

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: P401950

Luminaire Tested: **ENT-SA1F-830-U-T4FT**

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P401950  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/20/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENT-SA1F-830-U-T4FT  
Description: ENTRI LED LUMINAIRE  
(1) 80 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD THROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5924 lumens  
Efficiency: N/A  
Efficacy: 89.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G2

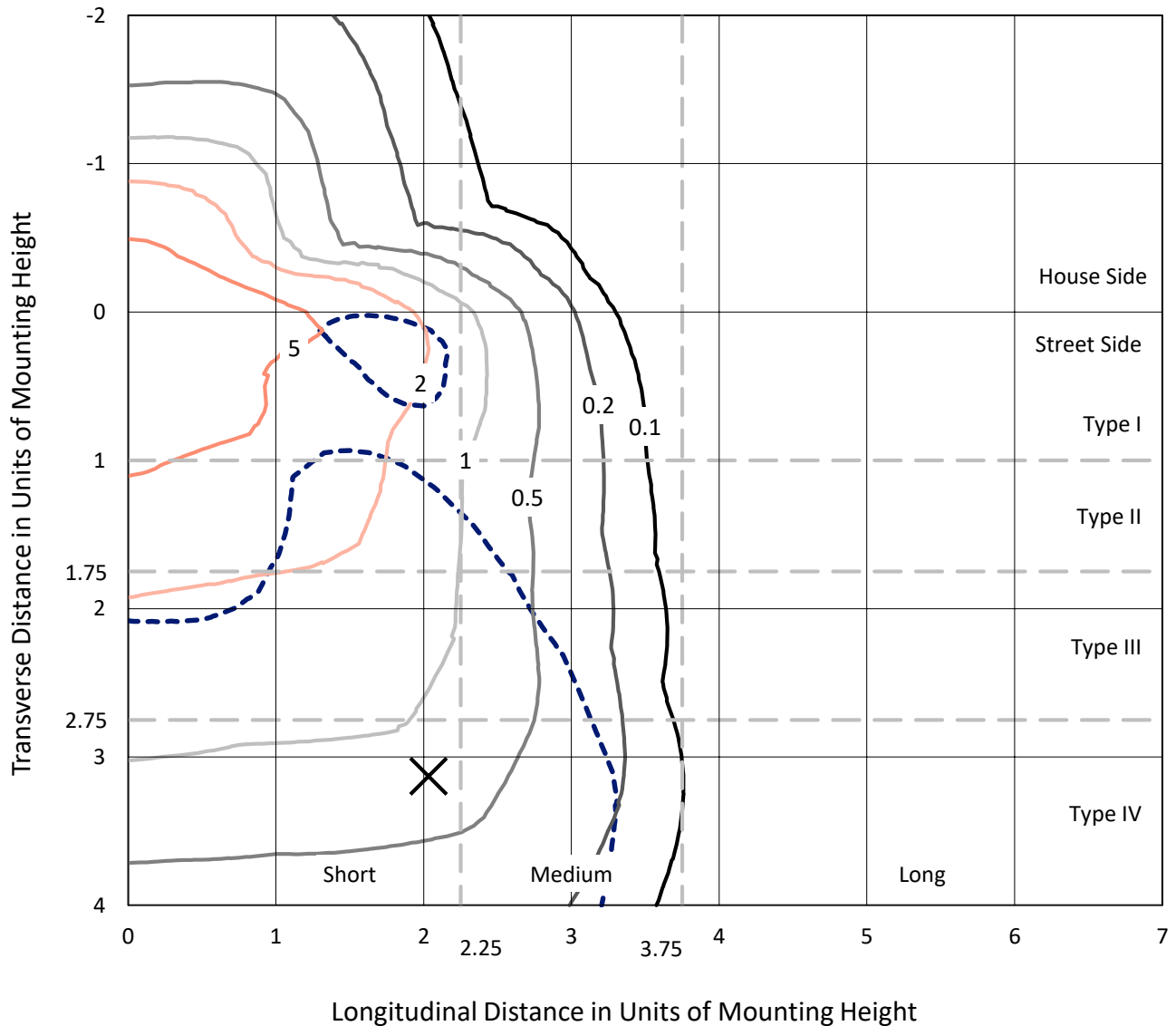
Input Watts (W): 66.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

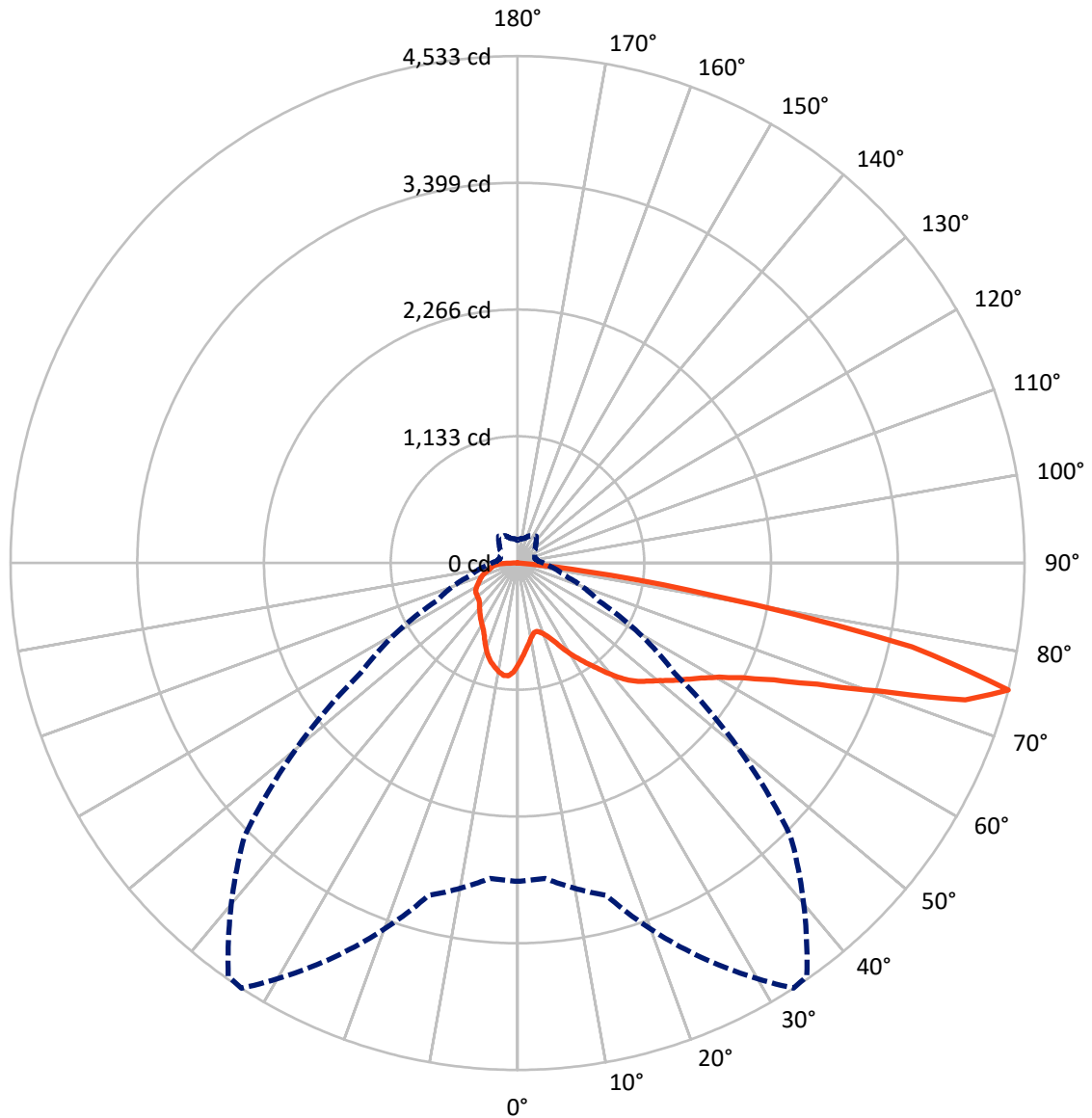
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.7 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral    - - - Horizontal Cone Through 75-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1439.1	0.0	1439.1
	% Fixture	24.3	0.0	24.3
<b>Street Side</b>	Lumens	4484.9	0.0	4484.9
	% Fixture	75.7	0.0	75.7
<b>Total</b>	Lumens	5924.0	0.0	5924.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.8	1.4
10°-20°	238.5	4.0
20°-30°	396.6	6.7
30°-40°	591.6	10.0
40°-50°	826.5	14.0
50°-60°	1103.2	18.6
60°-70°	1367.9	23.1
70°-80°	1182.7	20.0
80°-90°	132.2	2.2
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°	5924.0	100.0
0°-180°	5924.0	100.0



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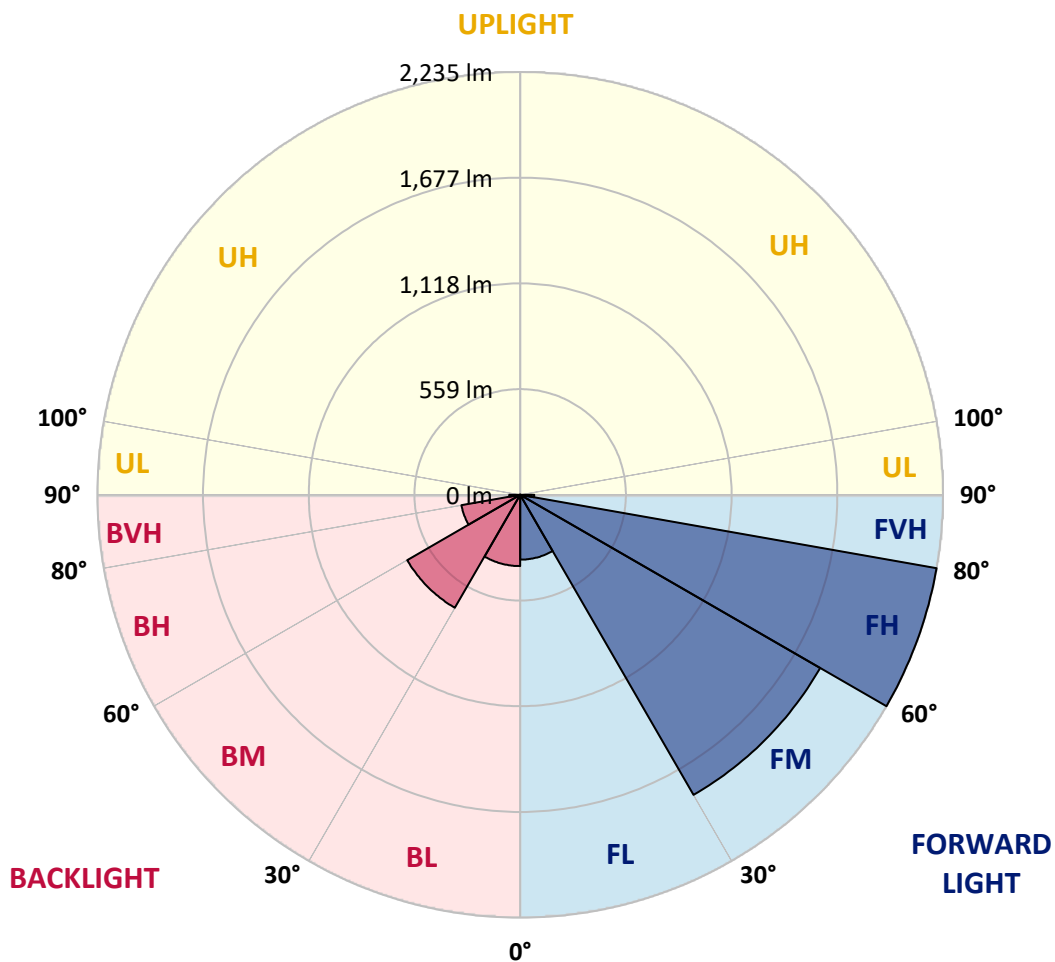
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	343.0	5.8			
FM	(30°-60°)	1831.7	30.9			
FH	(60°-80°)	2235.5	37.7			G2/5000
FVH	(80°-90°)	74.7	1.3			G1/100
BL	(0°-30°)	376.9	6.4	B1/500		
BM	(30°-60°)	689.6	11.6	B1/1000		
BH	(60°-80°)	315.1	5.3	B1/500		G1/500
BVH	(80°-90°)	57.5	1.0			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	907.7	907.7	907.7	907.7	907.7	907.7	907.7	907.7	907.7	907.7	907.7
2.5°	823.3	825.1	830.3	836.5	840.0	840.0	849.7	861.1	875.2	887.5	900.7
5°	754.7	757.3	761.7	769.6	779.3	781.1	800.4	820.7	846.2	873.4	899.8
7.5°	687.0	692.2	701.0	711.6	726.5	730.1	757.3	784.6	819.8	861.1	904.2
10°	635.1	638.6	643.0	657.9	676.4	682.6	718.6	752.9	801.3	852.3	909.5
12.5°	621.0	621.0	621.0	628.0	643.0	648.3	686.1	730.1	784.6	846.2	917.4
15°	641.2	640.3	630.7	625.4	634.2	638.6	671.1	714.2	775.8	847.9	932.4
17.5°	687.0	684.3	661.4	643.9	650.0	652.7	673.8	710.7	773.2	855.0	954.4
20°	746.8	740.6	705.4	679.0	678.2	679.9	695.8	721.3	777.6	867.3	978.1
22.5°	825.9	822.4	770.5	730.1	723.0	723.0	730.1	745.9	789.0	881.3	1010.6
25°	928.0	918.3	855.8	801.3	785.5	781.1	780.2	780.2	809.2	902.5	1051.1
27.5°	1032.6	1021.2	957.9	884.0	862.9	855.0	840.9	830.3	835.6	925.3	1099.5
30°	1126.8	1110.9	1057.3	980.7	949.1	936.8	911.3	889.3	875.2	957.0	1163.7
32.5°	1178.6	1172.5	1135.5	1066.1	1030.0	1024.7	982.5	953.5	928.8	998.3	1249.9
35°	1248.1	1240.2	1216.5	1159.3	1116.2	1103.0	1071.3	1037.0	997.5	1053.7	1359.0
37.5°	1312.3	1307.9	1299.2	1259.6	1213.8	1200.6	1171.6	1135.5	1081.9	1135.5	1481.2
40°	1377.4	1372.2	1368.6	1354.6	1322.0	1313.2	1299.2	1256.9	1184.8	1225.3	1601.7
42.5°	1472.4	1461.0	1424.1	1423.2	1425.8	1432.8	1433.7	1387.1	1297.4	1337.0	1707.3
45°	1596.5	1564.8	1482.1	1479.5	1510.3	1528.7	1573.6	1534.0	1414.4	1451.3	1825.1
47.5°	1659.8	1627.2	1541.9	1536.6	1577.1	1604.4	1715.2	1676.5	1535.8	1579.7	1947.4
50°	1690.6	1669.5	1594.7	1611.4	1652.7	1679.1	1849.8	1819.0	1661.5	1718.7	2101.3
52.5°	1733.7	1698.5	1645.7	1680.9	1742.5	1769.7	1970.3	1965.0	1768.0	1870.0	2270.2
55°	1718.7	1700.2	1709.9	1757.4	1834.8	1875.3	2091.7	2091.7	1876.2	2031.8	2437.3
57.5°	1731.0	1718.7	1798.8	1841.0	1938.6	1996.7	2237.7	2199.0	1967.6	2167.3	2549.9
60°	1835.7	1800.5	1863.0	1946.5	2072.3	2128.6	2404.8	2311.6	2042.4	2284.3	2570.2
62.5°	2020.4	1992.3	1998.4	2094.3	2257.0	2322.1	2570.2	2410.9	2092.5	2333.5	2494.5
65°	2326.5	2313.3	2237.7	2295.7	2520.0	2579.0	2776.9	2497.1	2078.5	2296.6	2294.8
67.5°	2738.2	2685.4	2583.3	2635.2	2893.8	2953.7	3025.8	2529.7	1987.0	2075.8	1844.5
70°	3079.4	3035.5	2988.8	3125.2	3422.5	3455.0	3285.3	2498.9	1764.5	1624.6	1236.7
72.5°	3296.7	3265.0	3308.1	3709.2	4185.1	4123.5	3541.2	2283.4	1376.6	994.8	618.3
75°	2845.5	2830.5	3076.8	3890.4	4532.5	4509.6	3452.4	1709.0	798.7	438.0	281.5
77.5°	1431.1	1593.8	1853.3	2760.1	3606.3	3610.7	2515.6	821.5	336.0	245.4	193.5
80°	402.9	408.1	618.3	1138.2	1800.5	1918.4	951.7	278.8	191.8	183.0	144.3
82.5°	95.9	88.8	158.3	336.9	604.3	628.9	285.9	100.3	107.3	114.3	88.8
85°	0.9	0.9	0.9	0.9	0.9	1.8	10.6	10.6	25.5	32.5	25.5
87.5°	0.0	0.0	0.0	0.9	0.9	0.9	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



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	907.7	907.7	907.7	907.7	907.7	907.7	907.7	907.7	907.7	907.7	907.7
2.5°	906.9	915.7	929.7	942.0	952.6	960.5	972.8	974.6	978.1	979.9	981.6
5°	914.8	931.5	957.9	980.7	996.6	1001.0	1011.5	1010.6	1011.5	1011.5	1010.6
7.5°	925.3	948.2	985.1	1010.6	1019.4	1016.8	1014.2	1004.5	996.6	993.1	988.7
10°	938.5	964.9	1008.0	1026.5	1022.1	1008.0	991.3	973.7	959.6	952.6	950.8
12.5°	951.7	986.0	1026.5	1031.8	1014.2	988.7	960.5	941.2	922.7	913.0	913.0
15°	973.7	1011.5	1041.4	1030.9	999.2	966.7	928.0	901.6	880.5	867.3	866.4
17.5°	1000.1	1040.6	1057.3	1026.5	980.7	935.0	888.4	854.1	826.8	813.6	805.7
20°	1032.6	1070.5	1065.2	1012.4	953.5	897.2	839.1	797.8	769.6	755.6	752.9
22.5°	1069.6	1101.2	1067.8	989.5	916.5	844.4	781.1	739.7	721.3	710.7	711.6
25°	1114.4	1139.1	1068.7	962.3	863.8	774.9	719.5	700.2	697.5	693.1	694.9
27.5°	1170.7	1178.6	1065.2	925.3	796.0	701.9	669.4	677.3	684.3	681.7	683.4
30°	1237.6	1226.1	1057.3	871.7	712.5	635.1	636.8	654.4	664.1	661.4	662.3
32.5°	1315.9	1273.6	1042.3	806.6	633.3	594.6	608.7	626.3	635.9	635.9	636.8
35°	1403.8	1330.8	1013.3	722.1	577.9	570.0	582.3	596.4	602.5	599.0	601.6
37.5°	1496.2	1380.1	966.7	628.0	536.5	550.6	557.7	561.2	560.3	555.0	552.4
40°	1582.4	1418.8	883.1	534.8	502.2	530.4	533.9	524.2	512.8	503.1	497.0
42.5°	1648.3	1439.0	767.0	467.1	469.7	507.5	510.2	490.8	468.8	453.9	450.3
45°	1716.1	1446.0	651.8	412.5	434.5	484.7	491.7	465.3	435.4	417.8	415.2
47.5°	1793.5	1463.6	538.3	374.7	404.6	468.8	480.3	447.7	414.3	387.9	383.5
50°	1897.3	1497.1	453.0	345.7	383.5	460.9	476.7	433.6	391.4	362.4	358.9
52.5°	2029.2	1546.3	373.8	322.8	366.8	448.6	471.5	419.6	374.7	339.5	334.2
55°	2142.7	1564.8	322.8	303.5	349.2	433.6	467.1	414.3	356.2	316.7	310.5
57.5°	2194.6	1512.0	286.7	284.1	330.7	415.2	458.3	396.7	336.0	305.2	299.9
60°	2170.8	1381.0	259.5	266.5	309.6	391.4	435.4	379.1	321.9	296.4	291.1
62.5°	2065.3	1229.7	239.2	249.8	285.9	361.5	409.0	363.3	309.6	286.7	279.7
65°	1879.7	1063.4	224.3	234.8	264.8	332.5	387.9	344.8	295.5	272.7	266.5
67.5°	1534.0	846.2	208.5	219.9	247.2	308.7	368.5	329.8	279.7	264.8	259.5
70°	1015.0	569.1	193.5	204.9	229.6	285.9	348.3	314.0	264.8	255.1	248.0
72.5°	466.2	306.1	177.7	189.1	209.3	260.4	322.8	290.3	244.5	238.4	227.8
75°	230.5	188.2	158.3	168.9	184.7	229.6	292.9	270.0	226.1	215.5	203.2
77.5°	168.0	140.7	136.3	146.9	160.1	203.2	261.2	248.9	207.6	192.6	185.6
80°	124.9	109.1	114.3	124.9	137.2	183.8	244.5	233.1	191.8	176.8	171.5
82.5°	76.5	73.0	88.0	100.3	115.2	168.9	233.1	212.9	172.4	158.3	152.2
85°	22.0	26.4	44.9	65.1	81.8	136.3	217.3	186.5	145.1	121.4	117.0
87.5°	0.0	2.6	14.1	29.9	48.4	90.6	167.1	146.0	110.8	89.7	86.2
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)