

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: P401949

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

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401949
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-16)
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-HSS
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD
THROW OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4382 lumens
Efficiency: N/A
Efficacy: 66.3 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

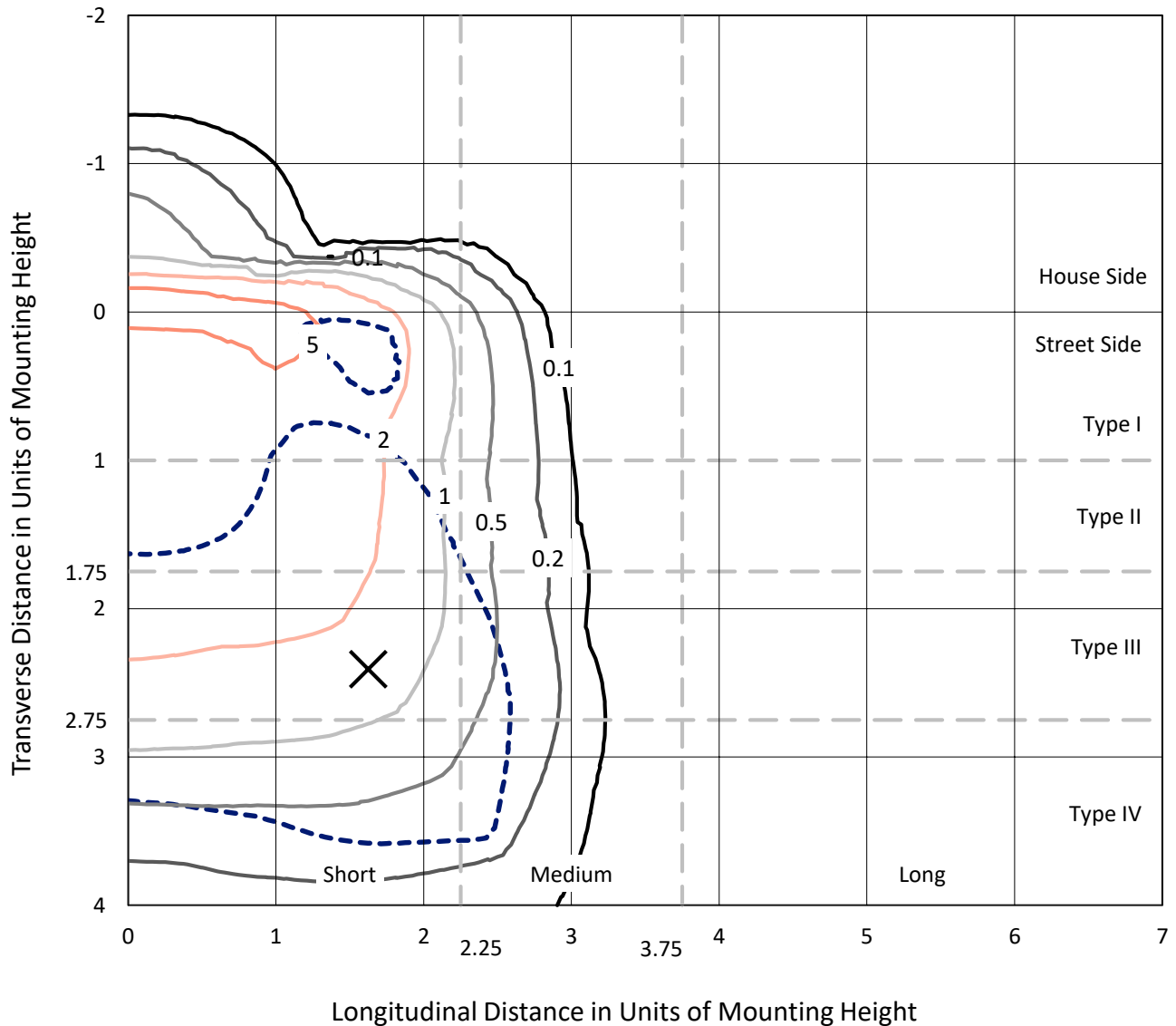
Input Watts (W): 66.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

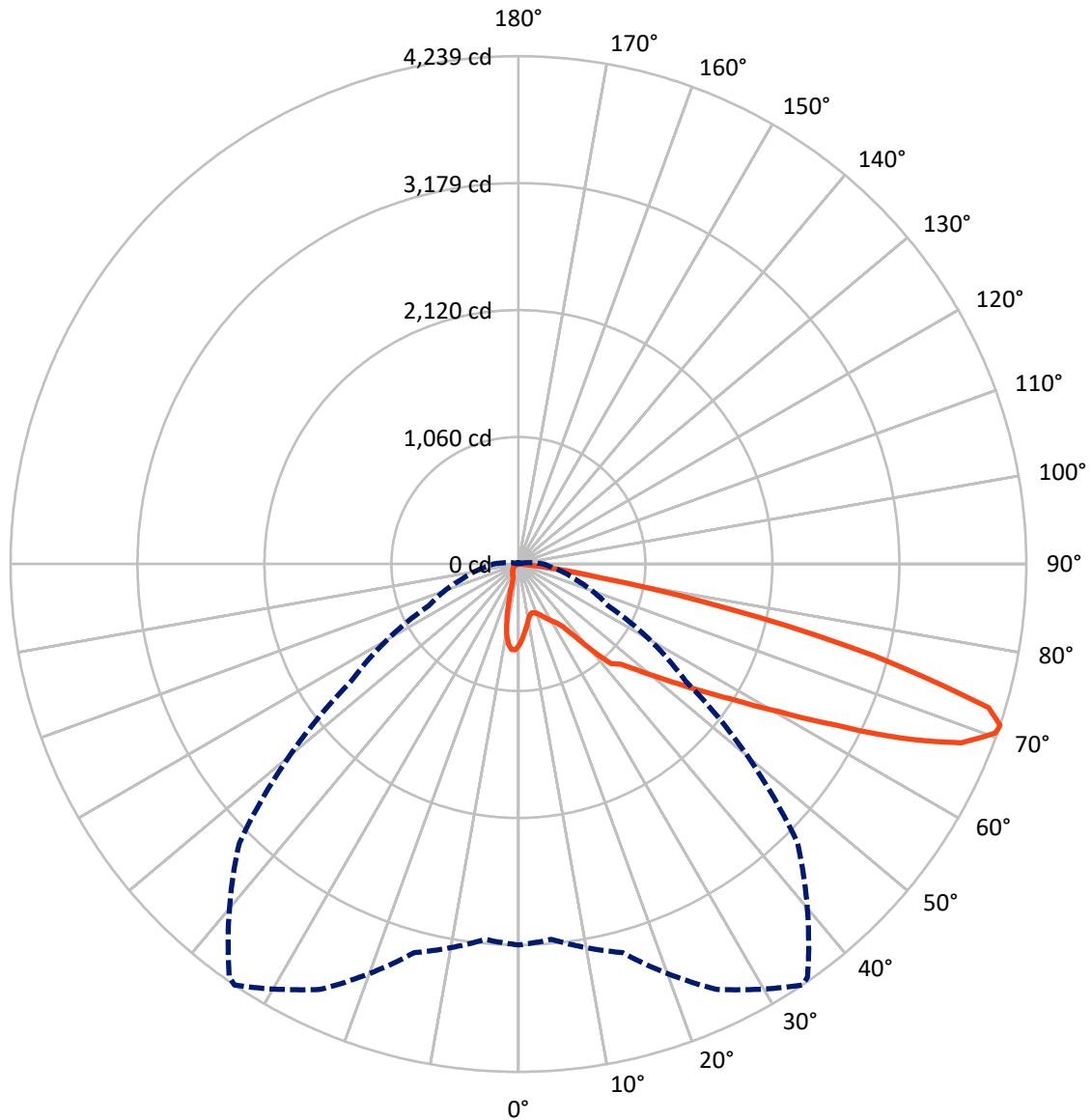
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.8 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 34-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	484.5	0.0	484.5
	% Fixture	11.1	0.0	11.1
Street Side	Lumens	3897.5	0.0	3897.5
	% Fixture	88.9	0.0	88.9
Total	Lumens	4382.0	0.0	4382.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.9	1.4
10°-20°	137.2	3.1
20°-30°	204.7	4.7
30°-40°	341.9	7.8
40°-50°	617.5	14.1
50°-60°	979.8	22.4
60°-70°	1316.6	30.0
70°-80°	698.6	15.9
80°-90°	25.8	0.6
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°	4382.0	100.0
0°-180°	4382.0	100.0

Coefficient of Utilization



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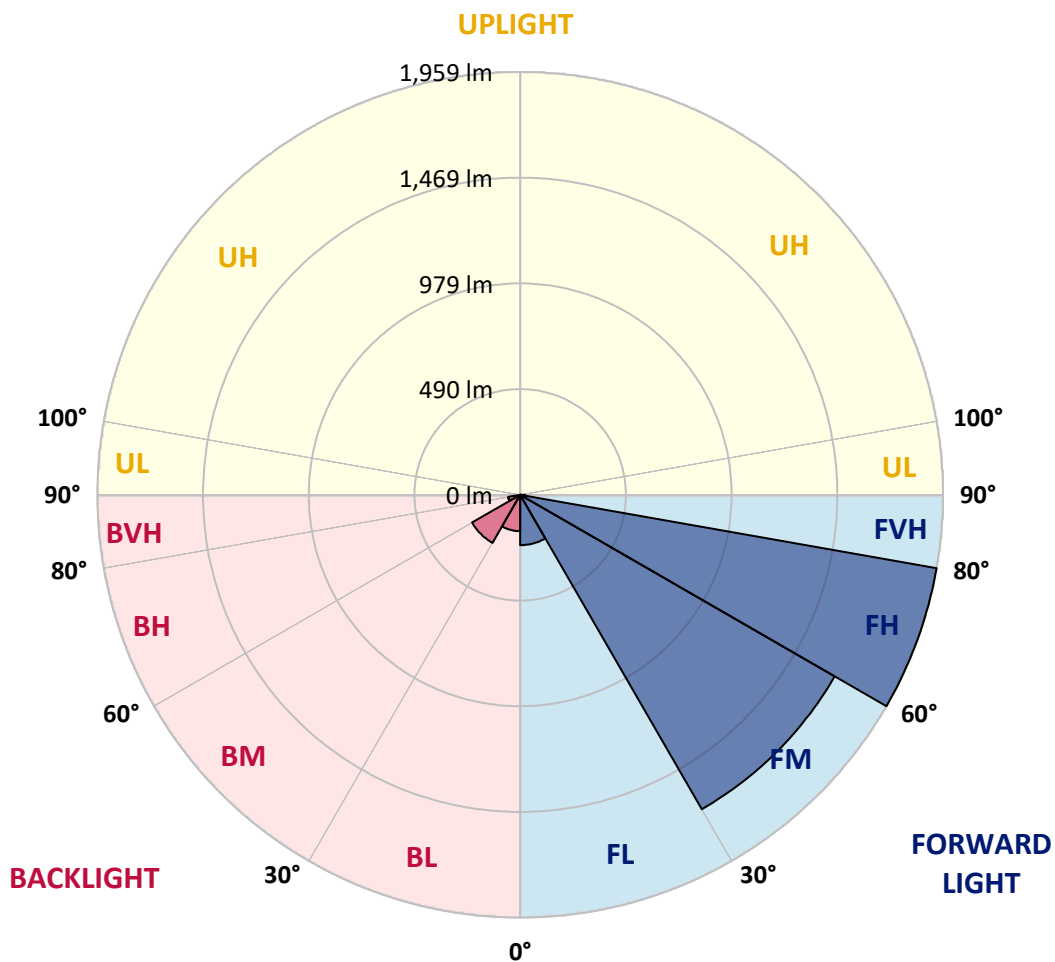
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	233.2	5.3			
FM	(30°-60°)	1682.1	38.4			
FH	(60°-80°)	1958.7	44.7			G2/5000
FVH	(80°-90°)	23.4	0.5			G1/100
BL	(0°-30°)	168.5	3.8	B1/500		
BM	(30°-60°)	257.1	5.9	B1/1000		
BH	(60°-80°)	56.6	1.3	B0/110		G0/110
BVH	(80°-90°)	2.3	0.1			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°	34°	35°	45°	55°	65°	75°	85°
0°	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0
2.5°	618.3	610.4	617.4	620.9	623.6	627.1	632.4	642.0	652.6	664.9	671.9
5°	539.1	543.5	546.2	555.8	565.5	567.3	584.0	603.3	628.0	652.6	673.7
7.5°	474.9	474.9	482.8	497.8	513.6	515.4	544.4	569.9	605.1	642.9	677.2
10°	423.9	425.7	431.8	446.8	467.0	471.4	503.9	539.1	583.1	632.4	680.7
12.5°	407.2	406.3	405.4	416.0	432.7	437.1	473.2	515.4	567.3	627.1	689.5
15°	417.8	415.1	409.0	410.7	421.3	425.7	457.3	499.6	557.6	626.2	704.5
17.5°	434.5	431.0	419.5	416.0	427.4	431.8	458.2	495.2	554.1	630.6	722.1
20°	454.7	451.2	433.6	429.2	440.6	444.1	471.4	503.1	555.8	639.4	745.8
22.5°	483.7	479.3	453.8	448.5	460.0	463.5	492.5	521.5	566.4	655.2	778.3
25°	518.9	513.6	481.1	474.0	488.1	491.6	520.7	547.9	584.0	676.3	819.7
27.5°	557.6	551.4	517.1	503.1	518.9	524.2	551.4	581.3	609.5	702.7	874.2
30°	592.8	585.7	552.3	536.5	552.3	555.0	587.5	620.9	650.8	747.6	954.2
32.5°	690.4	672.8	620.9	575.2	585.7	591.0	630.6	683.4	728.2	801.2	1057.1
35°	836.4	822.3	759.0	679.8	642.9	644.7	695.7	762.5	782.7	863.7	1184.7
37.5°	977.1	964.8	909.4	836.4	766.0	768.7	777.5	841.7	865.4	971.8	1340.3
40°	1131.0	1111.7	1067.7	998.2	949.9	938.4	895.3	940.2	992.1	1108.2	1510.1
42.5°	1202.3	1183.8	1138.1	1142.5	1137.2	1117.0	1031.6	1094.1	1152.1	1306.0	1697.4
45°	1320.1	1284.1	1190.0	1197.0	1190.0	1191.7	1212.8	1303.4	1353.5	1515.4	1909.4
47.5°	1429.2	1387.8	1289.3	1282.3	1313.1	1328.9	1442.4	1552.3	1556.7	1697.4	2075.6
50°	1528.6	1498.7	1408.1	1408.9	1465.2	1482.8	1709.7	1810.0	1721.2	1837.3	2205.8
52.5°	1660.5	1618.3	1537.4	1566.4	1654.3	1670.2	1976.2	2036.0	1839.9	1963.9	2307.8
55°	1782.7	1759.9	1700.1	1743.2	1877.7	1919.1	2247.1	2210.2	1923.4	2076.5	2357.0
57.5°	1983.3	1961.3	1945.4	1967.4	2147.7	2199.6	2521.5	2333.3	1988.5	2151.2	2334.2
60°	2317.5	2295.5	2248.0	2268.2	2503.0	2529.4	2737.0	2458.2	2014.0	2172.3	2244.5
62.5°	2729.9	2702.7	2626.2	2719.4	2955.1	2954.2	2960.4	2524.1	1981.5	2109.9	2007.9
65°	3102.0	3064.1	3024.6	3214.5	3501.3	3461.7	3197.8	2532.1	1878.6	1808.2	1553.2
67.5°	3372.8	3357.9	3379.9	3676.3	3985.0	3945.4	3428.3	2423.0	1563.7	1305.2	959.5
70°	3362.3	3331.5	3471.4	3944.5	4225.1	4192.5	3418.6	1991.2	1043.1	691.3	401.9
71°	3180.2	3145.1	3357.9	3918.1	4239.1	4208.4	3295.5	1703.6	825.0	488.1	264.7
72.5°	2457.3	2563.7	2902.3	3635.8	4103.7	4064.1	2960.4	1304.3	522.4	282.3	132.8
75°	1039.6	1097.6	1722.9	2595.4	3078.2	3058.0	1995.6	602.5	240.1	127.5	51.0
77.5°	267.4	263.8	527.7	1113.4	1792.4	1824.1	919.9	206.7	124.9	90.6	29.0
80°	51.9	56.3	150.4	387.0	684.2	702.7	299.9	90.6	83.6	71.2	15.0
82.5°	5.3	6.2	26.4	119.6	229.5	221.6	66.0	34.3	51.0	48.4	7.0
85°	0.0	0.0	0.9	0.9	0.9	0.9	0.9	3.5	12.3	13.2	1.8
87.5°	0.0	0.0	0.9	0.9	0.0	0.0	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°	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0
2.5°	677.2	685.1	693.9	700.1	706.2	707.1	715.9	714.1	716.8	717.7	716.8
5°	685.1	695.7	712.4	721.2	724.7	718.5	716.8	707.1	703.6	699.2	694.8
7.5°	693.9	707.1	726.5	730.9	718.5	695.7	677.2	653.5	631.5	617.4	619.2
10°	703.6	720.3	736.1	724.7	693.0	648.2	596.3	543.5	496.9	479.3	485.5
12.5°	715.9	736.1	743.2	711.5	649.9	559.4	465.3	385.2	336.8	307.8	304.3
15°	734.4	754.6	746.7	690.4	581.3	439.7	322.8	241.9	195.2	180.3	172.4
17.5°	757.2	776.6	746.7	652.6	483.7	314.9	196.1	146.9	131.9	128.4	129.3
20°	785.4	803.9	743.2	595.4	372.9	193.5	131.0	121.4	121.4	121.4	120.5
22.5°	823.2	832.9	737.9	519.8	256.8	131.0	116.1	115.2	116.1	116.1	116.1
25°	868.9	867.2	728.2	429.2	161.8	111.7	110.8	110.8	111.7	112.6	112.6
27.5°	929.6	911.2	711.5	321.0	114.3	103.8	105.5	107.3	109.1	110.8	110.8
30°	1014.1	969.2	684.2	217.2	96.7	95.9	99.4	104.7	107.3	109.1	109.1
32.5°	1104.6	1029.0	637.6	139.0	88.8	87.9	91.5	99.4	106.4	108.2	108.2
35°	1219.0	1093.2	568.2	100.3	83.6	81.8	85.3	92.3	102.9	108.2	108.2
37.5°	1339.5	1161.8	467.0	84.4	78.3	76.5	79.2	84.4	96.7	106.4	107.3
40°	1467.9	1222.5	350.9	78.3	73.0	72.1	73.0	78.3	87.9	101.1	103.8
42.5°	1597.2	1273.5	245.4	72.1	68.6	66.8	68.6	72.1	80.9	92.3	94.1
45°	1739.6	1329.8	163.6	66.8	65.1	63.3	65.1	67.7	73.9	80.0	80.9
47.5°	1843.4	1350.0	112.6	60.7	59.8	60.7	61.6	63.3	66.8	67.7	66.8
50°	1912.0	1339.5	80.9	54.5	55.4	58.0	58.0	58.9	58.9	56.3	55.4
52.5°	1962.1	1300.8	62.4	46.6	51.9	54.5	54.5	52.8	51.0	47.5	46.6
55°	1967.4	1213.7	49.3	40.5	46.6	51.0	50.1	46.6	43.1	39.6	39.6
57.5°	1900.6	1081.8	40.5	34.3	40.5	44.9	43.1	39.6	35.2	32.5	32.5
60°	1792.4	946.3	34.3	29.0	33.4	37.8	35.2	32.5	28.1	25.5	25.5
62.5°	1592.8	812.7	28.1	23.7	27.3	29.9	29.0	26.4	22.0	20.2	19.3
65°	1220.7	618.3	21.1	18.5	21.1	24.6	22.9	20.2	17.6	15.0	14.1
67.5°	733.5	372.0	16.7	14.1	16.7	19.3	17.6	15.0	12.3	10.6	10.6
70°	310.5	159.2	13.2	10.6	12.3	15.0	14.1	12.3	9.7	8.8	8.8
71°	211.1	113.5	11.4	9.7	11.4	14.1	13.2	11.4	9.7	8.8	8.8
72.5°	108.2	58.0	9.7	7.9	10.6	12.3	12.3	10.6	8.8	8.8	8.8
75°	38.7	24.6	7.9	7.0	8.8	8.8	9.7	9.7	9.7	9.7	8.8
77.5°	22.0	15.0	7.0	7.0	7.0	7.9	9.7	10.6	11.4	11.4	10.6
80°	12.3	7.9	4.4	5.3	7.0	7.9	9.7	10.6	12.3	12.3	11.4
82.5°	6.2	2.6	0.9	2.6	4.4	7.0	7.9	8.8	10.6	9.7	9.7
85°	0.9	0.0	0.0	0.9	2.6	3.5	5.3	7.0	8.8	8.8	7.9
87.5°	0.0	0.0	0.0	0.0	0.9	1.8	2.6	4.4	6.2	7.0	6.2
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)