

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: P401939

Luminaire Tested: **ENT-SA1F-830-U-SL4-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401939
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-6)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1F-830-U-SL4-HSS
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5077 lumens
Efficiency: N/A
Efficacy: 76.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Semi-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

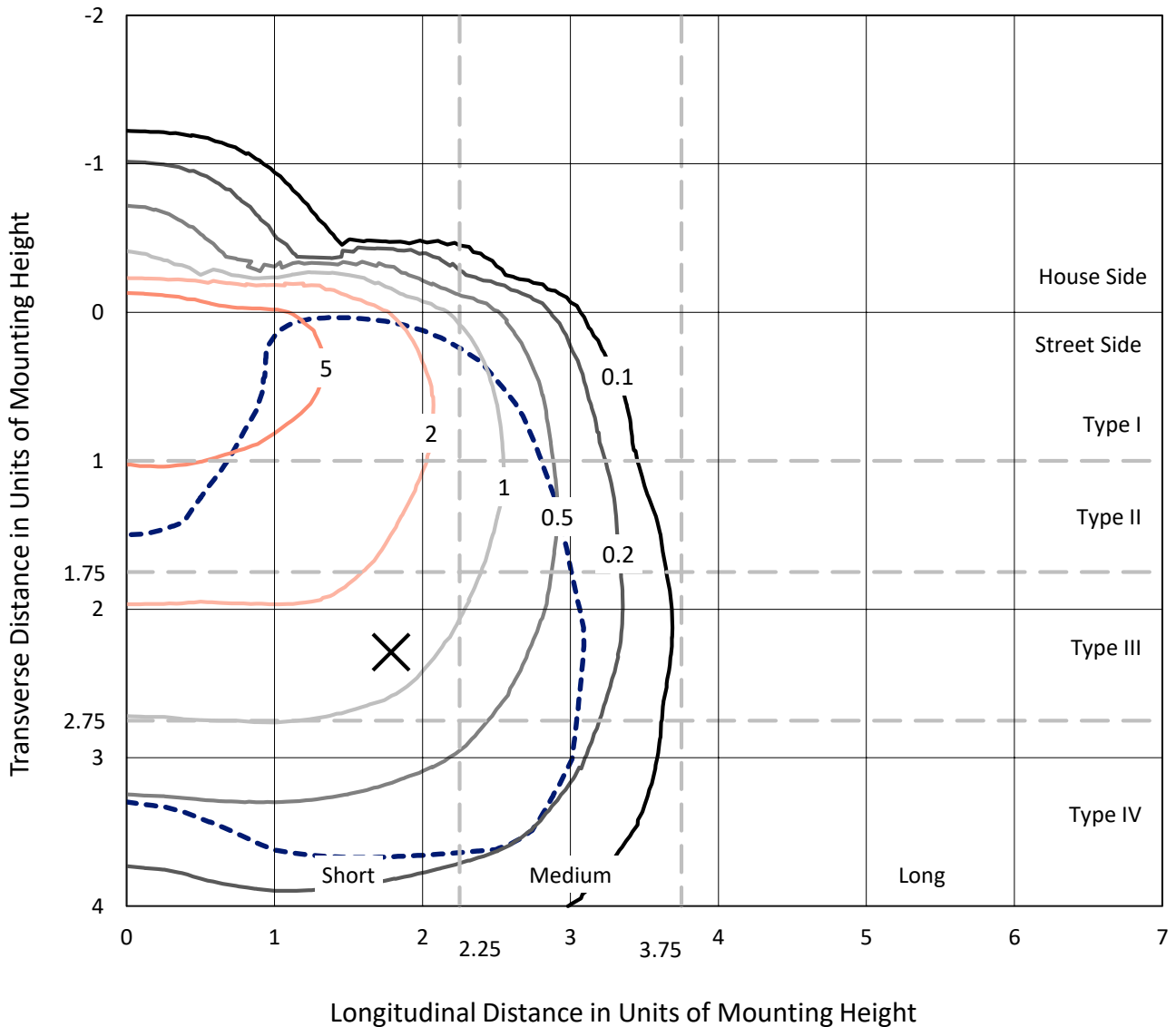


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

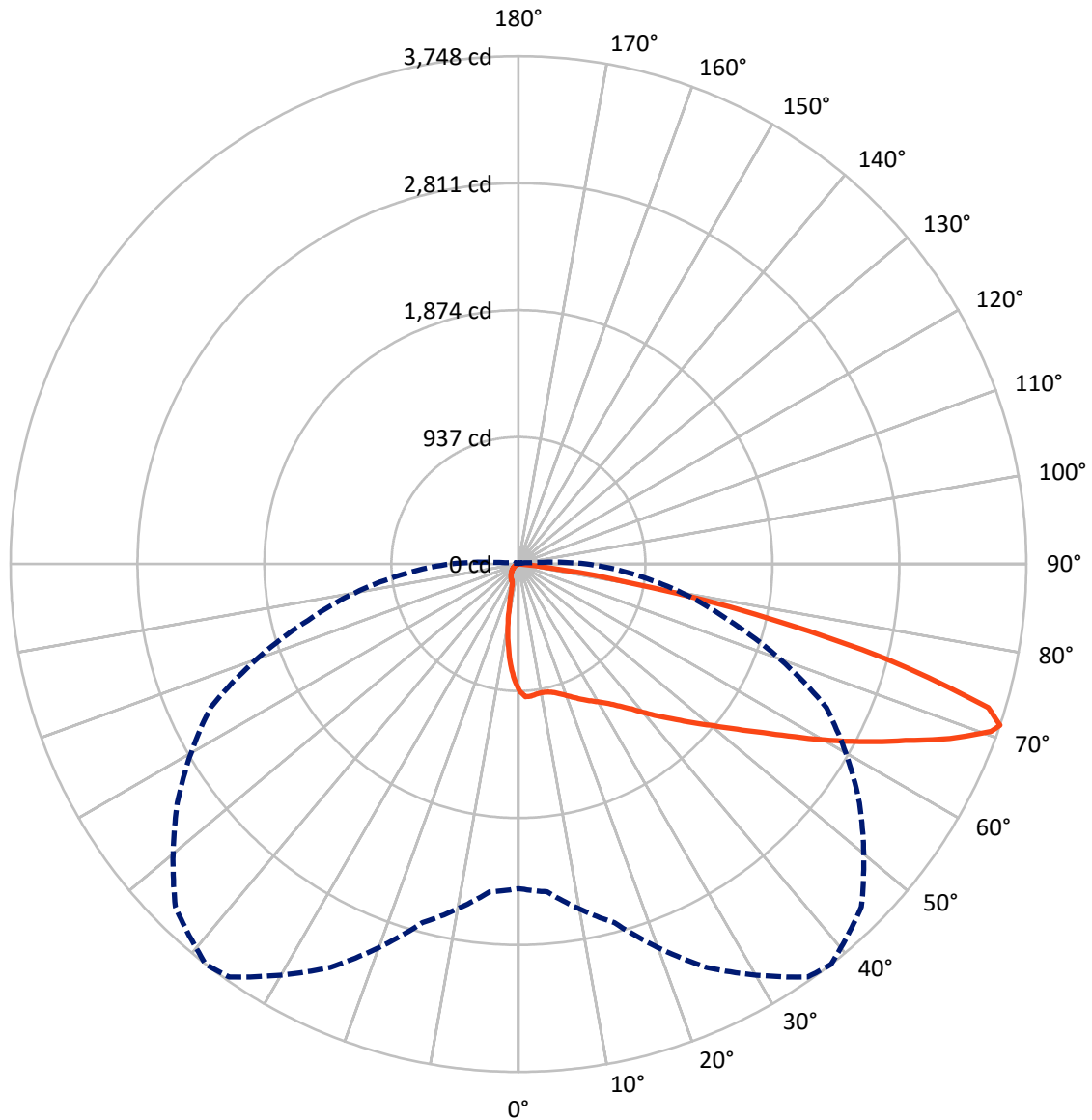


Based on 10 foot mounting height. Maximum calculated value = 9.6 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 38-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	433.7	0.0	433.7
	% Fixture	8.5	0.0	8.5
Street Side	Lumens	4643.3	0.0	4643.3
	% Fixture	91.5	0.0	91.5
Total	Lumens	5077.0	0.0	5077.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	1.6
10°-20°	191.4	3.8
20°-30°	306.9	6.0
30°-40°	466.9	9.2
40°-50°	727.7	14.3
50°-60°	1064.1	21.0
60°-70°	1364.8	26.9
70°-80°	834.2	16.4
80°-90°	41.9	0.8
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°	5077.0	100.0
0°-180°	5077.0	100.0



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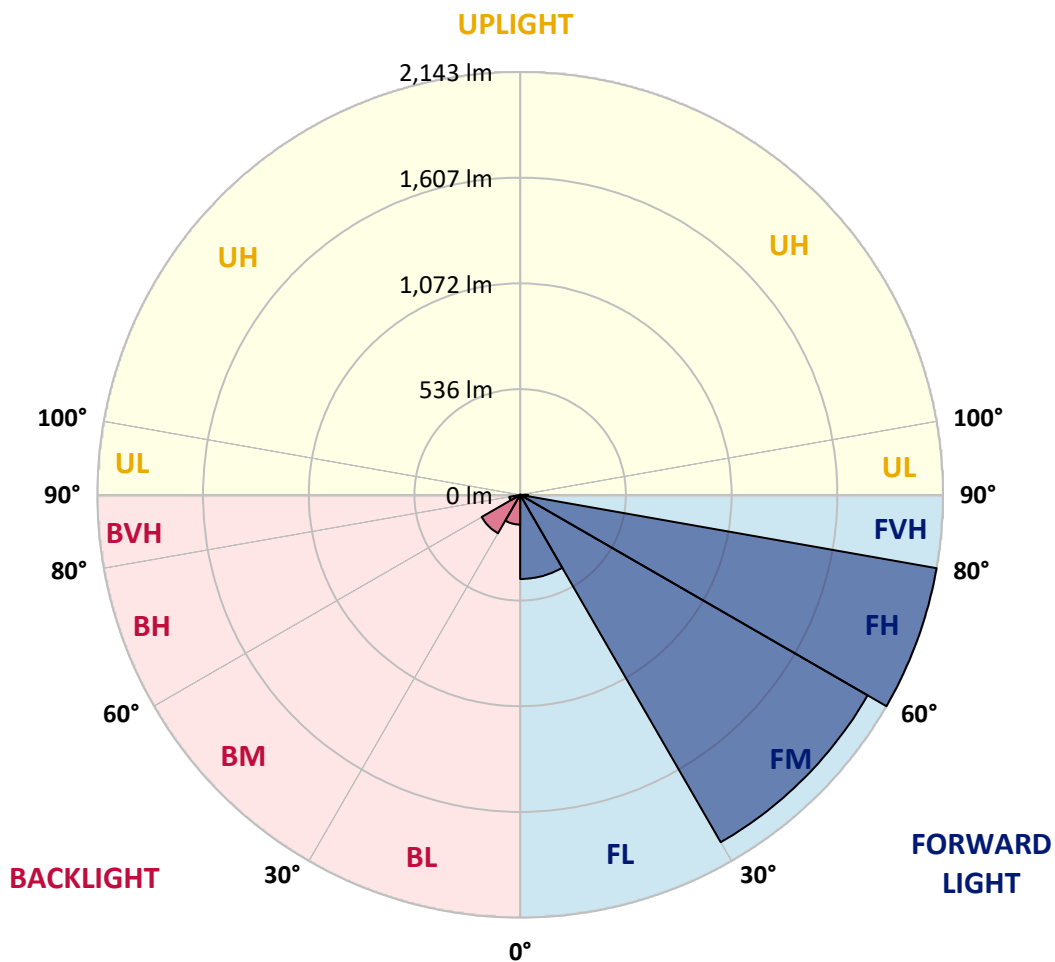
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	426.6	8.4			
FM	(30°-60°)	2033.4	40.1			
FH	(60°-80°)	2143.3	42.2			G2/5000
FVH	(80°-90°)	40.0	0.8			G1/100
BL	(0°-30°)	150.8	3.0	B1/500		
BM	(30°-60°)	225.3	4.4	B1/1000		
BH	(60°-80°)	55.8	1.1	B0/110		G0/110
BVH	(80°-90°)	1.9	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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	38°	45°	55°	65°	75°	85°
0°	936.0	936.0	936.0	936.0	936.0	936.0	936.0	936.0	936.0	936.0	936.0
2.5°	991.4	988.7	991.4	988.7	983.5	980.8	977.3	967.6	958.8	948.3	932.4
5°	993.1	991.4	991.4	987.9	981.7	979.1	975.5	965.9	954.4	938.6	914.8
7.5°	983.5	982.6	980.8	977.3	970.3	968.5	965.9	954.4	943.0	926.3	897.3
10°	967.6	969.4	968.5	968.5	965.9	964.1	962.3	949.1	936.8	917.5	886.7
12.5°	952.7	954.4	958.8	965.9	968.5	969.4	969.4	956.2	941.2	920.1	888.5
15°	943.0	946.5	958.8	972.9	980.8	983.5	986.1	972.0	954.4	931.6	898.1
17.5°	940.4	945.6	969.4	991.4	1006.3	1008.1	1008.1	990.5	972.0	945.6	909.6
20°	949.1	956.2	987.0	1017.8	1036.2	1038.0	1034.5	1011.6	989.6	960.6	919.2
22.5°	975.5	981.7	1016.9	1052.9	1070.5	1072.3	1064.4	1032.7	1009.0	985.2	932.4
25°	1021.3	1024.8	1062.6	1096.9	1106.6	1109.2	1096.1	1058.2	1031.0	1009.0	950.9
27.5°	1082.0	1083.7	1118.0	1143.6	1145.3	1144.4	1130.4	1090.8	1063.5	1045.0	979.1
30°	1145.3	1148.0	1176.1	1192.8	1185.8	1182.3	1169.9	1127.7	1103.1	1089.0	1019.5
32.5°	1204.3	1206.9	1237.7	1246.5	1230.6	1228.0	1219.2	1174.3	1153.2	1160.3	1077.6
35°	1262.3	1262.3	1297.5	1301.9	1287.8	1287.8	1287.8	1234.2	1230.6	1254.4	1158.5
37.5°	1314.2	1323.0	1359.9	1358.2	1355.6	1357.3	1362.6	1322.1	1334.4	1374.9	1264.9
40°	1358.2	1369.6	1418.9	1423.3	1434.7	1444.4	1452.3	1431.2	1460.2	1526.2	1401.3
42.5°	1397.8	1411.0	1474.3	1494.5	1526.2	1539.4	1554.4	1549.1	1613.3	1733.8	1575.5
45°	1448.8	1462.9	1528.0	1576.3	1620.3	1637.9	1671.3	1694.2	1800.7	1937.9	1763.7
47.5°	1516.5	1526.2	1586.0	1662.6	1722.4	1754.0	1805.9	1864.9	1994.2	2154.3	1931.7
50°	1608.9	1609.8	1654.6	1754.0	1842.9	1877.2	1966.9	2043.4	2205.3	2345.2	2053.1
52.5°	1710.9	1705.7	1740.8	1866.6	1979.2	2025.8	2131.4	2237.8	2400.6	2483.3	2107.7
55°	1807.7	1810.3	1832.3	1986.3	2150.8	2195.6	2329.3	2437.5	2579.2	2567.7	2137.6
57.5°	1919.4	1918.5	1946.7	2117.3	2351.3	2403.2	2543.1	2631.9	2687.4	2628.4	2142.8
60°	2025.0	2022.3	2065.4	2273.9	2565.1	2641.6	2767.4	2763.9	2795.5	2667.1	2138.4
62.5°	2119.1	2125.3	2200.9	2456.0	2804.3	2887.0	2950.4	2906.4	2915.2	2712.0	2083.9
65°	2233.4	2244.9	2367.2	2676.8	3099.9	3139.5	3164.1	3092.9	3004.9	2675.9	1918.5
67.5°	2377.7	2412.0	2584.4	3002.3	3407.8	3435.1	3435.9	3205.5	3001.4	2493.8	1613.3
70°	2434.9	2471.0	2745.4	3260.0	3667.3	3701.6	3594.3	3187.9	2764.8	1952.8	1089.0
71°	2395.3	2427.9	2741.0	3284.6	3720.9	3748.2	3580.2	3072.6	2507.0	1608.9	843.6
72.5°	2109.4	2193.9	2572.1	3129.8	3625.1	3625.9	3352.4	2800.8	1994.2	1004.6	424.0
75°	1139.2	1241.2	1885.1	2382.1	2796.4	2818.4	2579.2	1944.9	965.0	260.4	102.9
77.5°	375.6	423.1	845.4	1236.8	1754.0	1788.3	1577.2	863.8	304.4	88.0	53.7
80°	235.7	241.0	285.9	519.9	780.3	809.3	649.2	350.1	137.2	48.4	36.9
82.5°	39.6	47.5	134.6	153.1	275.3	218.2	147.8	178.6	64.2	22.0	31.7
85°	0.0	0.0	0.9	0.9	4.4	0.9	0.9	36.1	3.5	3.5	16.7
87.5°	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	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°	936.0	936.0	936.0	936.0	936.0	936.0	936.0	936.0	936.0	936.0	936.0
2.5°	925.4	918.4	904.3	889.3	870.9	855.0	849.7	838.3	833.0	828.6	828.6
5°	899.9	887.6	857.7	826.9	797.0	765.3	736.3	709.0	695.8	677.3	686.1
7.5°	878.8	857.7	815.4	767.1	705.5	643.0	594.6	552.4	517.2	505.8	497.9
10°	863.8	837.4	775.9	702.0	612.2	523.4	448.6	379.1	338.7	314.0	314.0
12.5°	862.1	828.6	748.6	635.1	505.8	385.3	292.9	227.0	194.4	179.5	178.6
15°	868.2	827.8	724.0	574.4	408.2	267.4	183.0	153.9	146.0	144.3	144.3
17.5°	873.5	826.9	694.9	505.8	300.8	175.9	145.1	139.9	138.1	137.2	137.2
20°	878.8	822.5	661.5	428.4	212.9	143.4	135.5	132.8	131.9	131.1	131.1
22.5°	885.8	818.1	627.2	340.4	157.5	133.7	129.3	126.7	125.8	125.8	125.8
25°	895.5	815.4	585.0	257.7	135.5	126.7	122.3	120.5	120.5	119.6	119.6
27.5°	914.0	818.1	539.2	184.7	126.7	119.6	117.0	115.2	115.2	114.4	114.4
30°	939.5	826.0	482.1	144.3	119.6	112.6	110.0	109.1	108.2	108.2	108.2
32.5°	975.5	838.3	419.6	123.2	110.8	105.6	102.9	102.0	102.0	102.0	101.2
35°	1031.0	863.8	343.1	112.6	102.9	97.6	95.0	95.0	95.0	94.1	95.0
37.5°	1115.4	905.2	265.7	103.8	94.1	89.7	88.0	87.1	87.1	87.1	87.1
40°	1221.8	972.0	193.5	95.9	86.2	81.8	80.0	79.2	78.3	78.3	78.3
42.5°	1359.1	1045.9	140.7	87.1	79.2	74.8	73.0	71.3	69.5	68.6	68.6
45°	1501.6	1133.9	110.0	80.0	72.1	68.6	66.9	64.2	61.6	58.9	58.9
47.5°	1639.7	1201.6	94.1	72.1	66.0	62.5	60.7	57.2	52.8	50.1	50.1
50°	1726.8	1222.7	84.4	65.1	59.8	57.2	54.5	50.1	44.0	41.3	41.3
52.5°	1754.0	1184.0	75.7	58.9	54.5	51.9	48.4	42.2	36.1	32.5	32.5
55°	1764.6	1109.2	66.9	54.5	49.3	45.7	41.3	35.2	29.0	25.5	25.5
57.5°	1751.4	1003.7	59.8	49.3	44.0	40.5	35.2	28.1	22.0	19.4	19.4
60°	1706.5	850.6	53.7	44.0	38.7	34.3	29.0	22.0	16.7	13.2	14.1
62.5°	1585.1	658.0	46.6	36.9	33.4	29.0	22.9	16.7	10.6	8.8	8.8
65°	1391.6	455.7	39.6	30.8	28.1	23.8	17.6	11.4	6.2	5.3	5.3
67.5°	1130.4	294.7	30.8	25.5	23.8	19.4	13.2	7.0	3.5	3.5	2.6
70°	709.9	146.0	24.6	19.4	19.4	15.0	9.7	4.4	2.6	2.6	2.6
71°	502.3	99.4	22.0	17.6	17.6	14.1	8.8	3.5	2.6	2.6	2.6
72.5°	227.0	62.5	18.5	15.8	15.0	11.4	7.9	3.5	3.5	3.5	3.5
75°	71.3	34.3	13.2	12.3	12.3	9.7	7.0	4.4	4.4	4.4	4.4
77.5°	47.5	26.4	8.8	7.9	9.7	9.7	7.0	5.3	5.3	5.3	5.3
80°	38.7	14.1	5.3	5.3	7.0	8.8	7.0	5.3	6.2	5.3	5.3
82.5°	37.8	7.0	1.8	2.6	4.4	5.3	5.3	4.4	5.3	5.3	5.3
85°	15.8	1.8	0.9	1.8	1.8	2.6	2.6	3.5	4.4	4.4	4.4
87.5°	0.0	0.0	0.0	0.0	0.9	0.9	1.8	1.8	2.6	3.5	3.5
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)