

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: P401049

Luminaire Tested: **ENT-SA1A-830-U-T4FT-HSS**

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P401049  
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-SA1A-830-U-T4FT-HSS  
Description: ENTRI LED LUMINAIRE  
(1) 80 CRI, 3000K, 350mA 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: 1538 lumens  
Efficiency: N/A  
Efficacy: 76.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B0 - U0 - G1

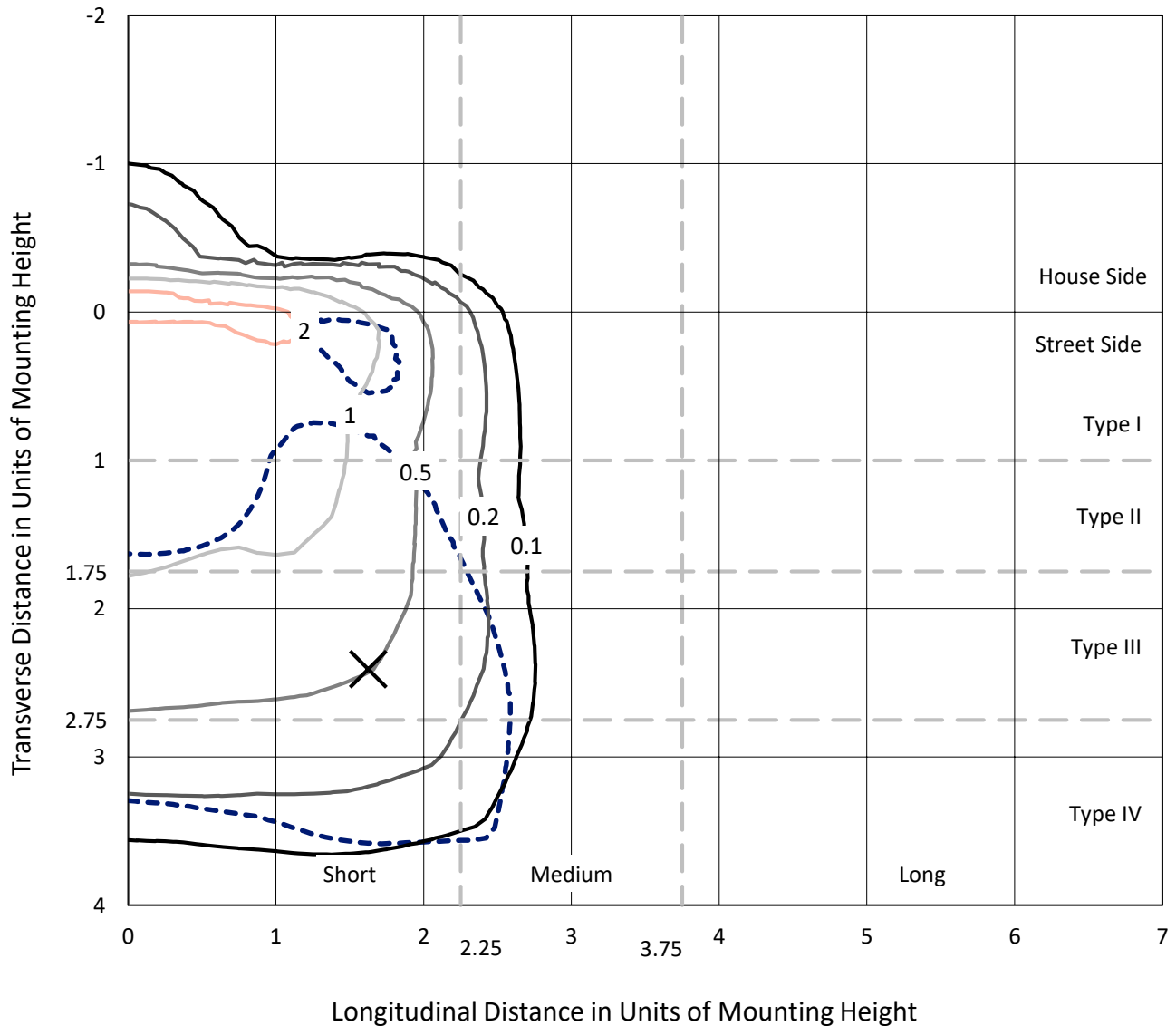
Input Watts (W): 20.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P401049  
 CATALOG NUMBER: ENT-SA1A-830-U-T4FT-HSS

### Iso-Footcandle Lines of Horizontal Illumination

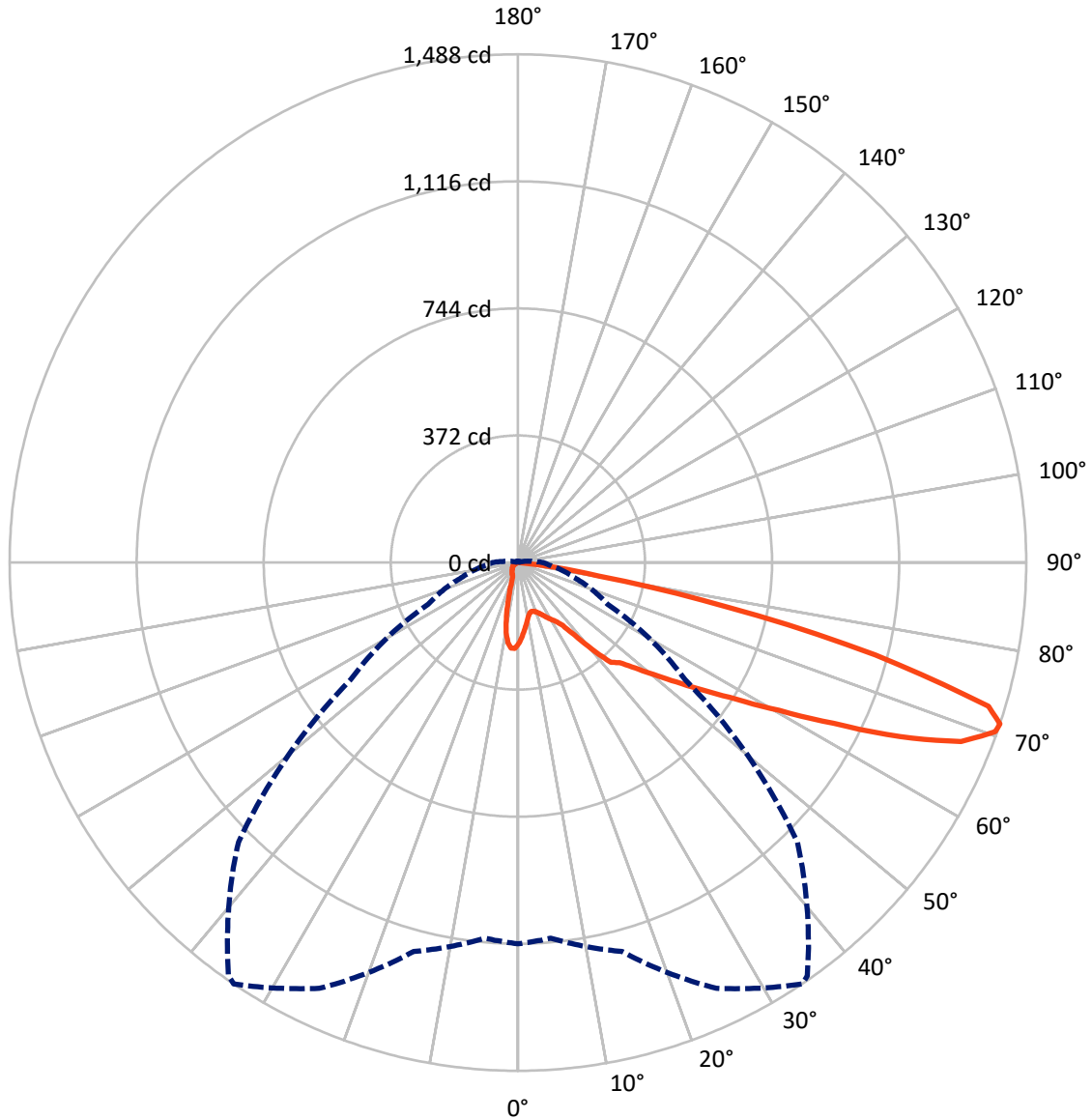
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 2.4 fc  
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P401049  
CATALOG NUMBER: ENT-SA1A-830-U-T4FT-HSS

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P401049

CATALOG NUMBER: ENT-SA1A-830-U-T4FT-HSS

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	170.1	0.0	170.1
	% Fixture	11.1	0.0	11.1
<b>Street Side</b>	Lumens	1367.9	0.0	1367.9
	% Fixture	88.9	0.0	88.9
<b>Total</b>	Lumens	1538.0	0.0	1538.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	21.0	1.4
10°-20°	48.1	3.1
20°-30°	71.9	4.7
30°-40°	120.0	7.8
40°-50°	216.7	14.1
50°-60°	343.9	22.4
60°-70°	462.1	30.0
70°-80°	245.2	15.9
80°-90°	9.0	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°	1538.0	100.0
0°-180°	1538.0	100.0



REPORT NUMBER: P401049

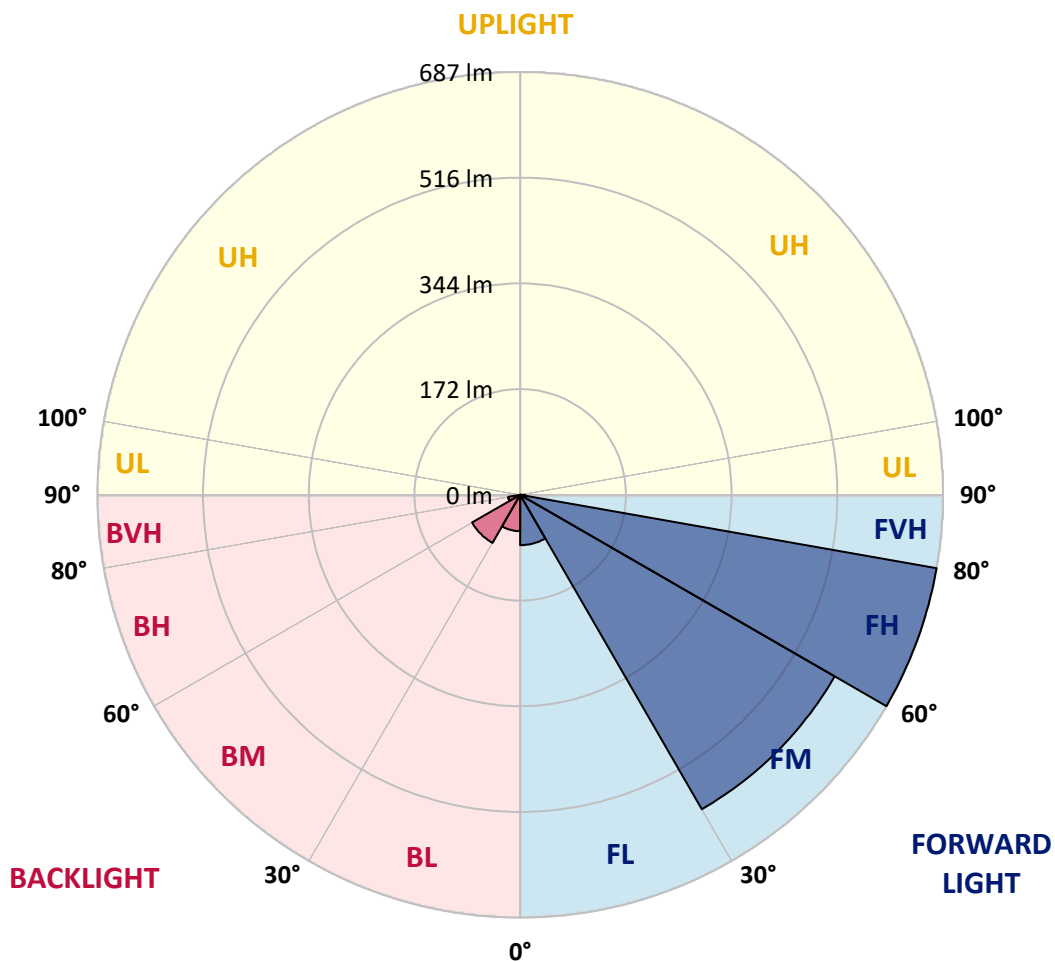
CATALOG NUMBER: ENT-SA1A-830-U-T4FT-HSS

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	81.9	5.3			
FM	(30°-60°)	590.4	38.4			
FH	(60°-80°)	687.5	44.7			G1/1800
FVH	(80°-90°)	8.2	0.5			G0/10
BL	(0°-30°)	59.1	3.8	B0/110		
BM	(30°-60°)	90.2	5.9	B0/220		
BH	(60°-80°)	19.9	1.3	B0/110		G0/110
BVH	(80°-90°)	0.8	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type IV Short





REPORT NUMBER: P401049

CATALOG NUMBER: ENT-SA1A-830-U-T4FT-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	238.3	238.3	238.3	238.3	238.3	238.3	238.3	238.3	238.3	238.3	238.3
2.5°	217.0	214.2	216.7	217.9	218.9	220.1	221.9	225.3	229.0	233.4	235.8
5°	189.2	190.8	191.7	195.1	198.5	199.1	205.0	211.8	220.4	229.0	236.5
7.5°	166.7	166.7	169.5	174.7	180.3	180.9	191.1	200.0	212.4	225.6	237.7
10°	148.8	149.4	151.6	156.8	163.9	165.5	176.9	189.2	204.7	221.9	238.9
12.5°	142.9	142.6	142.3	146.0	151.9	153.4	166.1	180.9	199.1	220.1	242.0
15°	146.6	145.7	143.5	144.2	147.9	149.4	160.5	175.3	195.7	219.8	247.3
17.5°	152.5	151.3	147.2	146.0	150.0	151.6	160.8	173.8	194.5	221.3	253.4
20°	159.6	158.4	152.2	150.6	154.7	155.9	165.5	176.6	195.1	224.4	261.8
22.5°	169.8	168.2	159.3	157.4	161.4	162.7	172.9	183.1	198.8	230.0	273.2
25°	182.1	180.3	168.9	166.4	171.3	172.6	182.7	192.3	205.0	237.4	287.7
27.5°	195.7	193.5	181.5	176.6	182.1	184.0	193.5	204.0	213.9	246.6	306.8
30°	208.1	205.6	193.9	188.3	193.9	194.8	206.2	217.9	228.4	262.4	334.9
32.5°	242.3	236.1	217.9	201.9	205.6	207.4	221.3	239.8	255.6	281.2	371.0
35°	293.6	288.6	266.4	238.6	225.6	226.3	244.2	267.6	274.7	303.1	415.8
37.5°	342.9	338.6	319.2	293.6	268.9	269.8	272.9	295.4	303.7	341.1	470.4
40°	397.0	390.2	374.7	350.4	333.4	329.4	314.2	330.0	348.2	388.9	530.0
42.5°	422.0	415.5	399.4	401.0	399.1	392.0	362.1	384.0	404.4	458.4	595.8
45°	463.3	450.7	417.7	420.1	417.7	418.3	425.7	457.5	475.1	531.9	670.2
47.5°	501.6	487.1	452.5	450.1	460.9	466.4	506.2	544.8	546.4	595.8	728.5
50°	536.5	526.0	494.2	494.5	514.3	520.4	600.1	635.3	604.1	644.8	774.2
52.5°	582.8	568.0	539.6	549.8	580.6	586.2	693.6	714.6	645.8	689.3	810.0
55°	625.7	617.7	596.7	611.8	659.0	673.6	788.7	775.7	675.1	728.8	827.3
57.5°	696.1	688.4	682.8	690.5	753.8	772.0	885.0	818.9	697.9	755.0	819.3
60°	813.4	805.7	789.0	796.1	878.5	887.8	960.6	862.8	706.9	762.5	787.8
62.5°	958.2	948.6	921.7	954.5	1037.2	1036.9	1039.0	885.9	695.5	740.5	704.7
65°	1088.7	1075.5	1061.6	1128.2	1228.9	1215.0	1122.4	888.7	659.4	634.7	545.1
67.5°	1183.8	1178.6	1186.3	1290.3	1398.7	1384.8	1203.3	850.4	548.8	458.1	336.8
70°	1180.1	1169.3	1218.4	1384.5	1482.9	1471.5	1199.9	698.9	366.1	242.6	141.1
71°	1116.2	1103.9	1178.6	1375.2	1487.9	1477.1	1156.6	597.9	289.5	171.3	92.9
72.5°	862.5	899.8	1018.7	1276.1	1440.3	1426.4	1039.0	457.8	183.4	99.1	46.6
75°	364.9	385.2	604.7	910.9	1080.4	1073.3	700.4	211.4	84.3	44.8	17.9
77.5°	93.8	92.6	185.2	390.8	629.1	640.2	322.9	72.5	43.8	31.8	10.2
80°	18.2	19.8	52.8	135.8	240.2	246.6	105.3	31.8	29.3	25.0	5.2
82.5°	1.9	2.2	9.3	42.0	80.6	77.8	23.2	12.0	17.9	17.0	2.5
85°	0.0	0.0	0.3	0.3	0.3	0.3	0.3	1.2	4.3	4.6	0.6
87.5°	0.0	0.0	0.3	0.3	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: P401049

CATALOG NUMBER: ENT-SA1A-830-U-T4FT-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	238.3	238.3	238.3	238.3	238.3	238.3	238.3	238.3	238.3	238.3	238.3
2.5°	237.7	240.5	243.6	245.7	247.9	248.2	251.3	250.7	251.6	251.9	251.6
5°	240.5	244.2	250.0	253.1	254.4	252.2	251.6	248.2	246.9	245.4	243.9
7.5°	243.6	248.2	255.0	256.5	252.2	244.2	237.7	229.4	221.6	216.7	217.3
10°	246.9	252.8	258.4	254.4	243.2	227.5	209.3	190.8	174.4	168.2	170.4
12.5°	251.3	258.4	260.8	249.7	228.1	196.3	163.3	135.2	118.2	108.0	106.8
15°	257.8	264.9	262.1	242.3	204.0	154.3	113.3	84.9	68.5	63.3	60.5
17.5°	265.8	272.6	262.1	229.0	169.8	110.5	68.8	51.6	46.3	45.1	45.4
20°	275.7	282.1	260.8	209.0	130.9	67.9	46.0	42.6	42.6	42.6	42.3
22.5°	288.9	292.3	259.0	182.4	90.1	46.0	40.7	40.4	40.7	40.7	40.7
25°	305.0	304.4	255.6	150.6	56.8	39.2	38.9	38.9	39.2	39.5	39.5
27.5°	326.3	319.8	249.7	112.7	40.1	36.4	37.0	37.7	38.3	38.9	38.9
30°	355.9	340.2	240.2	76.2	34.0	33.6	34.9	36.7	37.7	38.3	38.3
32.5°	387.7	361.2	223.8	48.8	31.2	30.9	32.1	34.9	37.4	38.0	38.0
35°	427.8	383.7	199.4	35.2	29.3	28.7	29.9	32.4	36.1	38.0	38.0
37.5°	470.1	407.8	163.9	29.6	27.5	26.9	27.8	29.6	34.0	37.4	37.7
40°	515.2	429.1	123.2	27.5	25.6	25.3	25.6	27.5	30.9	35.5	36.4
42.5°	560.6	447.0	86.1	25.3	24.1	23.5	24.1	25.3	28.4	32.4	33.0
45°	610.6	466.7	57.4	23.5	22.8	22.2	22.8	23.8	25.9	28.1	28.4
47.5°	647.0	473.8	39.5	21.3	21.0	21.3	21.6	22.2	23.5	23.8	23.5
50°	671.1	470.1	28.4	19.1	19.4	20.4	20.4	20.7	20.7	19.8	19.4
52.5°	688.7	456.5	21.9	16.4	18.2	19.1	19.1	18.5	17.9	16.7	16.4
55°	690.5	426.0	17.3	14.2	16.4	17.9	17.6	16.4	15.1	13.9	13.9
57.5°	667.1	379.7	14.2	12.0	14.2	15.7	15.1	13.9	12.3	11.4	11.4
60°	629.1	332.1	12.0	10.2	11.7	13.3	12.3	11.4	9.9	9.0	9.0
62.5°	559.0	285.2	9.9	8.3	9.6	10.5	10.2	9.3	7.7	7.1	6.8
65°	428.5	217.0	7.4	6.5	7.4	8.6	8.0	7.1	6.2	5.2	4.9
67.5°	257.4	130.6	5.9	4.9	5.9	6.8	6.2	5.2	4.3	3.7	3.7
70°	109.0	55.9	4.6	3.7	4.3	5.2	4.9	4.3	3.4	3.1	3.1
71°	74.1	39.8	4.0	3.4	4.0	4.9	4.6	4.0	3.4	3.1	3.1
72.5°	38.0	20.4	3.4	2.8	3.7	4.3	4.3	3.7	3.1	3.1	3.1
75°	13.6	8.6	2.8	2.5	3.1	3.1	3.4	3.4	3.4	3.4	3.1
77.5°	7.7	5.2	2.5	2.5	2.5	2.8	3.4	3.7	4.0	4.0	3.7
80°	4.3	2.8	1.5	1.9	2.5	2.8	3.4	3.7	4.3	4.3	4.0
82.5°	2.2	0.9	0.3	0.9	1.5	2.5	2.8	3.1	3.7	3.4	3.4
85°	0.3	0.0	0.0	0.3	0.9	1.2	1.9	2.5	3.1	3.1	2.8
87.5°	0.0	0.0	0.0	0.0	0.3	0.6	0.9	1.5	2.2	2.5	2.2
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)