

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: P401589

Luminaire Tested: **ENT-SA1D-830-U-T4FT-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401589
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-SA1D-830-U-T4FT-HSS
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 800mA 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: 3177 lumens
Efficiency: N/A
Efficacy: 73.7 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 - G1

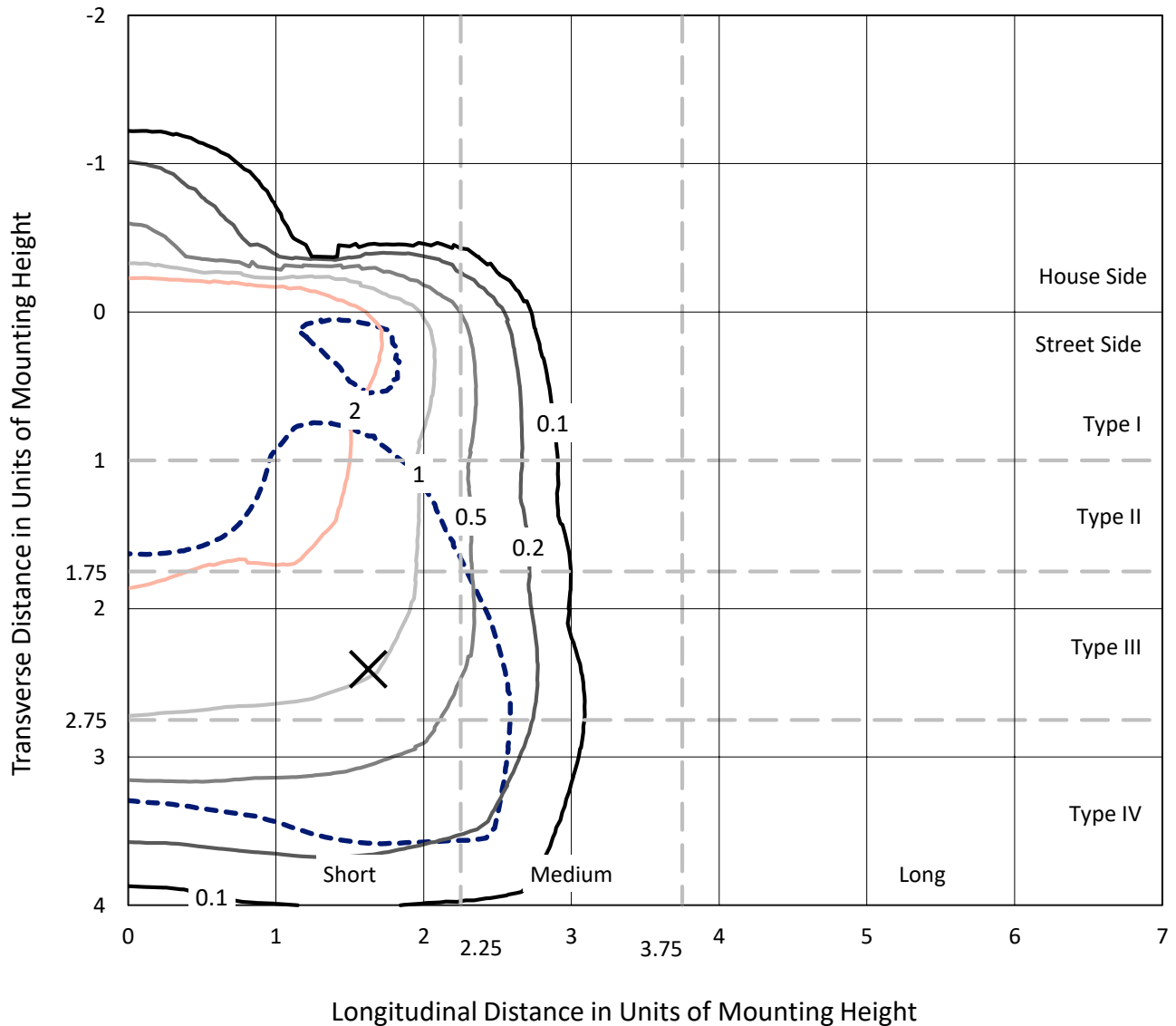
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P401589
 CATALOG NUMBER: ENT-SA1D-830-U-T4FT-HSS

Iso-Footcandle Lines of Horizontal Illumination

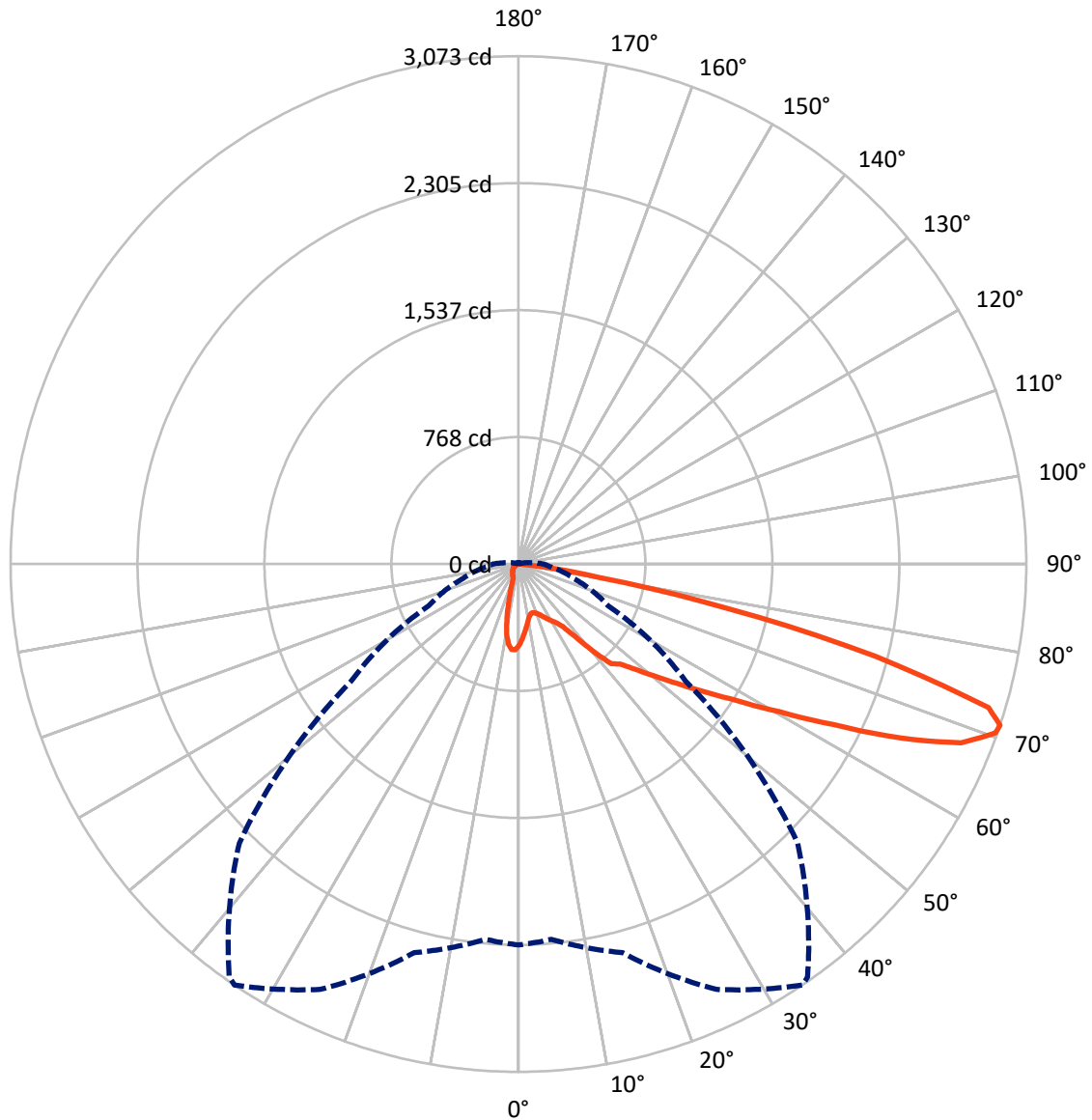
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.9 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P401589
CATALOG NUMBER: ENT-SA1D-830-U-T4FT-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P401589

CATALOG NUMBER: ENT-SA1D-830-U-T4FT-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	351.3	0.0	351.3
	% Fixture	11.1	0.0	11.1
Street Side	Lumens	2825.7	0.0	2825.7
	% Fixture	88.9	0.0	88.9
Total	Lumens	3177.0	0.0	3177.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.4	1.4
10°-20°	99.4	3.1
20°-30°	148.4	4.7
30°-40°	247.9	7.8
40°-50°	447.7	14.1
50°-60°	710.4	22.4
60°-70°	954.6	30.0
70°-80°	506.5	15.9
80°-90°	18.7	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°	3177.0	100.0
0°-180°	3177.0	100.0



REPORT NUMBER: P401589

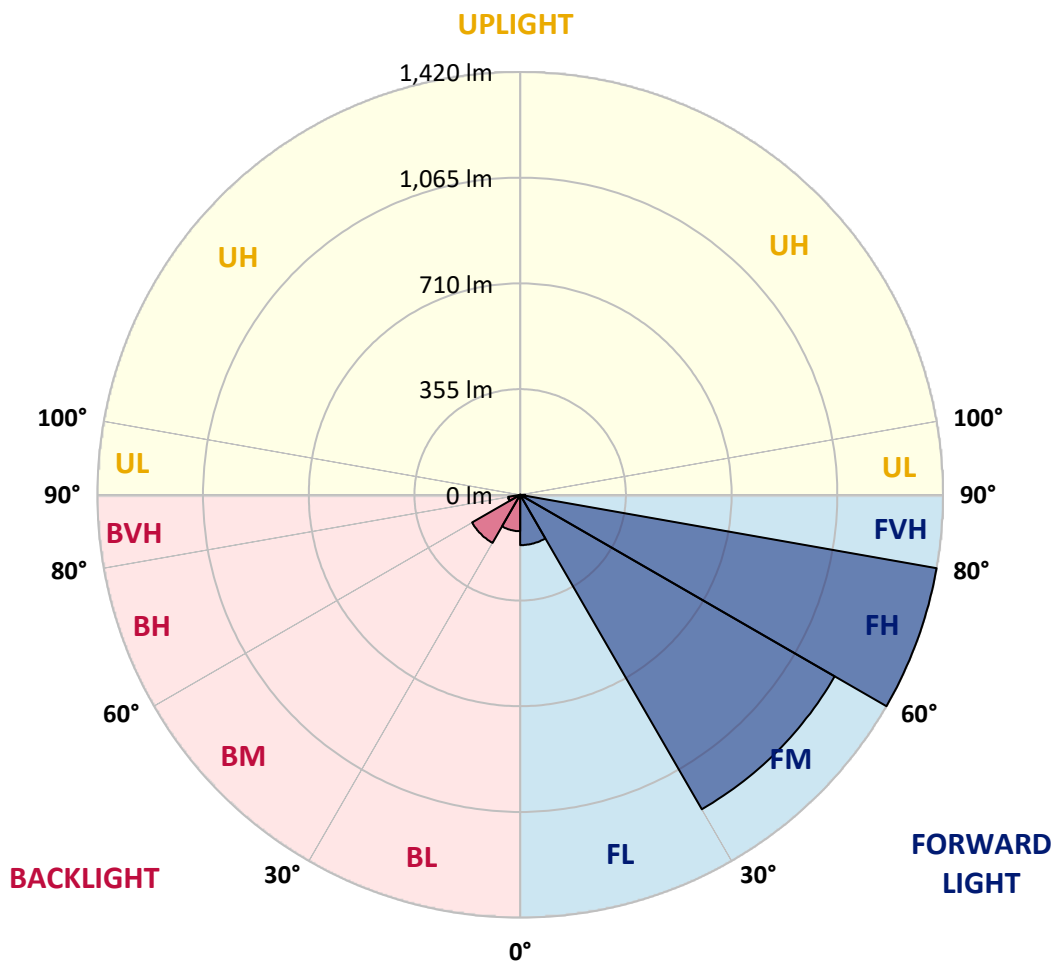
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	169.1	5.3			
FM	(30°-60°)	1219.6	38.4			
FH	(60°-80°)	1420.1	44.7			G1/1800
FVH	(80°-90°)	17.0	0.5			G1/100
BL	(0°-30°)	122.2	3.8	B1/500		
BM	(30°-60°)	186.4	5.9	B0/220		
BH	(60°-80°)	41.0	1.3	B0/110		G0/110
BVH	(80°-90°)	1.7	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-G1

Type IV Short





REPORT NUMBER: P401589

CATALOG NUMBER: ENT-SA1D-830-U-T4FT-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3
2.5°	448.3	442.5	447.6	450.2	452.1	454.6	458.5	465.5	473.1	482.1	487.2
5°	390.9	394.1	396.0	403.0	410.0	411.3	423.4	437.4	455.3	473.1	488.4
7.5°	344.3	344.3	350.1	360.9	372.4	373.7	394.7	413.2	438.7	466.1	491.0
10°	307.3	308.6	313.1	323.9	338.6	341.8	365.4	390.9	422.8	458.5	493.5
12.5°	295.2	294.6	294.0	301.6	313.7	316.9	343.1	373.7	411.3	454.6	499.9
15°	302.9	301.0	296.5	297.8	305.4	308.6	331.6	362.2	404.3	454.0	510.8
17.5°	315.0	312.4	304.2	301.6	309.9	313.1	332.2	359.0	401.7	457.2	523.5
20°	329.7	327.1	314.4	311.2	319.5	322.0	341.8	364.7	403.0	463.6	540.7
22.5°	350.7	347.5	329.0	325.2	333.5	336.0	357.1	378.1	410.6	475.0	564.3
25°	376.2	372.4	348.8	343.7	353.9	356.4	377.5	397.3	423.4	490.3	594.3
27.5°	404.3	399.8	374.9	364.7	376.2	380.0	399.8	421.5	441.9	509.5	633.8
30°	429.8	424.7	400.4	389.0	400.4	402.4	425.9	450.2	471.9	542.0	691.8
32.5°	500.5	487.8	450.2	417.0	424.7	428.5	457.2	495.4	528.0	580.9	766.4
35°	606.4	596.2	550.3	492.9	466.1	467.4	504.4	552.8	567.5	626.2	858.9
37.5°	708.4	699.5	659.3	606.4	555.4	557.3	563.7	610.2	627.4	704.6	971.8
40°	820.0	806.0	774.1	723.7	688.7	680.4	649.1	681.6	719.3	803.4	1094.8
42.5°	871.7	858.3	825.1	828.3	824.5	809.8	748.0	793.2	835.3	946.9	1230.6
45°	957.1	931.0	862.7	867.8	862.7	864.0	879.3	945.0	981.3	1098.7	1384.3
47.5°	1036.2	1006.2	934.8	929.7	952.0	963.5	1045.7	1125.4	1128.6	1230.6	1504.8
50°	1108.2	1086.5	1020.9	1021.5	1062.3	1075.1	1239.6	1312.3	1247.9	1332.0	1599.2
52.5°	1203.9	1173.3	1114.6	1135.6	1199.4	1210.9	1432.8	1476.1	1333.9	1423.9	1673.2
55°	1292.5	1275.9	1232.6	1263.8	1361.4	1391.3	1629.2	1602.4	1394.5	1505.5	1708.9
57.5°	1437.9	1421.9	1410.5	1426.4	1557.1	1594.7	1828.1	1691.7	1441.7	1559.7	1692.3
60°	1680.2	1664.2	1629.8	1644.5	1814.7	1833.9	1984.3	1782.2	1460.2	1575.0	1627.3
62.5°	1979.2	1959.5	1904.0	1971.6	2142.5	2141.8	2146.3	1830.0	1436.6	1529.7	1455.7
65°	2249.0	2221.5	2192.8	2330.6	2538.5	2509.8	2318.5	1835.8	1362.0	1311.0	1126.1
67.5°	2445.4	2434.5	2450.5	2665.3	2889.2	2860.5	2485.5	1756.7	1133.7	946.3	695.7
70°	2437.7	2415.4	2516.8	2859.8	3063.2	3039.6	2478.5	1443.6	756.2	501.2	291.4
71°	2305.7	2280.2	2434.5	2840.7	3073.4	3051.1	2389.2	1235.1	598.1	353.9	191.9
72.5°	1781.6	1858.7	2104.2	2636.0	2975.2	2946.5	2146.3	945.6	378.8	204.7	96.3
75°	753.7	795.8	1249.1	1881.7	2231.7	2217.1	1446.8	436.8	174.1	92.5	37.0
77.5°	193.8	191.3	382.6	807.3	1299.5	1322.5	667.0	149.8	90.5	65.7	21.0
80°	37.6	40.8	109.0	280.6	496.1	509.5	217.4	65.7	60.6	51.6	10.8
82.5°	3.8	4.5	19.1	86.7	166.4	160.7	47.8	24.9	37.0	35.1	5.1
85°	0.0	0.0	0.6	0.6	0.6	0.6	0.6	2.6	8.9	9.6	1.3
87.5°	0.0	0.0	0.6	0.6	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



REPORT NUMBER: P401589

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3	492.3
2.5°	491.0	496.7	503.1	507.6	512.0	512.7	519.0	517.8	519.7	520.3	519.7
5°	496.7	504.4	516.5	522.9	525.4	521.0	519.7	512.7	510.1	506.9	503.7
7.5°	503.1	512.7	526.7	529.9	521.0	504.4	491.0	473.8	457.8	447.6	448.9
10°	510.1	522.2	533.7	525.4	502.5	469.9	432.3	394.1	360.3	347.5	352.0
12.5°	519.0	533.7	538.8	515.9	471.2	405.5	337.3	279.3	244.2	223.2	220.6
15°	532.4	547.1	541.4	500.5	421.5	318.8	234.0	175.4	141.6	130.7	125.0
17.5°	549.0	563.0	541.4	473.1	350.7	228.3	142.2	106.5	95.6	93.1	93.7
20°	569.4	582.8	538.8	431.7	270.4	140.3	95.0	88.0	88.0	88.0	87.4
22.5°	596.8	603.8	535.0	376.8	186.2	95.0	84.2	83.5	84.2	84.2	84.2
25°	630.0	628.7	528.0	311.2	117.3	81.0	80.3	80.3	81.0	81.6	81.6
27.5°	674.0	660.6	515.9	232.7	82.9	75.2	76.5	77.8	79.1	80.3	80.3
30°	735.2	702.7	496.1	157.5	70.1	69.5	72.1	75.9	77.8	79.1	79.1
32.5°	800.9	746.0	462.3	100.7	64.4	63.8	66.3	72.1	77.2	78.4	78.4
35°	883.8	792.6	411.9	72.7	60.6	59.3	61.9	67.0	74.6	78.4	78.4
37.5°	971.1	842.3	338.6	61.2	56.8	55.5	57.4	61.2	70.1	77.2	77.8
40°	1064.2	886.3	254.4	56.8	52.9	52.3	52.9	56.8	63.8	73.3	75.2
42.5°	1158.0	923.3	177.9	52.3	49.7	48.5	49.7	52.3	58.7	67.0	68.2
45°	1261.3	964.1	118.6	48.5	47.2	45.9	47.2	49.1	53.6	58.0	58.7
47.5°	1336.5	978.8	81.6	44.0	43.4	44.0	44.6	45.9	48.5	49.1	48.5
50°	1386.2	971.1	58.7	39.5	40.2	42.1	42.1	42.7	42.7	40.8	40.2
52.5°	1422.6	943.1	45.3	33.8	37.6	39.5	39.5	38.3	37.0	34.4	33.8
55°	1426.4	879.9	35.7	29.3	33.8	37.0	36.3	33.8	31.2	28.7	28.7
57.5°	1377.9	784.3	29.3	24.9	29.3	32.5	31.2	28.7	25.5	23.6	23.6
60°	1299.5	686.1	24.9	21.0	24.2	27.4	25.5	23.6	20.4	18.5	18.5
62.5°	1154.8	589.2	20.4	17.2	19.8	21.7	21.0	19.1	15.9	14.7	14.0
65°	885.0	448.3	15.3	13.4	15.3	17.9	16.6	14.7	12.8	10.8	10.2
67.5°	531.8	269.7	12.1	10.2	12.1	14.0	12.8	10.8	8.9	7.7	7.7
70°	225.1	115.4	9.6	7.7	8.9	10.8	10.2	8.9	7.0	6.4	6.4
71°	153.0	82.3	8.3	7.0	8.3	10.2	9.6	8.3	7.0	6.4	6.4
72.5°	78.4	42.1	7.0	5.7	7.7	8.9	8.9	7.7	6.4	6.4	6.4
75°	28.1	17.9	5.7	5.1	6.4	6.4	7.0	7.0	7.0	7.0	6.4
77.5°	15.9	10.8	5.1	5.1	5.1	5.7	7.0	7.7	8.3	8.3	7.7
80°	8.9	5.7	3.2	3.8	5.1	5.7	7.0	7.7	8.9	8.9	8.3
82.5°	4.5	1.9	0.6	1.9	3.2	5.1	5.7	6.4	7.7	7.0	7.0
85°	0.6	0.0	0.0	0.6	1.9	2.6	3.8	5.1	6.4	6.4	5.7
87.5°	0.0	0.0	0.0	0.0	0.6	1.3	1.9	3.2	4.5	5.1	4.5
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)