

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: P596823

Luminaire Tested: **MSA-SA4D-827-U-T4FT-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596823
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-827-U-T4FT-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 14482 lumens
Efficiency: N/A
Efficacy: 55.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

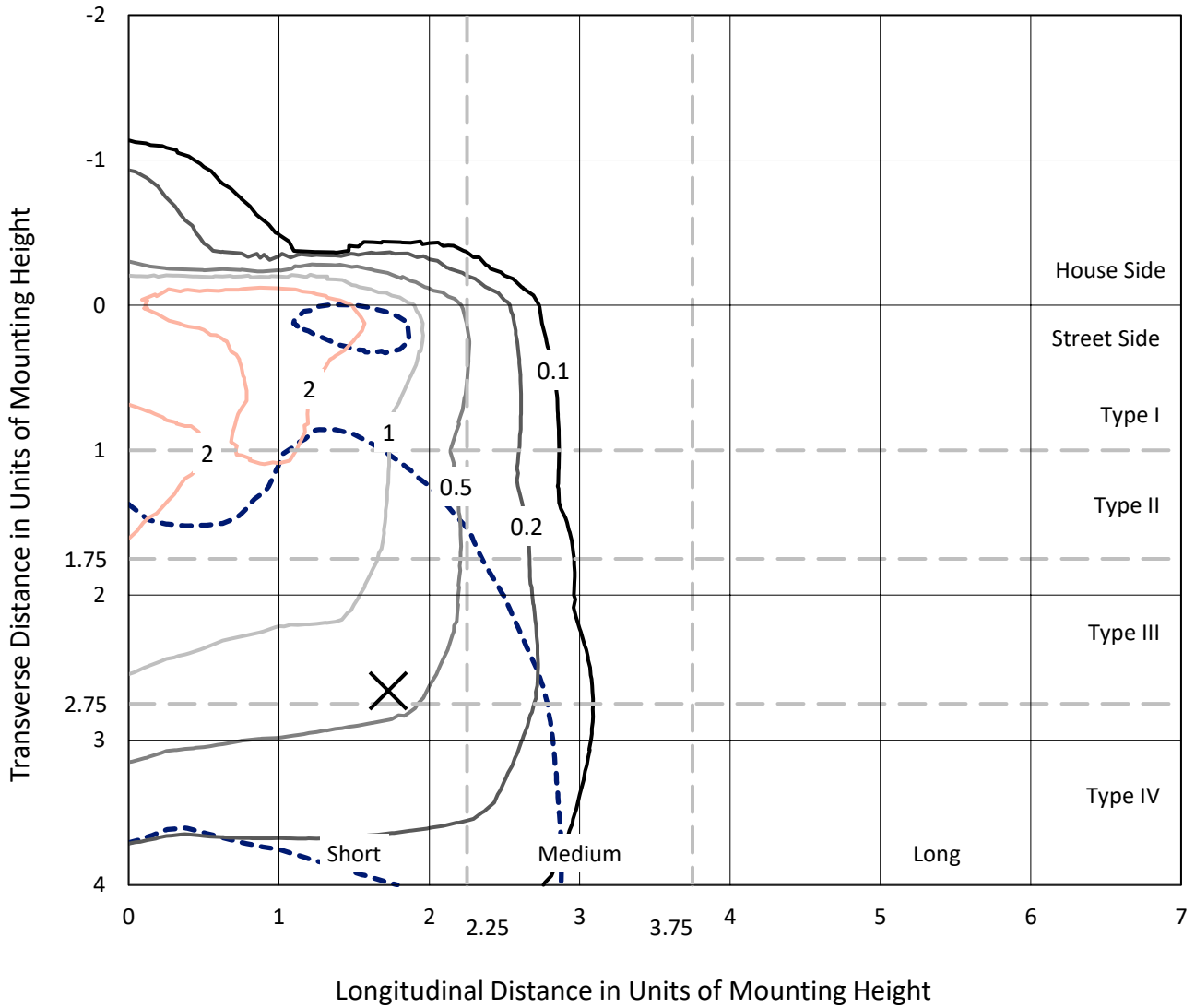
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

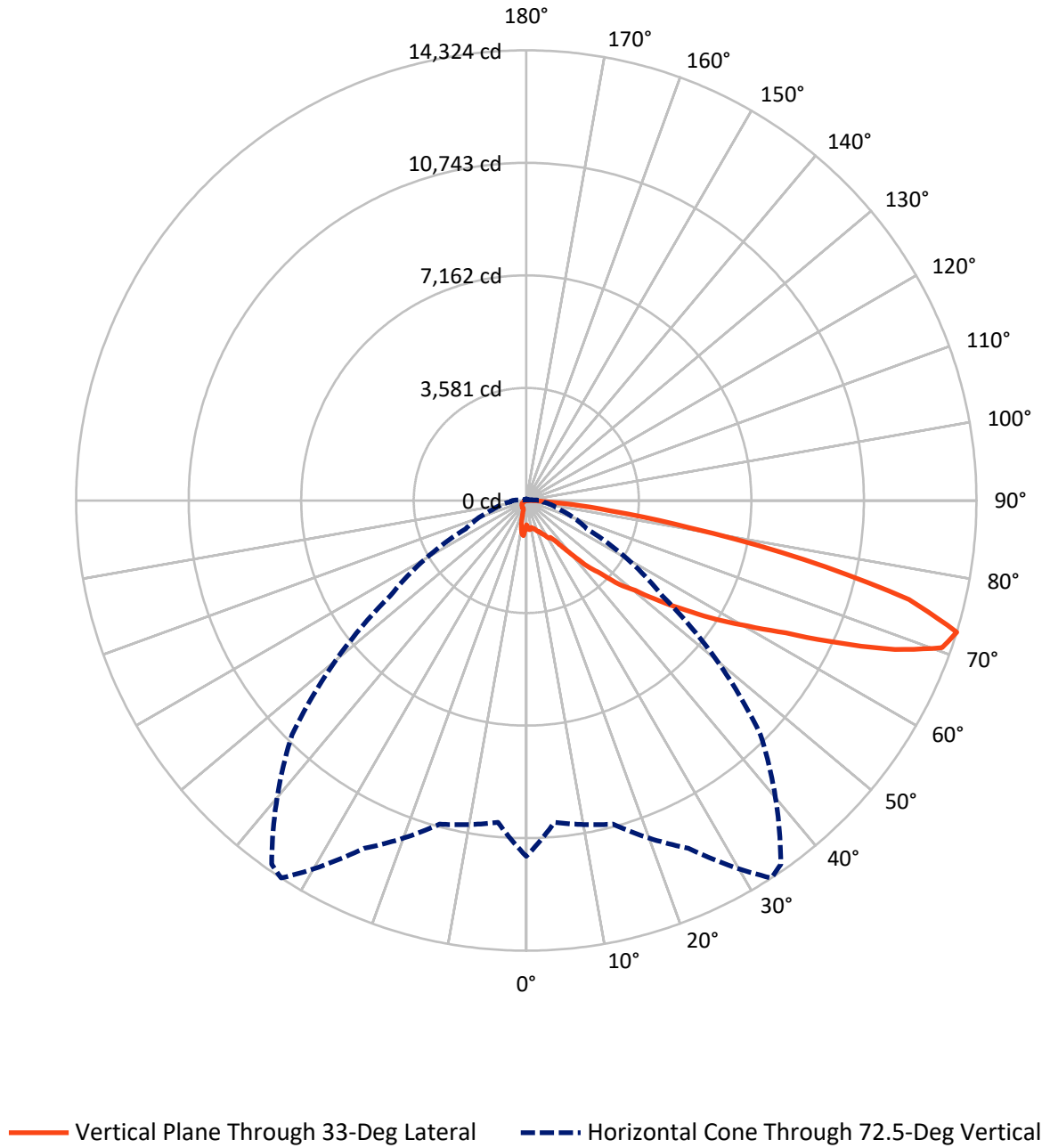
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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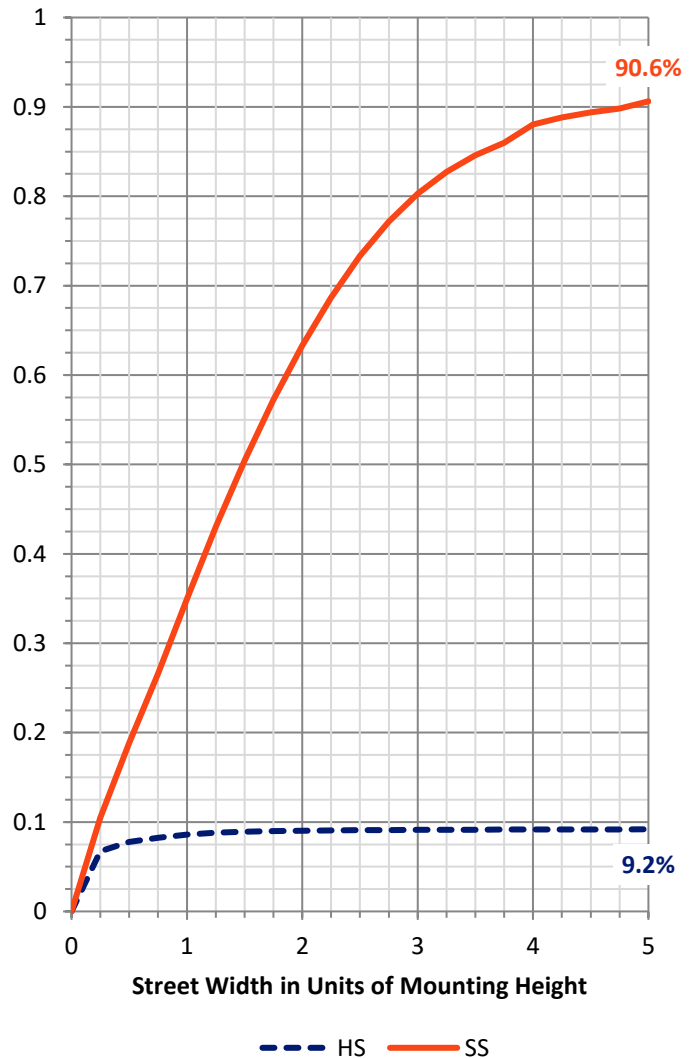
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1339.1	0.0	1339.1
	% Fixture	9.2	0.0	9.2
Street Side	Lumens	13142.9	0.0	13142.9
	% Fixture	90.8	0.0	90.8
Total	Lumens	14482.0	0.0	14482.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.7	0.7
10°-20°	297.1	2.1
20°-30°	503.8	3.5
30°-40°	922.1	6.4
40°-50°	1946.1	13.4
50°-60°	3255.9	22.5
60°-70°	4358.2	30.1
70°-80°	2846.8	19.7
80°-90°	252.4	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°	14482.0	100.0
0°-180°	14482.0	100.0

Coefficient of Utilization



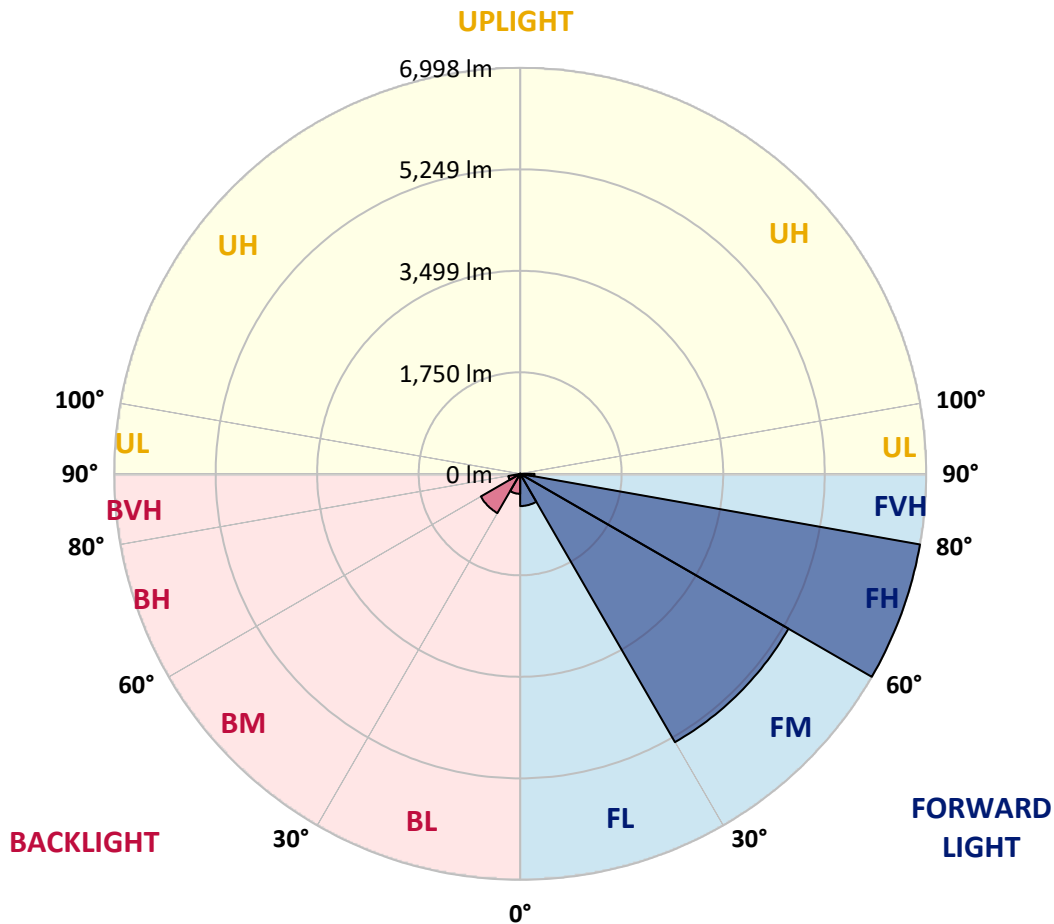
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	555.9	3.8			
FM (30°-60°)	5341.2	36.9			
FH (60°-80°)	6998.3	48.3			G3/7500
FVH (80°-90°)	247.5	1.7			G3/500
BL (0°-30°)	344.7	2.4	B1/500		
BM (30°-60°)	782.8	5.4	B1/1000		
BH (60°-80°)	206.7	1.4	B1/500		G1/500
BVH (80°-90°)	4.9	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°	770.3	770.3	770.3	770.3	770.3	770.3	770.3	770.3	770.3	770.3	770.3
2.5°	918.2	882.8	831.4	834.6	843.4	850.7	870.0	861.9	846.7	845.9	918.2
5°	972.9	933.5	930.3	935.1	932.7	945.6	929.5	981.7	1026.0	1079.0	1164.3
7.5°	946.4	927.9	904.5	928.7	927.9	921.4	931.9	1038.0	1145.0	1212.5	1353.2
10°	870.0	849.1	866.8	874.8	869.2	897.3	967.3	1054.1	1181.9	1323.5	1391.8
12.5°	848.3	861.1	867.6	867.6	921.4	935.9	1042.8	1124.9	1276.8	1388.6	1587.2
15°	932.7	957.6	913.4	903.7	920.6	928.7	1047.7	1146.6	1341.1	1545.4	1711.8
17.5°	1067.0	1065.4	997.0	959.2	985.8	1005.1	1071.0	1186.8	1300.9	1668.4	1909.6
20°	1159.4	1161.0	1038.0	959.2	1046.9	1058.1	1131.3	1223.8	1313.8	1730.3	2039.1
22.5°	1278.4	1235.8	1099.9	1023.5	1083.0	1093.5	1173.9	1247.1	1379.7	1723.1	2204.7
25°	1375.7	1348.4	1177.1	1124.1	1177.1	1162.6	1235.8	1346.0	1450.5	1838.0	2302.0
27.5°	1526.9	1480.2	1231.8	1241.4	1238.2	1248.7	1265.6	1434.4	1575.1	1843.7	2527.1
30°	1667.6	1640.2	1354.0	1354.0	1385.4	1365.3	1377.3	1581.6	1695.7	1973.9	2780.4
32.5°	1813.1	1814.7	1497.9	1421.5	1396.6	1479.4	1560.6	1653.1	1841.3	2197.5	3167.9
35°	2198.3	2166.1	1773.7	1583.2	1563.1	1558.2	1688.5	1938.6	2099.4	2488.5	3689.8
37.5°	2974.2	2862.4	2367.1	1949.8	1874.2	1848.5	1996.4	2252.9	2412.9	2916.3	4552.5
40°	3770.2	3565.1	3015.2	2544.8	2299.6	2188.6	2360.7	2578.6	2863.2	3389.0	5350.9
42.5°	4468.9	4215.6	3503.2	3186.4	2867.2	2819.0	2657.4	3011.9	3506.4	4077.3	6133.2
45°	5149.9	4651.4	3937.4	3686.5	3299.0	3326.3	3271.7	3578.8	4174.6	4831.5	6827.1
47.5°	5618.7	5170.8	4469.7	4144.0	3988.9	3828.9	4263.0	4582.2	4769.6	5310.7	7427.0
50°	6123.6	5670.1	4927.2	4699.6	4495.4	4657.0	5220.7	5263.3	5248.0	5757.8	7835.4
52.5°	6775.7	6241.0	5452.2	5194.9	5310.7	5471.5	6122.0	6130.0	5673.3	6134.1	8129.7
55°	7378.7	6786.1	6151.7	5908.9	6150.9	6286.8	7008.0	6743.5	5921.0	6389.7	8274.4
57.5°	8228.6	7542.7	7082.0	6654.3	7144.7	7014.5	7787.2	7394.0	6199.2	6559.4	8221.4
60°	9302.8	8495.5	8034.0	7581.3	8107.2	8195.6	8547.8	7718.8	6306.9	6614.9	7902.1
62.5°	10395.5	9583.4	8976.3	8669.2	9265.8	9556.9	9252.1	7880.4	6177.5	6506.3	7179.3
65°	11751.1	10711.5	10002.3	9822.2	10927.8	11355.5	10085.1	7919.8	5927.4	5908.9	5772.2
67.5°	12679.8	11667.5	11017.0	11318.5	12654.0	12688.6	10832.9	7931.9	5085.6	4626.5	3788.7
70°	12900.1	11816.2	11525.2	12412.8	14031.4	13596.4	11074.1	7320.8	3771.8	2745.8	1731.9
72.5°	11324.2	10280.5	10659.2	12206.2	14324.0	14124.6	10541.0	5281.8	2123.5	1098.3	531.5
75°	6946.1	6315.0	7996.2	10348.9	12573.6	12445.0	8223.8	2728.9	855.5	439.0	198.6
77.5°	3020.8	2805.3	4173.0	6866.5	9035.0	8920.1	4818.6	1005.1	442.2	308.8	100.5
80°	999.4	969.7	1580.8	3251.6	5292.2	5190.9	2030.2	418.1	315.2	247.6	56.3
82.5°	237.2	235.6	551.6	1496.3	2696.0	2611.5	623.1	230.8	228.3	195.4	29.7
85°	59.5	61.1	152.8	611.9	1095.1	965.7	162.4	115.0	160.8	132.7	15.3
87.5°	0.0	0.0	39.4	87.6	165.6	103.7	17.7	30.6	45.0	47.4	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°	770.3	770.3	770.3	770.3	770.3	770.3	770.3	770.3	770.3	770.3	770.3
2.5°	934.3	925.5	853.1	870.8	898.1	895.7	913.4	899.7	887.7	947.2	941.5
5°	1188.4	1140.1	1117.6	1149.0	1132.1	1092.7	1125.7	1120.0	1110.4	1130.5	1145.8
7.5°	1378.9	1334.7	1314.6	1248.7	1153.0	1077.4	1089.5	1061.3	1034.8	1066.2	1098.3
10°	1441.7	1417.5	1415.1	1286.5	1196.4	1087.1	957.6	845.9	816.1	776.7	794.4
12.5°	1612.1	1626.6	1535.7	1385.4	1211.7	1001.8	771.9	613.5	549.2	507.4	509.8
15°	1752.0	1802.7	1670.8	1400.6	1066.2	763.8	513.8	371.5	331.3	320.8	317.6
17.5°	1960.3	2009.3	1712.6	1292.1	859.5	517.8	330.5	289.5	291.9	299.1	297.5
20°	2114.6	2107.4	1676.4	1099.9	633.6	339.3	276.6	271.0	283.8	304.7	299.9
22.5°	2263.4	2213.5	1653.9	922.2	410.1	272.6	266.9	266.1	278.2	298.3	303.9
25°	2369.5	2377.6	1616.1	722.0	298.3	253.3	258.1	265.3	277.4	299.1	295.9
27.5°	2673.4	2448.3	1458.5	524.2	251.7	242.8	254.9	269.4	273.4	300.7	301.5
30°	2870.4	2715.3	1355.6	353.0	232.4	224.3	248.4	267.7	272.6	307.9	310.4
32.5°	3213.8	2830.2	1236.6	262.1	216.3	218.7	234.0	259.7	282.2	320.0	321.6
35°	3640.7	3199.3	1021.1	235.6	210.7	206.6	213.9	243.6	280.6	321.6	329.7
37.5°	4453.6	3420.4	809.7	228.3	210.7	203.4	210.7	228.3	275.8	337.7	354.6
40°	4997.9	3870.7	583.7	226.7	206.6	200.2	202.6	220.3	262.1	328.0	353.0
42.5°	5668.5	4060.4	430.2	222.7	202.6	193.0	194.6	217.1	248.4	307.9	326.4
45°	6217.7	4198.7	338.5	221.1	193.0	189.8	193.0	214.7	235.6	264.5	281.4
47.5°	6635.0	4359.5	271.8	210.7	190.6	189.8	185.7	201.0	213.9	221.1	232.4
50°	6940.5	4323.3	225.1	194.6	182.5	187.3	180.1	182.5	185.7	181.7	194.6
52.5°	7127.9	4193.1	187.3	175.3	172.9	176.9	168.0	160.8	155.2	152.0	160.0
55°	7196.2	3931.8	159.2	150.4	156.0	157.6	150.4	137.5	127.8	123.0	129.5
57.5°	7066.7	3533.8	138.3	124.6	137.5	137.5	127.8	114.2	102.9	94.9	101.3
60°	6738.7	3094.0	123.0	103.7	117.4	118.2	106.9	92.5	83.6	75.6	79.6
62.5°	6127.6	2614.8	107.7	90.1	101.3	102.1	88.4	74.8	68.3	59.5	62.7
65°	4905.5	1999.7	91.7	79.6	87.6	85.2	73.2	63.5	55.5	47.4	49.0
67.5°	3184.0	1234.2	79.6	72.4	74.0	71.6	61.9	55.5	46.6	40.2	41.0
70°	1425.6	531.5	70.0	65.1	64.3	60.3	52.3	51.5	45.8	40.2	40.2
72.5°	439.8	200.2	60.3	58.7	55.5	50.7	45.8	49.0	45.0	38.6	37.8
75°	173.7	91.7	49.9	49.9	48.2	41.8	41.0	44.2	41.8	35.4	33.8
77.5°	90.9	57.9	41.0	42.6	41.8	32.2	37.0	40.2	38.6	29.7	24.9
80°	53.9	35.4	30.6	34.6	33.8	22.5	28.1	25.7	18.5	8.8	2.4
82.5°	29.7	16.1	13.7	20.1	20.1	8.0	14.5	12.9	7.2	0.0	0.0
85°	14.5	11.3	10.5	11.3	8.0	2.4	7.2	7.2	4.0	0.0	0.0
87.5°	7.2	6.4	4.8	4.0	3.2	0.0	2.4	3.2	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)