

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: P366614

Luminaire Tested: **MSA-SA1A-727-U-T2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366614
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1A-727-U-T2
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3371 lumens
Efficiency: N/A
Efficacy: 99.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G1

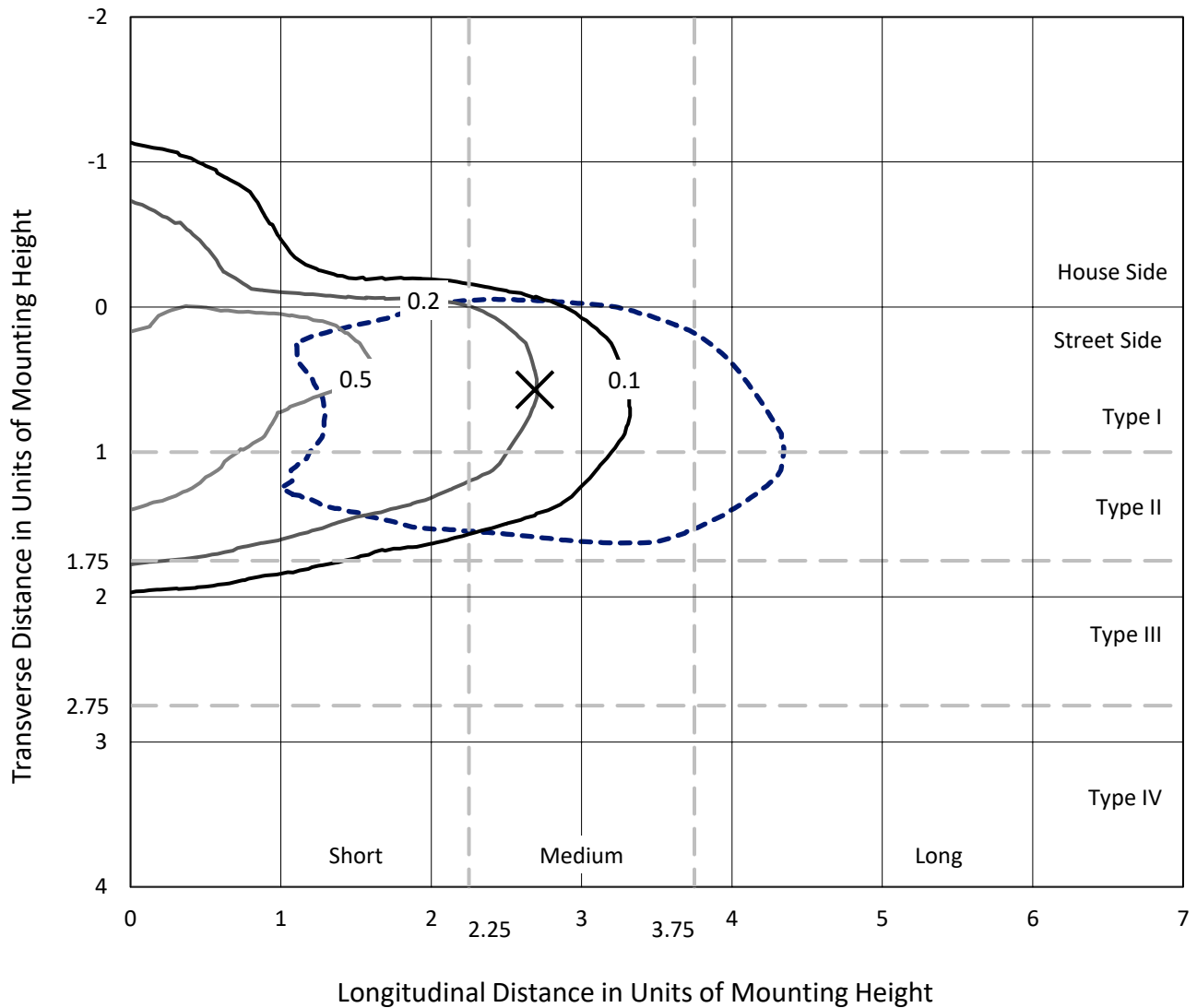
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

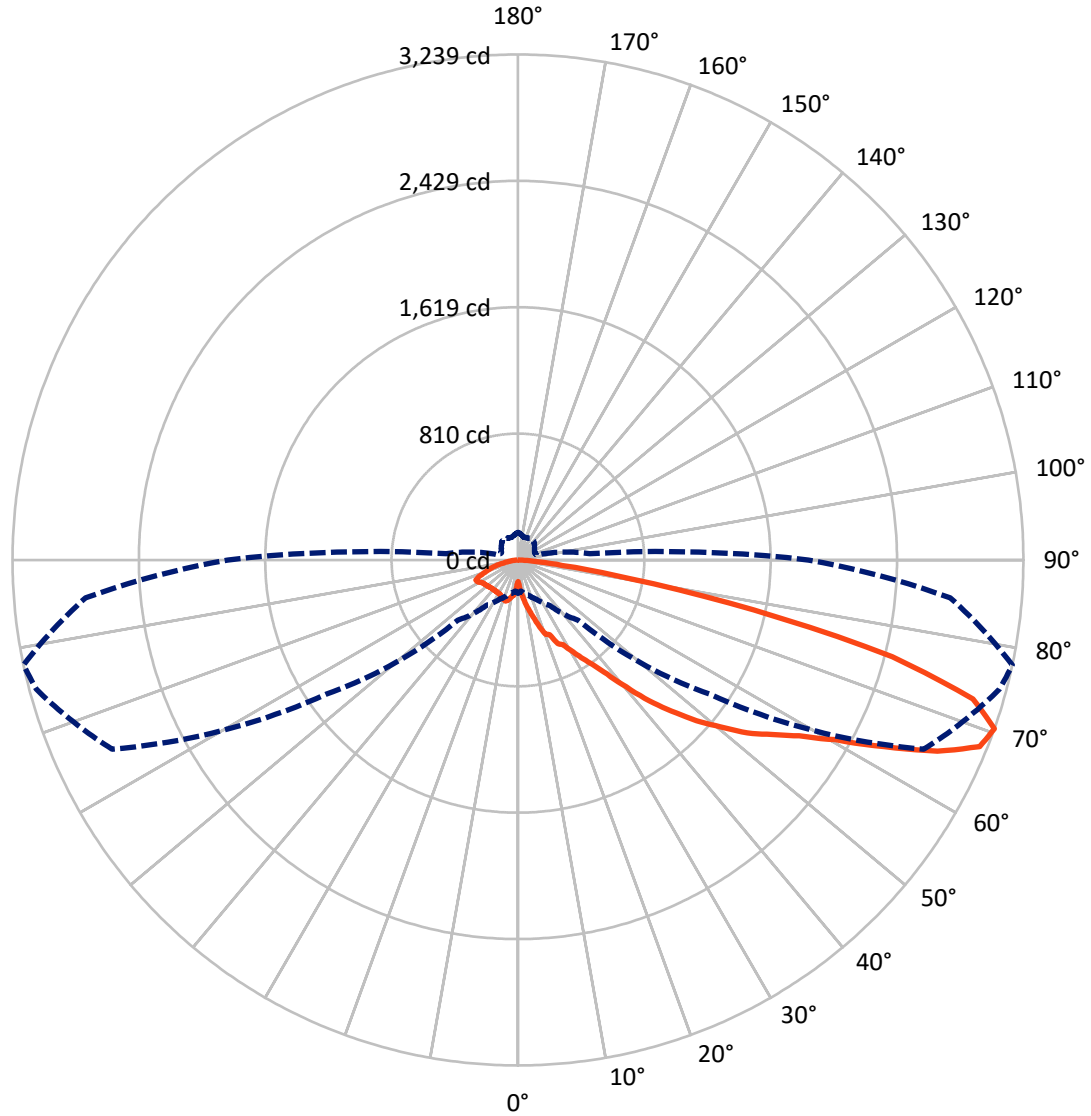
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.8 fc
 Type II - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 78-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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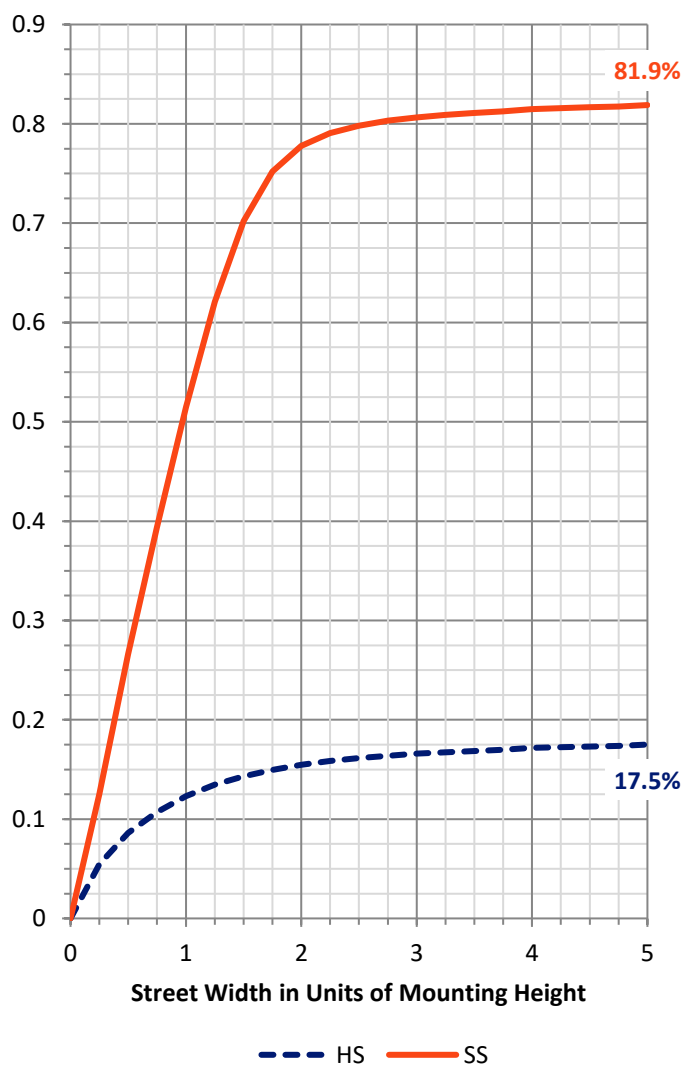
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	601.7	0.0	601.7
	% Fixture	17.8	0.0	17.8
Street Side	Lumens	2769.3	0.0	2769.3
	% Fixture	82.2	0.0	82.2
Total	Lumens	3371.0	0.0	3371.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	21.2	0.6
10°-20°	93.6	2.8
20°-30°	180.1	5.3
30°-40°	303.4	9.0
40°-50°	525.0	15.6
50°-60°	792.6	23.5
60°-70°	877.9	26.0
70°-80°	506.2	15.0
80°-90°	71.0	2.1
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°	3371.0	100.0
0°-180°	3371.0	100.0

Coefficient of Utilization



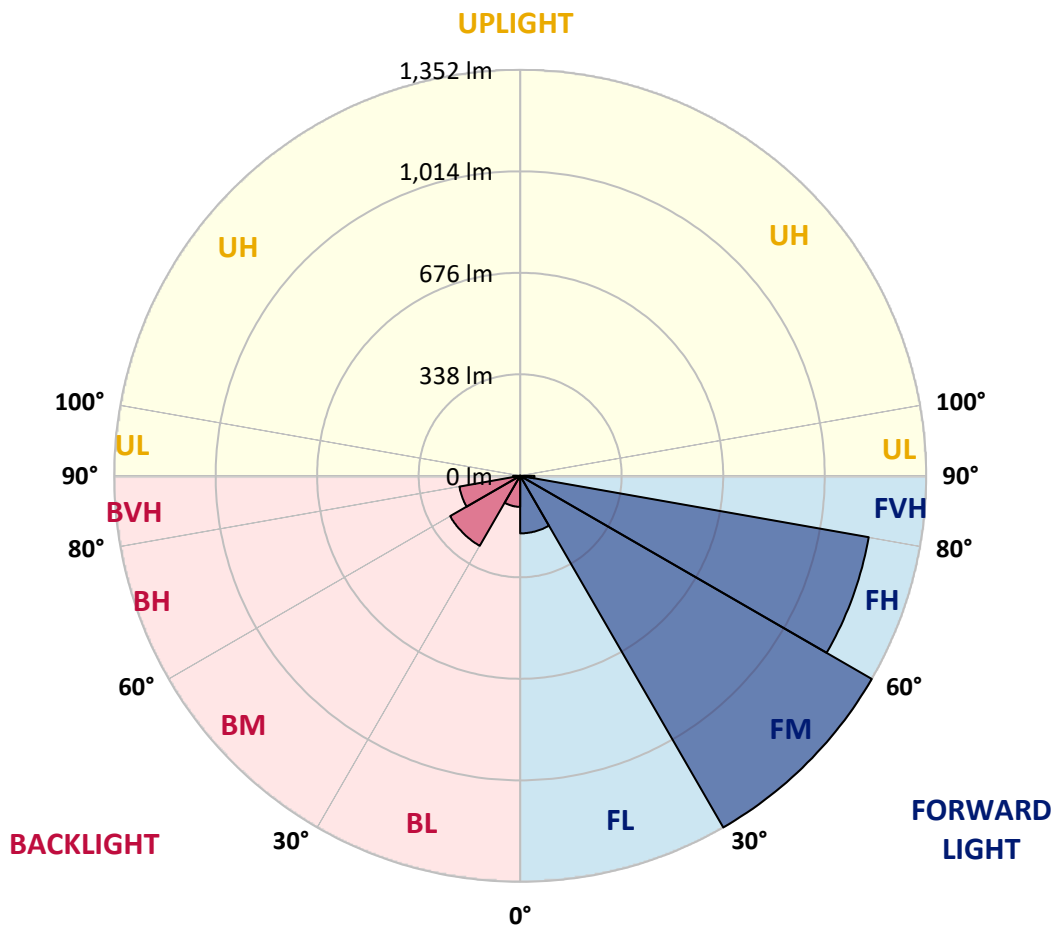
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	191.6	5.7			
FM (30°-60°)	1351.9	40.1			
FH (60°-80°)	1178.5	35.0			G1/1800
FVH (80°-90°)	47.4	1.4			G1/100
BL (0°-30°)	103.3	3.1	B0/110		
BM (30°-60°)	269.1	8.0	B1/1000		
BH (60°-80°)	205.6	6.1	B1/500		G1/500
BVH (80°-90°)	23.6	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1
 Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4
2.5°	176.9	170.6	161.0	165.0	169.8	170.3	168.8	160.1	157.1	163.7	165.7
5°	247.9	237.2	230.7	228.6	221.5	206.6	217.3	211.8	212.9	209.7	216.0
7.5°	307.6	300.5	290.9	288.2	271.8	260.1	267.4	265.0	253.5	249.0	256.2
10°	338.0	330.1	330.5	324.8	320.4	321.5	317.9	307.3	298.8	292.7	275.4
12.5°	356.2	358.2	368.7	365.8	382.2	395.7	385.5	369.9	342.7	337.3	320.1
15°	399.7	407.0	397.1	401.6	408.7	434.5	430.3	426.9	398.3	387.6	356.0
17.5°	444.4	445.8	430.9	428.5	445.3	458.4	474.8	455.9	459.4	451.9	400.8
20°	453.9	463.6	442.2	427.5	462.2	488.1	508.4	488.3	506.9	508.9	437.7
22.5°	488.9	477.2	449.1	434.7	465.0	496.8	529.9	541.2	535.3	518.7	473.4
25°	513.2	507.0	478.4	462.3	473.9	503.1	561.3	590.6	595.8	593.6	507.4
27.5°	558.3	561.4	502.4	506.9	490.9	493.5	580.1	656.3	623.8	614.8	549.6
30°	629.6	615.8	549.6	553.3	526.7	522.2	619.9	712.9	683.8	673.0	584.3
32.5°	703.9	705.2	624.8	593.6	579.4	574.9	612.0	742.6	759.7	745.6	636.7
35°	808.7	801.4	706.3	665.3	614.0	606.1	668.1	828.6	860.0	820.7	699.0
37.5°	968.4	946.3	835.6	740.7	702.8	693.8	748.2	905.7	976.5	927.6	800.7
40°	1096.5	1051.7	951.1	835.6	771.4	782.5	805.1	999.3	1097.4	1069.8	894.9
42.5°	1198.7	1158.9	1032.9	951.7	864.4	850.6	875.4	1115.2	1261.8	1234.8	1012.4
45°	1296.7	1215.7	1124.8	1051.7	967.8	984.5	980.9	1233.6	1463.5	1380.4	1116.2
47.5°	1393.3	1317.3	1222.2	1123.9	1039.5	1143.6	1104.7	1321.5	1599.5	1537.9	1225.6
50°	1517.6	1434.0	1325.6	1226.8	1176.2	1252.4	1187.0	1396.0	1751.8	1679.6	1328.7
52.5°	1600.1	1518.7	1423.7	1353.2	1348.5	1319.1	1302.4	1490.3	1885.3	1841.5	1438.0
55°	1590.4	1511.9	1468.9	1476.7	1534.0	1434.9	1421.3	1629.9	2024.6	1973.9	1556.1
57.5°	1468.8	1383.2	1392.4	1438.2	1592.2	1638.3	1615.1	1779.0	2148.8	2125.8	1702.1
60°	1144.2	1100.2	1174.5	1258.3	1514.3	1697.9	1860.9	1960.8	2301.7	2338.5	1931.4
62.5°	743.3	684.5	802.0	944.2	1282.0	1658.5	2111.2	2305.7	2552.1	2635.8	2279.9
65°	385.0	375.6	457.8	588.5	892.5	1414.1	2199.4	2667.4	2856.5	2953.9	2612.9
67.5°	279.9	262.5	300.6	377.5	544.8	964.3	2032.2	2944.1	3100.9	3190.1	2806.4
70°	213.2	200.3	229.3	277.0	355.8	544.7	1500.1	2868.6	3195.2	3238.5	2780.6
72.5°	159.6	148.5	174.0	218.4	274.2	306.6	886.7	2358.6	3034.3	3049.1	2495.7
75°	127.5	118.9	129.8	172.4	223.4	208.7	471.1	1708.8	2465.3	2477.9	1906.3
77.5°	104.6	97.2	101.7	129.3	173.8	157.0	233.7	1087.0	1565.2	1545.8	1072.5
80°	85.3	79.0	81.1	93.5	132.4	117.2	131.3	567.0	746.6	716.6	446.0
82.5°	65.6	60.3	64.5	68.7	95.8	84.2	76.6	258.0	305.8	284.9	163.6
85°	44.0	39.1	56.1	51.6	62.7	51.7	41.9	102.7	114.0	106.2	57.5
87.5°	12.1	11.4	18.8	25.7	25.7	19.5	15.3	24.9	31.8	27.8	13.5
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°	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4	137.4
2.5°	166.5	163.4	155.3	154.6	156.5	156.8	155.6	152.6	151.1	159.5	158.2
5°	214.4	203.5	196.9	190.8	182.4	176.4	177.9	182.1	183.5	189.9	190.6
7.5°	251.7	237.2	222.7	203.3	190.6	182.4	188.6	193.1	196.6	205.6	209.2
10°	267.8	252.1	231.6	211.2	207.7	209.1	205.6	206.7	212.2	212.6	214.4
12.5°	297.9	280.1	243.1	224.7	223.7	226.7	225.4	230.6	234.4	244.7	240.3
15°	326.7	304.0	251.8	233.0	228.9	234.8	241.7	250.4	258.6	268.3	263.4
17.5°	361.7	327.4	252.2	229.2	229.9	242.6	249.7	254.5	278.8	292.2	285.4
20°	383.8	329.8	242.8	219.8	229.9	241.3	251.3	256.5	283.7	303.8	308.5
22.5°	403.7	330.7	235.5	214.7	221.2	236.2	251.3	262.8	280.2	299.5	300.2
25°	414.7	330.0	226.1	215.1	221.1	228.5	241.9	252.4	265.3	292.2	292.9
27.5°	442.8	320.8	216.8	216.8	219.9	220.2	237.2	243.4	245.2	269.7	274.0
30°	451.0	322.8	215.7	216.6	218.1	215.3	222.7	226.8	229.5	250.6	251.3
32.5°	464.0	307.1	219.1	214.0	212.1	211.6	213.5	217.1	218.2	231.2	233.6
35°	479.9	300.7	220.2	213.3	209.4	207.3	212.8	208.3	211.8	227.0	228.6
37.5°	531.6	292.0	226.0	213.3	208.3	205.9	203.2	205.3	217.8	232.4	241.4
40°	564.6	294.7	224.6	215.4	204.5	202.2	197.7	205.5	224.8	250.7	257.4
42.5°	622.5	296.2	226.3	214.4	205.7	197.0	200.0	208.4	228.8	243.5	253.9
45°	682.4	301.0	225.1	211.5	202.9	207.0	202.9	210.5	220.2	220.6	228.5
47.5°	741.1	320.3	222.7	205.5	202.2	212.9	202.5	203.8	204.5	207.0	216.3
50°	810.1	340.8	219.4	197.0	203.2	213.2	204.0	197.9	197.2	205.5	215.9
52.5°	888.6	364.0	215.0	188.9	197.4	210.5	209.4	198.3	192.2	200.3	210.7
55°	980.9	390.4	210.0	180.7	191.1	210.8	212.3	195.3	192.4	201.1	212.2
57.5°	1103.6	428.6	200.1	168.9	183.4	206.4	204.8	192.0	189.2	198.4	210.0
60°	1313.0	502.1	186.1	157.3	175.1	195.8	198.6	185.9	183.1	193.4	205.5
62.5°	1593.3	590.5	169.1	145.9	165.0	184.2	190.8	177.2	176.9	190.0	202.6
65°	1854.3	640.7	151.5	135.5	154.6	173.6	182.1	169.1	169.6	186.1	198.7
67.5°	1962.8	581.6	135.8	126.2	142.6	161.3	175.0	162.7	160.9	180.7	192.4
70°	1860.9	462.1	122.1	116.4	129.1	148.1	165.0	154.3	150.1	168.1	177.2
72.5°	1646.6	385.2	109.3	104.8	117.3	134.2	151.5	142.9	137.4	151.2	159.4
75°	1287.1	316.0	94.7	93.5	103.9	121.6	137.4	131.5	124.5	133.2	141.4
77.5°	732.9	200.0	79.5	80.4	87.8	106.5	120.6	115.9	108.8	112.4	121.8
80°	293.3	100.9	63.9	64.5	70.8	87.5	99.9	98.2	90.8	93.7	100.2
82.5°	109.6	55.4	47.2	47.5	53.8	69.3	85.3	84.5	77.4	75.3	79.0
85°	43.6	27.4	28.9	30.2	36.3	49.9	68.4	60.7	52.4	46.0	48.2
87.5°	10.4	8.7	10.1	10.7	11.8	15.6	25.0	20.1	20.7	16.6	12.4
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)