

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: P367614

Luminaire Tested: **MSA-SA2D-760-U-RW**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367614
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2D-760-U-RW
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13851 lumens
Efficiency: N/A
Efficacy: 107.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B4 - U0 - G4

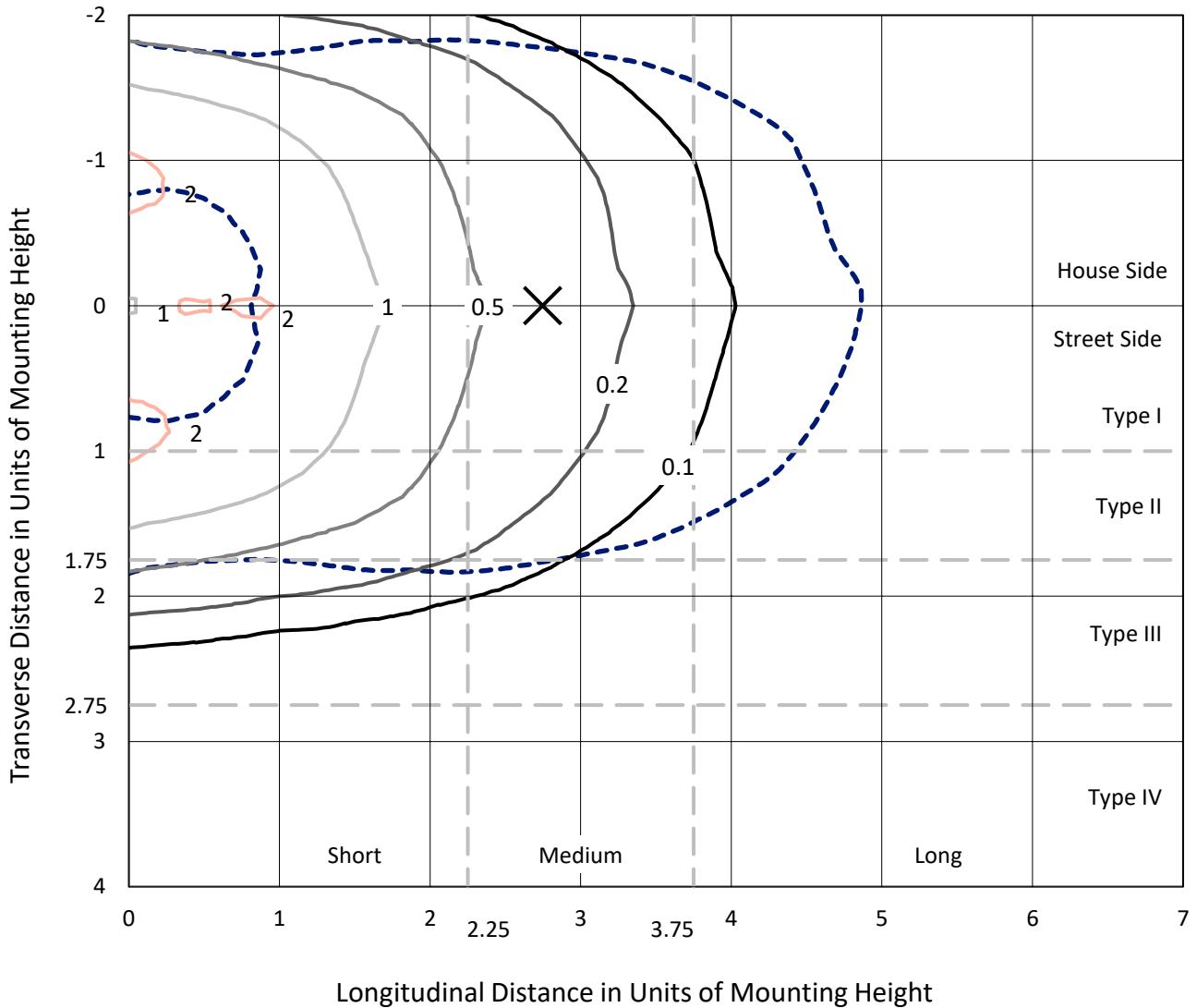
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

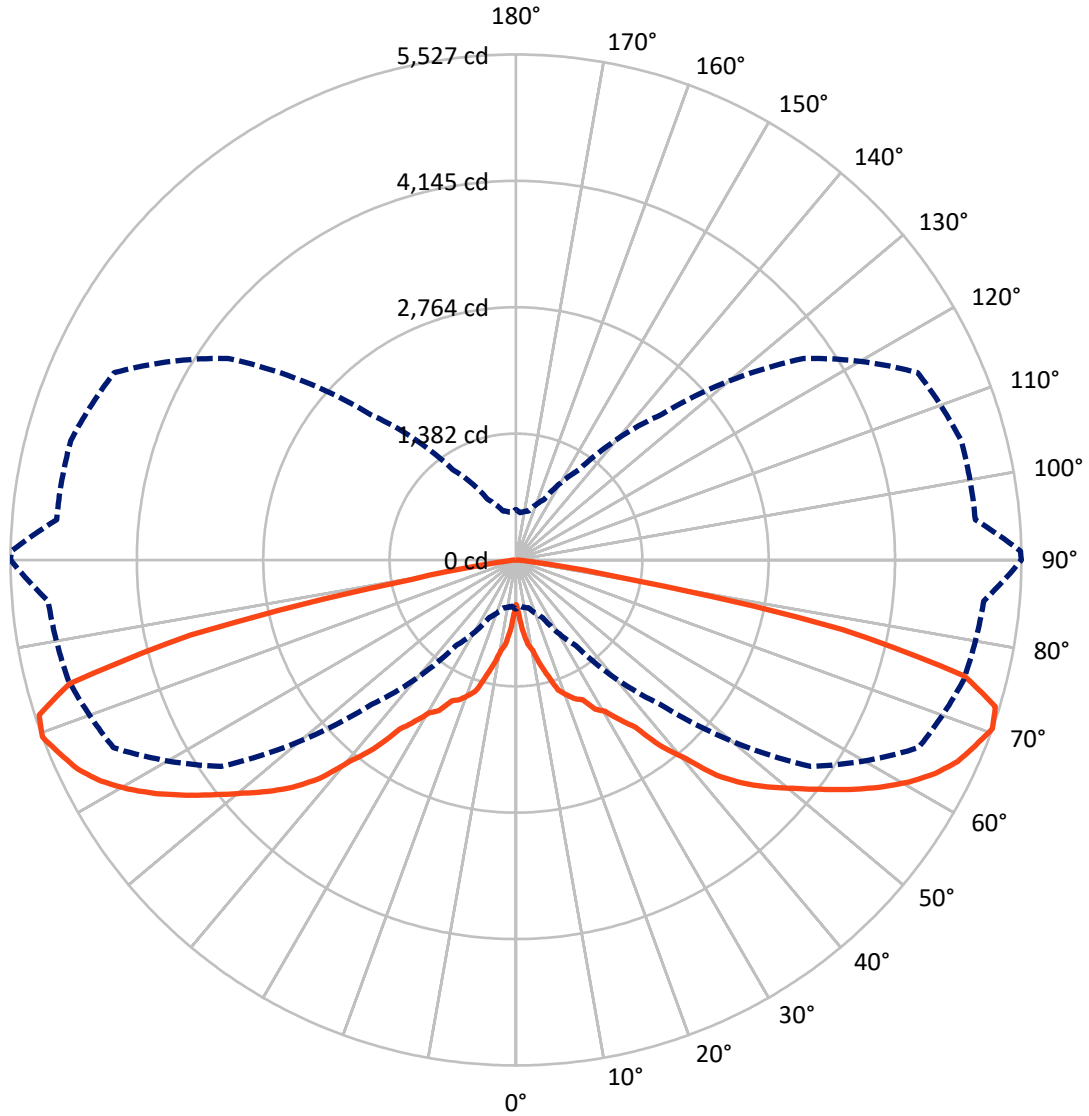
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6899.9	0.0	6899.9
	% Fixture	49.8	0.0	49.8
Street Side	Lumens	6951.2	0.0	6951.2
	% Fixture	50.2	0.0	50.2
Total	Lumens	13851.0	0.0	13851.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.3	0.5
10°-20°	336.1	2.4
20°-30°	726.7	5.2
30°-40°	1386.5	10.0
40°-50°	2518.8	18.2
50°-60°	3538.3	25.5
60°-70°	3378.4	24.4
70°-80°	1733.8	12.5
80°-90°	159.0	1.1
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°	13851.0	100.0
0°-180°	13851.0	100.0

Coefficient of Utilization



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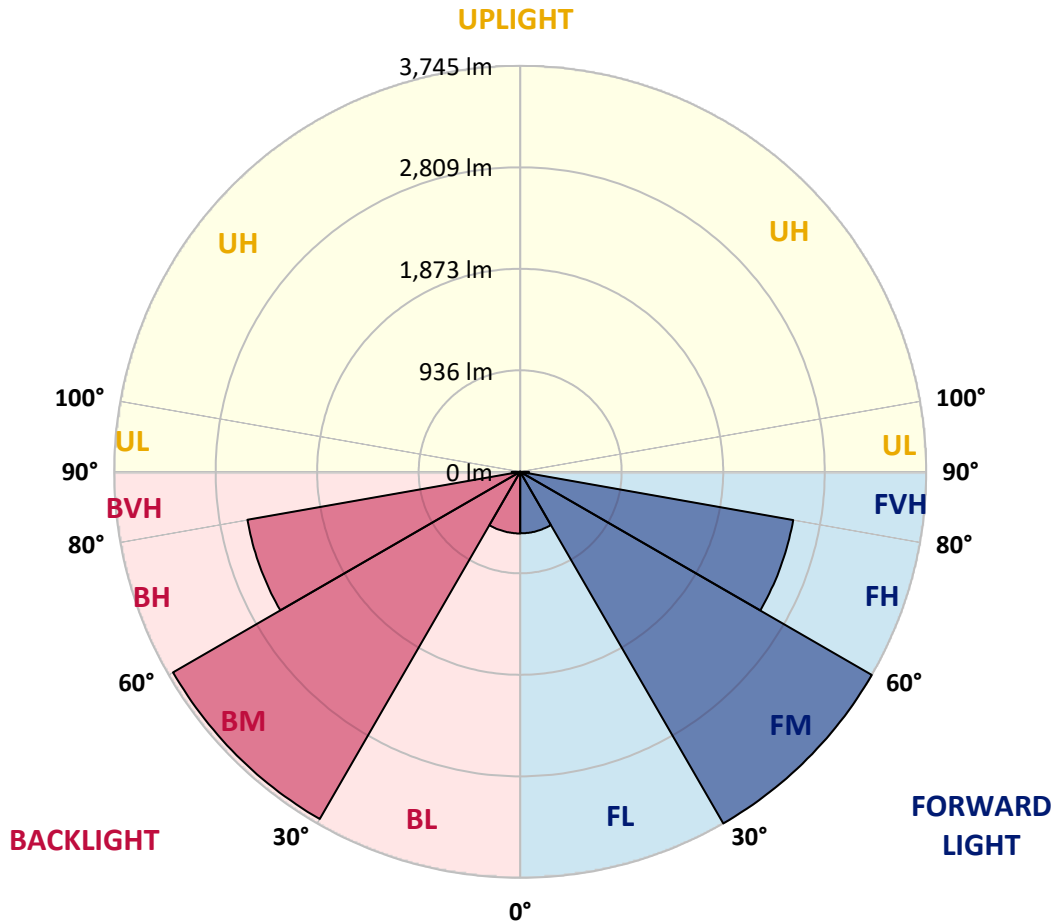
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	567.5	4.1			
FM (30°-60°)	3745.5	27.0			
FH (60°-80°)	2557.5	18.5			G2/5000
FVH (80°-90°)	80.7	0.6			G1/100
BL (0°-30°)	568.6	4.1	B2/1000		
BM (30°-60°)	3698.2	26.7	B3/5000		
BH (60°-80°)	2554.7	18.4	B4/5000		G4/5000
BVH (80°-90°)	78.3	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	486.1	486.1	486.1	486.1	486.1	486.1	486.1	486.1	486.1	486.1	486.1
2.5°	588.9	567.0	539.5	555.7	562.5	574.3	572.6	567.0	542.8	583.3	587.7
5°	737.1	702.3	689.4	687.1	690.5	679.2	715.7	705.1	724.7	761.2	769.6
7.5°	839.2	813.4	785.9	794.3	759.5	754.5	801.6	843.7	854.4	921.2	925.7
10°	887.5	862.3	869.5	864.5	860.6	893.1	915.0	945.9	990.2	996.4	1006.0
12.5°	928.5	938.6	970.6	969.5	1022.2	1080.1	1071.6	1103.6	1110.9	1188.4	1164.8
15°	1032.3	1053.1	1050.9	1070.5	1093.5	1188.4	1189.0	1243.4	1293.4	1323.7	1315.8
17.5°	1184.5	1191.8	1161.5	1162.6	1229.4	1268.1	1311.3	1301.8	1432.0	1491.5	1495.5
20°	1275.4	1293.9	1259.1	1213.1	1331.5	1384.9	1409.0	1353.4	1492.7	1572.9	1572.9
22.5°	1434.3	1386.6	1333.8	1302.9	1407.3	1464.0	1461.2	1445.5	1519.6	1661.6	1648.2
25°	1521.9	1494.9	1468.5	1476.4	1529.1	1558.3	1597.1	1560.6	1630.2	1735.7	1691.4
27.5°	1688.0	1638.1	1508.4	1611.7	1611.7	1589.8	1671.7	1689.1	1643.7	1815.4	1848.6
30°	1876.1	1858.7	1675.1	1784.6	1750.9	1689.1	1846.3	1835.1	1758.7	1933.9	1918.7
32.5°	2054.0	2111.3	1937.3	1877.2	1927.7	1951.3	1868.8	1902.5	1917.0	2086.0	2078.7
35°	2326.8	2375.1	2144.4	2129.2	2045.0	2023.1	2086.0	2097.2	2098.4	2276.3	2243.8
37.5°	2798.9	2729.3	2501.4	2394.2	2403.7	2377.4	2389.7	2301.0	2313.4	2571.6	2587.9
40°	3144.2	3065.6	2811.9	2735.0	2546.3	2659.2	2559.2	2550.3	2525.6	2860.1	2851.2
42.5°	3525.3	3417.6	3136.9	3034.2	2833.8	2787.7	2741.7	2845.5	2838.8	3148.7	3217.2
45°	3813.3	3595.5	3449.0	3385.0	3264.9	3152.0	3108.3	3154.8	3133.5	3363.7	3483.2
47.5°	3995.2	3806.0	3637.6	3502.9	3387.8	3664.6	3442.8	3380.5	3337.3	3595.0	3710.0
50°	4140.0	3921.7	3722.9	3678.0	3769.0	4013.7	3664.0	3526.5	3579.2	3769.0	3925.6
52.5°	4179.3	3948.1	3769.5	3740.9	3986.8	4031.1	3974.4	3743.2	3729.1	3977.8	4167.0
55°	4059.2	3837.5	3752.7	3909.3	4181.0	4144.0	4230.4	4082.8	3983.4	4191.1	4429.1
57.5°	3749.9	3529.8	3509.6	3735.3	4077.7	4393.2	4435.9	4319.1	4188.9	4408.9	4689.6
60°	3241.9	3040.9	3092.0	3341.2	3857.7	4306.8	4533.6	4426.9	4386.5	4605.4	4931.0
62.5°	2450.9	2294.3	2430.7	2778.2	3455.7	4195.1	4668.3	4651.4	4593.1	4814.2	5144.3
65°	1562.8	1480.3	1619.5	1972.6	2832.1	3991.8	4732.8	4755.3	4809.2	4975.3	5309.4
67.5°	908.3	864.5	949.3	1238.4	2017.0	3277.8	4612.7	4934.9	4963.0	5058.4	5417.7
70°	537.2	508.6	543.4	695.5	1141.8	2233.1	3934.6	4856.3	5068.5	5134.8	5527.2
72.5°	409.8	382.8	367.7	411.5	596.2	1153.6	2660.3	4116.5	4983.8	5084.2	5481.1
75°	354.2	328.4	310.4	314.4	354.8	547.9	1442.1	2944.3	4246.7	4629.5	5062.9
77.5°	304.3	281.2	268.3	267.2	272.3	300.9	602.9	1596.5	2659.7	3327.7	3650.0
80°	243.6	225.7	222.9	222.9	215.6	213.3	299.8	607.4	1012.1	1200.2	1150.8
82.5°	178.0	160.0	178.0	175.7	164.5	155.5	190.9	262.7	312.1	246.4	194.8
85°	120.1	103.9	117.3	119.6	108.9	80.8	114.5	131.4	134.7	84.2	69.6
87.5°	42.1	41.0	66.2	57.8	47.2	27.5	42.1	45.5	47.7	29.8	20.2
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):

	91°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	486.1	486.1	486.1	486.1	486.1	486.1	486.1	486.1	486.1	486.1	486.1
2.5°	589.4	582.7	549.0	554.1	567.0	573.1	579.3	554.1	541.7	581.0	577.1
5°	771.9	747.2	719.7	715.7	717.4	693.3	707.3	701.1	703.9	729.2	734.3
7.5°	924.6	894.8	858.3	829.7	780.3	741.0	774.1	791.0	796.0	840.9	857.8
10°	1007.1	981.8	971.2	917.3	901.0	895.9	888.1	861.1	890.9	880.2	888.6
12.5°	1168.8	1163.7	1108.1	1072.8	1076.1	1085.7	1036.3	1009.3	970.6	1031.2	1009.3
15°	1306.3	1328.2	1272.6	1208.0	1176.1	1192.3	1154.7	1115.4	1080.6	1099.1	1075.6
17.5°	1482.0	1481.4	1373.1	1304.0	1301.2	1300.1	1244.5	1158.1	1199.6	1186.7	1187.8
20°	1575.2	1560.0	1425.3	1345.6	1413.5	1389.4	1339.4	1228.3	1276.5	1292.3	1302.4
22.5°	1653.2	1644.8	1481.4	1423.1	1466.8	1467.4	1417.4	1359.1	1352.9	1401.7	1375.3
25°	1707.7	1741.3	1587.5	1573.5	1592.6	1573.5	1524.7	1486.5	1461.8	1534.8	1461.8
27.5°	1836.8	1789.1	1603.8	1683.5	1695.3	1599.3	1660.5	1615.6	1547.1	1637.5	1667.2
30°	1928.8	1956.9	1718.3	1838.5	1824.4	1735.7	1761.0	1759.3	1677.3	1853.6	1832.8
32.5°	2087.1	2053.5	1905.3	1895.7	1929.4	1925.5	1882.8	1903.6	1923.8	2051.8	2082.6
35°	2249.4	2285.3	2024.8	2089.4	2079.8	2019.2	2130.9	2118.0	2178.1	2440.8	2353.8
37.5°	2615.4	2444.2	2293.2	2284.7	2348.7	2358.3	2322.4	2379.0	2508.7	2710.8	2804.0
40°	2855.1	2777.1	2520.5	2530.6	2441.9	2594.6	2493.6	2676.0	2774.8	3115.6	3082.4
42.5°	3217.7	3027.4	2781.0	2814.7	2796.7	2723.2	2856.2	2950.0	3091.4	3351.3	3519.2
45°	3487.7	3226.7	3109.9	3089.2	3086.9	3214.9	3198.1	3348.0	3398.5	3593.8	3733.1
47.5°	3692.6	3470.9	3298.0	3321.6	3253.1	3618.5	3423.7	3470.3	3572.5	3756.6	3918.9
50°	3935.7	3688.7	3492.2	3550.6	3717.3	3857.7	3681.4	3601.7	3651.7	3868.9	4049.7
52.5°	4160.8	3900.9	3684.8	3733.6	4005.9	3941.9	3922.8	3721.3	3715.1	3889.7	4095.1
55°	4424.1	4131.1	3940.2	4095.1	4191.7	4112.5	4082.2	3836.9	3685.3	3782.5	3976.1
57.5°	4682.3	4359.0	4169.2	4201.2	4323.6	4245.0	4017.7	3639.9	3450.7	3469.8	3665.7
60°	4924.3	4568.4	4411.7	4380.9	4478.5	4170.4	3772.3	3278.9	3028.0	2982.0	3151.5
62.5°	5131.4	4743.5	4595.3	4511.1	4604.3	4173.2	3390.1	2699.6	2424.0	2267.9	2399.8
65°	5295.9	4888.9	4783.4	4739.6	4773.3	3919.4	2794.5	1982.2	1644.2	1471.3	1548.2
67.5°	5405.3	4970.3	4922.0	4979.3	4530.2	3264.3	2070.3	1268.7	956.0	861.7	910.0
70°	5518.7	5042.1	5040.5	4845.7	3841.4	2250.5	1209.2	731.5	556.3	519.8	550.1
72.5°	5480.6	4956.8	4982.1	4237.7	2662.0	1203.0	638.3	413.7	376.7	389.6	416.5
75°	5075.3	4506.6	4384.8	3046.5	1510.1	559.1	367.7	313.2	311.0	330.6	357.0
77.5°	3681.4	3138.6	2816.3	1726.7	647.2	302.6	270.6	261.6	261.6	277.3	300.9
80°	1213.7	1050.3	1094.7	668.0	305.9	208.8	211.1	215.0	213.9	217.8	237.5
82.5°	199.3	206.6	319.4	272.8	184.7	142.6	159.4	167.3	169.5	151.6	172.3
85°	70.7	79.7	135.8	126.3	106.7	71.9	105.0	117.3	115.6	101.0	111.7
87.5°	21.9	28.1	49.4	38.2	32.0	19.6	39.3	46.0	57.8	23.6	21.3
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)