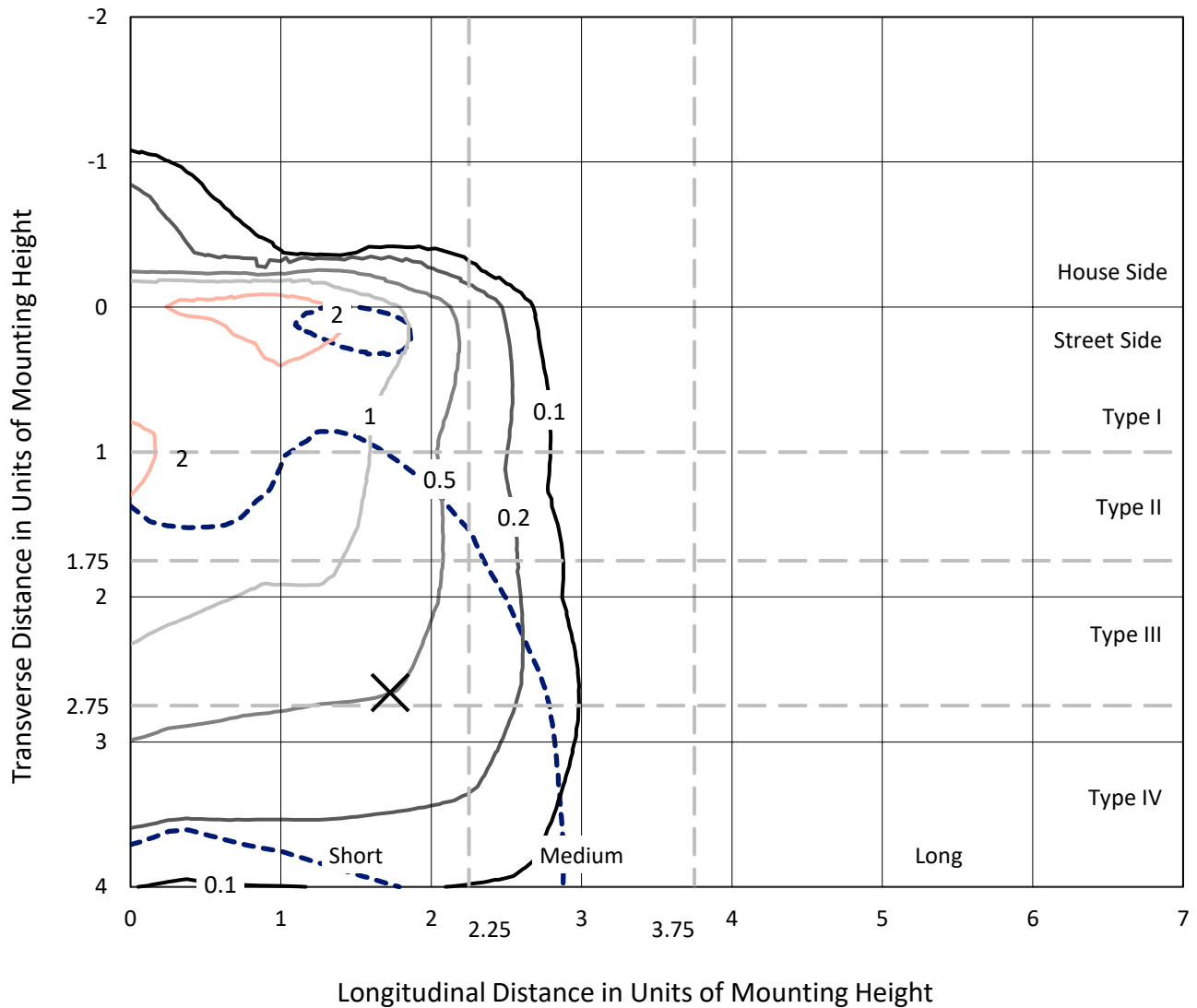
Lumens per Lamp: N/A  
Luminaire Lumens: 11844 lumens  
Efficiency: N/A  
Efficacy: 61.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3  
  
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

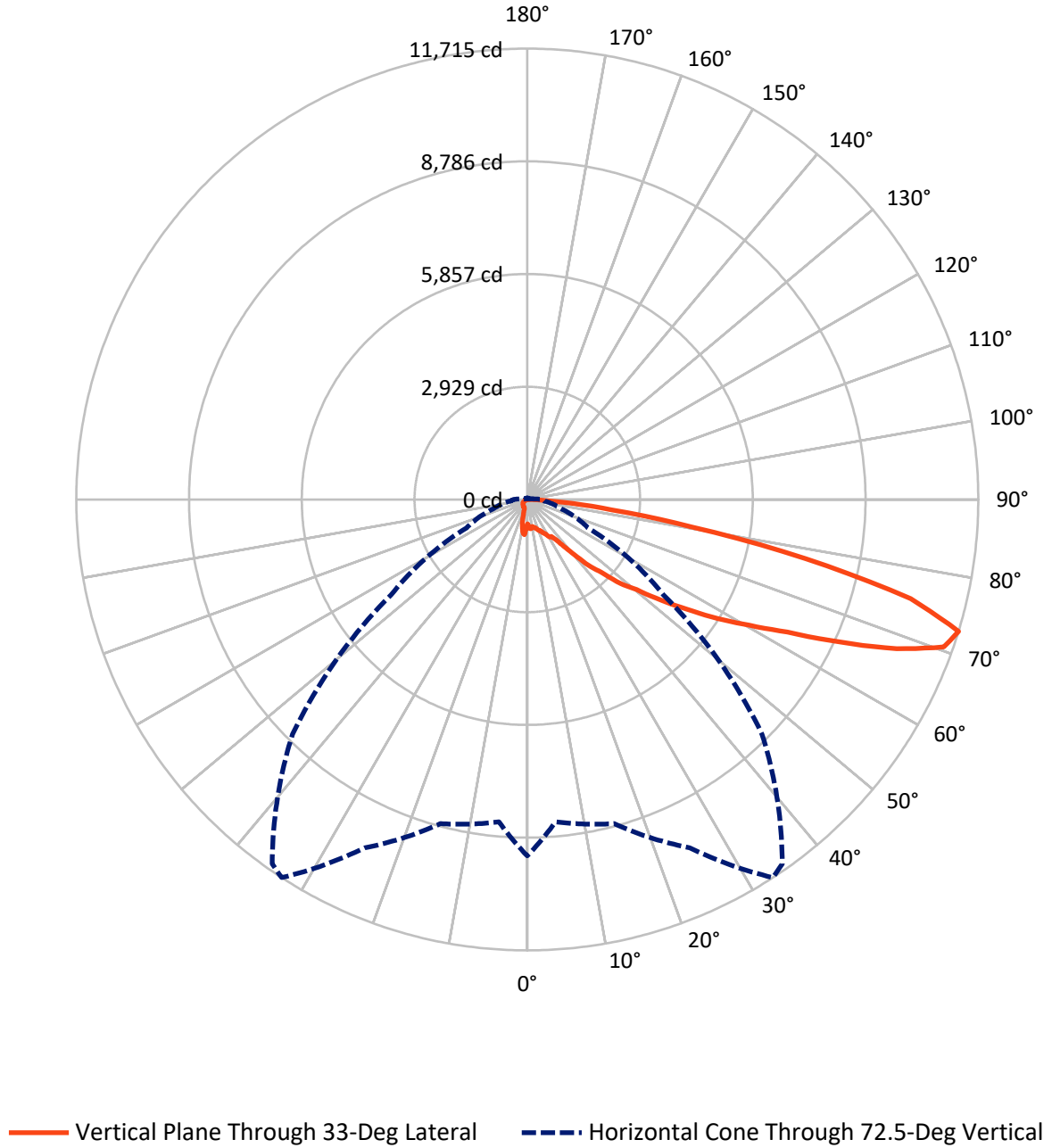
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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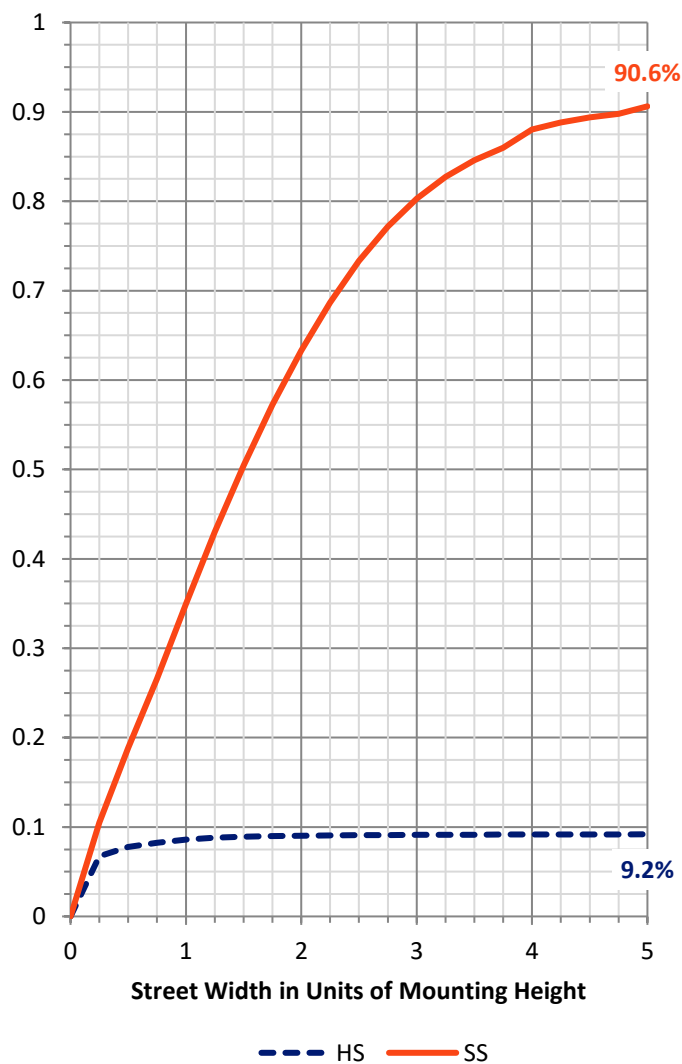
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1095.1	0.0	1095.1
	% Fixture	9.2	0.0	9.2
<b>Street Side</b>	Lumens	10748.8	0.0	10748.8
	% Fixture	90.8	0.0	90.8
<b>Total</b>	Lumens	11844.0	0.0	11844.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.5	0.7
10°-20°	243.0	2.1
20°-30°	412.0	3.5
30°-40°	754.1	6.4
40°-50°	1591.6	13.4
50°-60°	2662.8	22.5
60°-70°	3564.3	30.1
70°-80°	2328.2	19.7
80°-90°	206.4	1.7
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°	11844.0	100.0
0°-180°	11844.0	100.0

**Coefficient of Utilization**

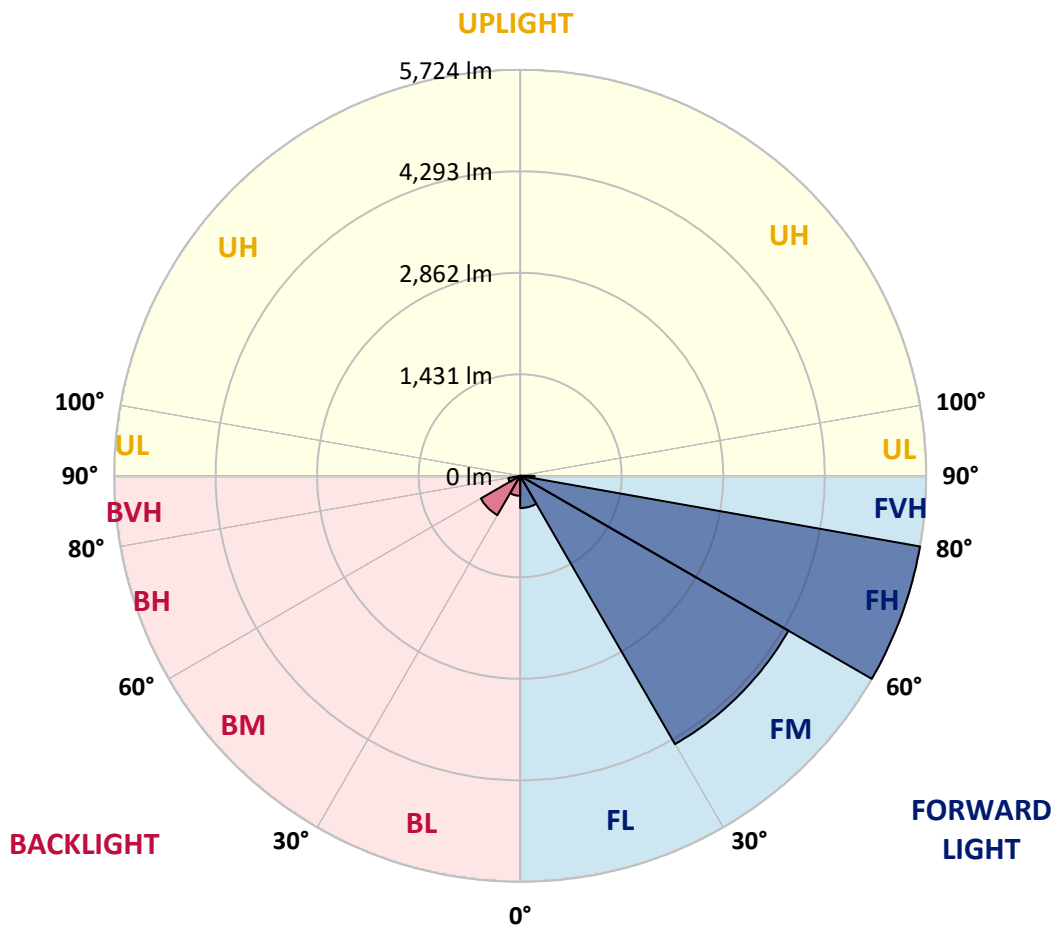


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	454.7	3.8			
FM (30°-60°)	4368.2	36.9			
FH (60°-80°)	5723.5	48.3			G3/7500
FVH (80°-90°)	202.4	1.7			G2/225
BL (0°-30°)	281.9	2.4	B1/500		
BM (30°-60°)	640.2	5.4	B1/1000		
BH (60°-80°)	169.0	1.4	B1/500		G1/500
BVH (80°-90°)	4.0	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-G3**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0
2.5°	751.0	722.0	679.9	682.6	689.8	695.7	711.5	704.9	692.4	691.8	751.0
5°	795.7	763.5	760.8	764.8	762.8	773.3	760.2	802.9	839.1	882.5	952.2
7.5°	774.0	758.8	739.8	759.5	758.8	753.6	762.1	848.9	936.4	991.6	1106.7
10°	711.5	694.4	708.9	715.4	710.8	733.9	791.1	862.1	966.6	1082.4	1138.3
12.5°	693.7	704.3	709.5	709.5	753.6	765.4	852.9	920.0	1044.2	1135.6	1298.1
15°	762.8	783.2	747.0	739.1	752.9	759.5	856.8	937.7	1096.8	1263.9	1400.0
17.5°	872.6	871.3	815.4	784.5	806.2	822.0	875.9	970.6	1064.0	1364.5	1561.8
20°	948.2	949.5	848.9	784.5	856.2	865.4	925.2	1000.8	1074.5	1415.1	1667.6
22.5°	1045.6	1010.7	899.6	837.1	885.8	894.3	960.1	1019.9	1128.4	1409.2	1803.1
25°	1125.1	1102.8	962.7	919.3	962.7	950.9	1010.7	1100.8	1186.3	1503.2	1882.7
27.5°	1248.7	1210.6	1007.4	1015.3	1012.7	1021.2	1035.0	1173.1	1288.2	1507.8	2066.8
30°	1363.8	1341.5	1107.4	1107.4	1133.0	1116.6	1126.4	1293.5	1386.8	1614.4	2273.9
32.5°	1482.8	1484.2	1225.1	1162.6	1142.2	1210.0	1276.4	1352.0	1505.9	1797.2	2590.9
35°	1797.8	1771.5	1450.6	1294.8	1278.3	1274.4	1380.9	1585.4	1716.9	2035.2	3017.6
37.5°	2432.4	2341.0	1935.9	1594.6	1532.8	1511.8	1632.8	1842.5	1973.4	2385.0	3723.2
40°	3083.4	2915.7	2465.9	2081.2	1880.7	1789.9	1930.7	2108.9	2341.6	2771.7	4376.2
42.5°	3654.8	3447.7	2865.1	2606.0	2344.9	2305.5	2173.3	2463.3	2867.7	3334.6	5016.0
45°	4211.8	3804.1	3220.2	3015.0	2698.1	2720.4	2675.7	2926.9	3414.2	3951.4	5583.5
47.5°	4595.2	4228.9	3655.5	3389.2	3262.3	3131.4	3486.5	3747.6	3900.8	4343.3	6074.1
50°	5008.1	4637.3	4029.7	3843.6	3676.5	3808.7	4269.7	4304.5	4292.0	4708.9	6408.1
52.5°	5541.4	5104.1	4459.1	4248.6	4343.3	4474.8	5006.8	5013.4	4639.9	5016.7	6648.8
55°	6034.6	5550.0	5031.2	4832.6	5030.5	5141.6	5731.5	5515.1	4842.4	5225.8	6767.2
57.5°	6729.7	6168.8	5792.0	5442.1	5843.3	5736.7	6368.7	6047.1	5070.0	5364.6	6723.8
60°	7608.2	6948.0	6570.6	6200.3	6630.4	6702.7	6990.8	6312.8	5158.1	5409.9	6462.7
62.5°	8501.9	7837.7	7341.2	7090.0	7578.0	7816.0	7566.8	6445.0	5052.2	5321.2	5871.5
65°	9610.6	8760.3	8180.3	8033.0	8937.2	9287.0	8248.0	6477.2	4847.7	4832.6	4720.8
67.5°	10370.1	9542.2	9010.2	9256.8	10349.0	10377.3	8859.6	6487.0	4159.2	3783.7	3098.5
70°	10550.2	9663.8	9425.8	10151.7	11475.5	11119.7	9056.9	5987.3	3084.7	2245.6	1416.4
72.5°	9261.4	8407.8	8717.6	9982.7	11714.8	11551.7	8620.9	4319.7	1736.7	898.3	434.7
75°	5680.8	5164.6	6539.6	8463.7	10283.3	10178.0	6725.7	2231.8	699.7	359.0	162.4
77.5°	2470.5	2294.3	3412.8	5615.7	7389.2	7295.2	3940.9	822.0	361.7	252.5	82.2
80°	817.4	793.0	1292.8	2659.3	4328.2	4245.3	1660.4	341.9	257.8	202.5	46.0
82.5°	194.0	192.7	451.1	1223.8	2204.9	2135.8	509.6	188.7	186.8	159.8	24.3
85°	48.7	50.0	124.9	500.4	895.6	789.8	132.8	94.0	131.5	108.5	12.5
87.5°	0.0	0.0	32.2	71.7	135.5	84.8	14.5	25.0	36.8	38.8	6.6
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°	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0
2.5°	764.1	756.9	697.7	712.2	734.5	732.5	747.0	735.8	726.0	774.6	770.0
5°	971.9	932.5	914.0	939.7	925.9	893.7	920.6	916.0	908.1	924.6	937.1
7.5°	1127.8	1091.6	1075.1	1021.2	943.0	881.2	891.0	868.0	846.3	872.0	898.3
10°	1179.0	1159.3	1157.3	1052.1	978.5	889.1	783.2	691.8	667.4	635.2	649.7
12.5°	1318.5	1330.3	1256.0	1133.0	991.0	819.3	631.3	501.7	449.1	414.9	416.9
15°	1432.9	1474.3	1366.5	1145.5	872.0	624.7	420.2	303.8	270.9	262.4	259.7
17.5°	1603.2	1643.3	1400.6	1056.7	703.0	423.5	270.3	236.7	238.7	244.6	243.3
20°	1729.4	1723.5	1371.1	899.6	518.2	277.5	226.2	221.6	232.1	249.2	245.3
22.5°	1851.1	1810.3	1352.6	754.2	335.4	222.9	218.3	217.7	227.5	244.0	248.6
25°	1937.9	1944.5	1321.7	590.5	244.0	207.1	211.1	217.0	226.9	244.6	242.0
27.5°	2186.5	2002.3	1192.9	428.7	205.8	198.6	208.5	220.3	223.6	245.9	246.6
30°	2347.6	2220.7	1108.7	288.7	190.0	183.5	203.2	219.0	222.9	251.9	253.8
32.5°	2628.4	2314.7	1011.4	214.4	176.9	178.9	191.4	212.4	230.8	261.7	263.0
35°	2977.5	2616.5	835.1	192.7	172.3	169.0	174.9	199.2	229.5	263.0	269.6
37.5°	3642.3	2797.4	662.2	186.8	172.3	166.4	172.3	186.8	225.6	276.2	290.0
40°	4087.5	3165.6	477.4	185.4	169.0	163.7	165.7	180.2	214.4	268.3	288.7
42.5°	4636.0	3320.8	351.8	182.2	165.7	157.8	159.1	177.5	203.2	251.9	267.0
45°	5085.1	3433.9	276.8	180.8	157.8	155.2	157.8	175.6	192.7	216.3	230.2
47.5°	5426.4	3565.4	222.3	172.3	155.8	155.2	151.9	164.4	174.9	180.8	190.0
50°	5676.2	3535.8	184.1	159.1	149.3	153.2	147.3	149.3	151.9	148.6	159.1
52.5°	5829.5	3429.3	153.2	143.4	141.4	144.7	137.4	131.5	126.9	124.3	130.9
55°	5885.4	3215.6	130.2	123.0	127.6	128.9	123.0	112.4	104.6	100.6	105.9
57.5°	5779.5	2890.1	113.1	101.9	112.4	112.4	104.6	93.4	84.2	77.6	82.9
60°	5511.2	2530.4	100.6	84.8	96.0	96.7	87.5	75.6	68.4	61.8	65.1
62.5°	5011.4	2138.5	88.1	73.6	82.9	83.5	72.3	61.2	55.9	48.7	51.3
65°	4011.9	1635.4	75.0	65.1	71.7	69.7	59.8	51.9	45.4	38.8	40.1
67.5°	2604.0	1009.4	65.1	59.2	60.5	58.5	50.6	45.4	38.1	32.9	33.5
70°	1165.9	434.7	57.2	53.3	52.6	49.3	42.7	42.1	37.5	32.9	32.9
72.5°	359.7	163.7	49.3	48.0	45.4	41.4	37.5	40.1	36.8	31.6	30.9
75°	142.0	75.0	40.8	40.8	39.5	34.2	33.5	36.2	34.2	28.9	27.6
77.5°	74.3	47.3	33.5	34.9	34.2	26.3	30.2	32.9	31.6	24.3	20.4
80°	44.1	28.9	25.0	28.3	27.6	18.4	23.0	21.0	15.1	7.2	2.0
82.5°	24.3	13.2	11.2	16.4	16.4	6.6	11.8	10.5	5.9	0.0	0.0
85°	11.8	9.2	8.5	9.2	6.6	2.0	5.9	5.9	3.3	0.0	0.0
87.5°	5.9	5.3	3.9	3.3	2.6	0.0	2.0	2.6	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)