

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: P401046

Luminaire Tested: **ENT-SA1A-830-U-T2**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401046
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-11)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1A-830-U-T2
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 350mA LIGHTSQUARE WITH 16 LEDS AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2162 lumens
Efficiency: N/A
Efficacy: 107.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

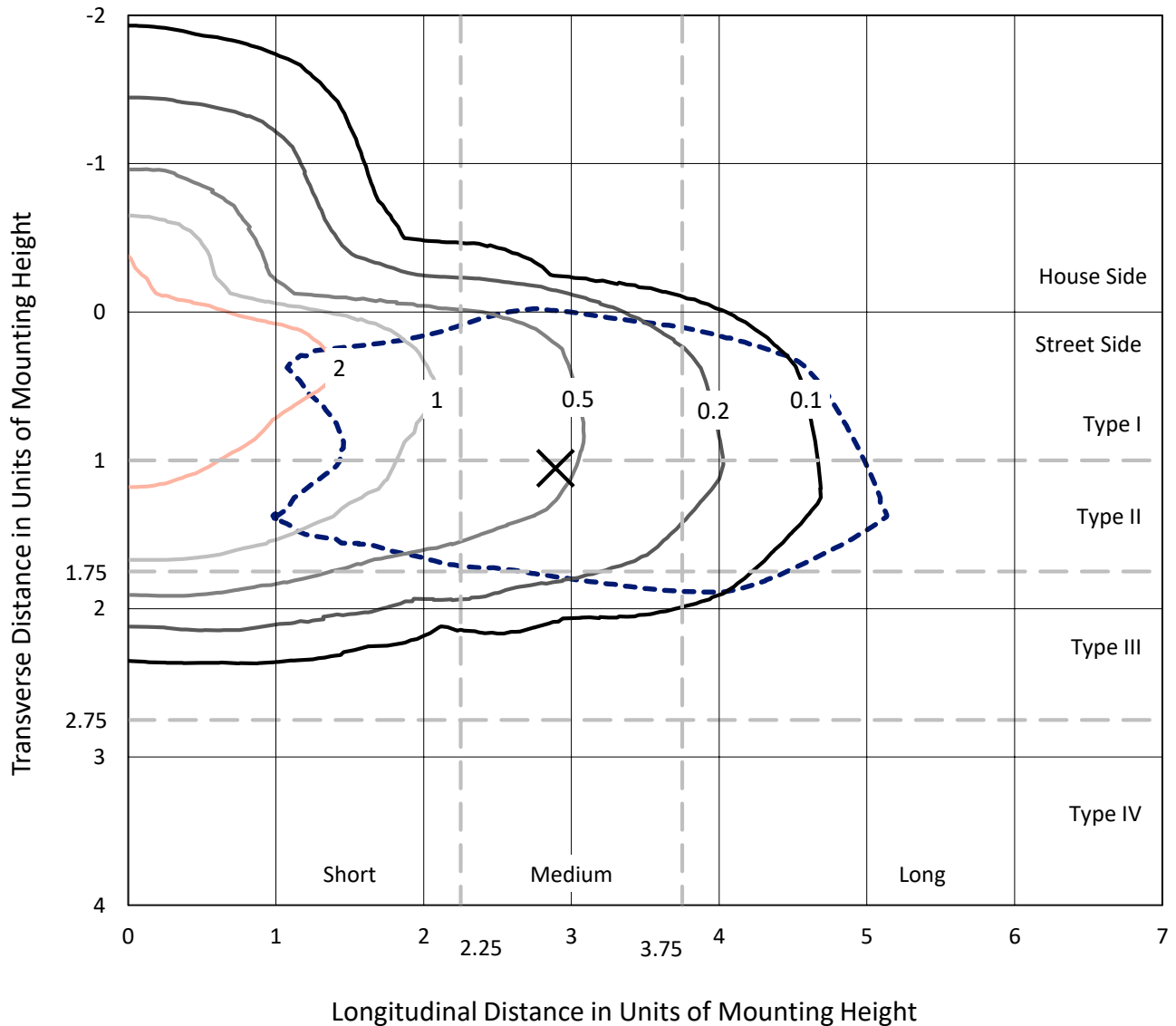
Input Watts (W): 20.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P401046
 CATALOG NUMBER: ENT-SA1A-830-U-T2

Iso-Footcandle Lines of Horizontal Illumination

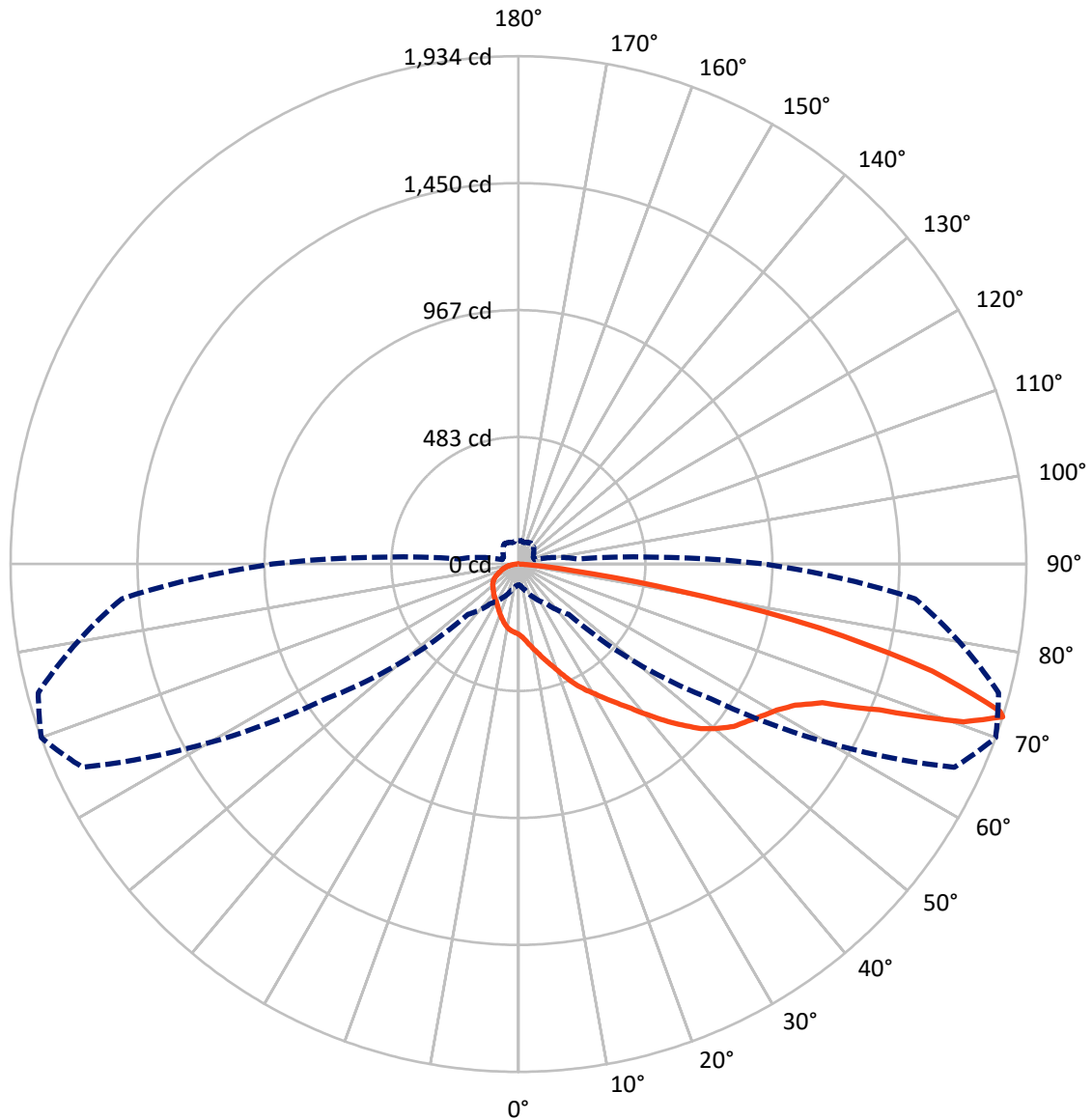
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.7 fc
 Type III - Medium - Non-Cutoff

REPORT NUMBER: P401046
CATALOG NUMBER: ENT-SA1A-830-U-T2

Luminous Intensity Polar Plot



— Vertical Plane Through 70-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

REPORT NUMBER: P401046

CATALOG NUMBER: ENT-SA1A-830-U-T2

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	401.7	0.0	401.7
	% Fixture	18.6	0.0	18.6
Street Side	Lumens	1760.3	0.0	1760.3
	% Fixture	81.4	0.0	81.4
Total	Lumens	2162.0	0.0	2162.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.9	1.2
10°-20°	86.3	4.0
20°-30°	152.9	7.1
30°-40°	227.3	10.5
40°-50°	329.8	15.3
50°-60°	450.5	20.8
60°-70°	493.3	22.8
70°-80°	350.9	16.2
80°-90°	44.0	2.0
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°	2162.0	100.0
0°-180°	2162.0	100.0



REPORT NUMBER: P401046

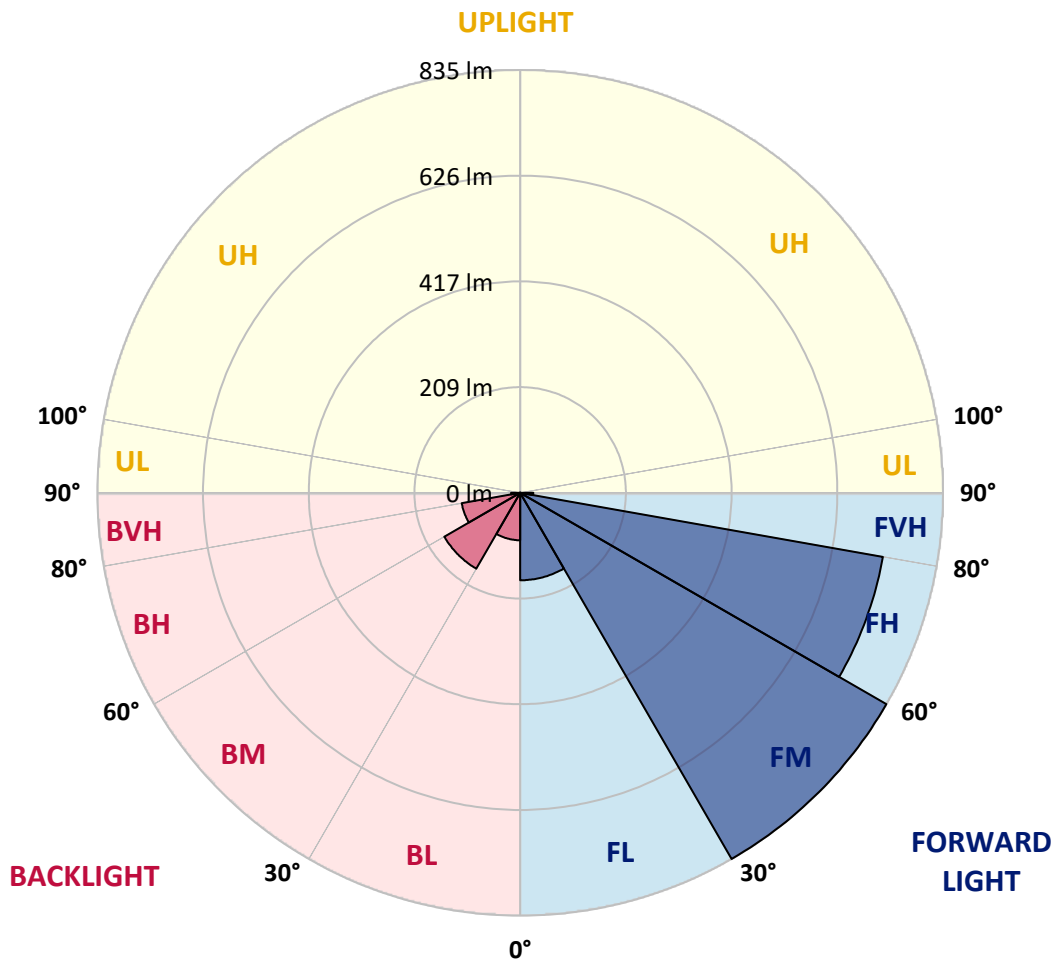
CATALOG NUMBER: ENT-SA1A-830-U-T2

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	172.6	8.0			
FM	(30°-60°)	834.7	38.6			
FH	(60°-80°)	727.0	33.6			G1/1800
FVH	(80°-90°)	26.0	1.2			G1/100
BL	(0°-30°)	93.6	4.3	B0/110		
BM	(30°-60°)	173.0	8.0	B0/220		
BH	(60°-80°)	117.1	5.4	B1/500		G1/500
BVH	(80°-90°)	18.0	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type III Medium





REPORT NUMBER: P401046

CATALOG NUMBER: ENT-SA1A-830-U-T2

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	85°
0°	267.7	267.7	267.7	267.7	267.7	267.7	267.7	267.7	267.7	267.7	267.7
2.5°	297.7	296.2	296.5	293.7	292.1	288.4	284.4	280.1	277.9	276.4	271.1
5°	326.7	326.7	328.0	325.8	319.9	313.8	306.7	297.1	293.1	287.5	277.0
7.5°	350.8	351.4	351.4	350.8	345.6	338.8	329.5	317.8	311.3	303.3	286.9
10°	363.2	364.7	366.0	366.9	366.3	362.2	351.7	339.7	330.7	320.2	298.3
12.5°	369.4	370.0	372.1	376.8	380.5	383.6	375.8	361.6	352.7	340.0	310.7
15°	376.1	376.1	378.3	384.2	391.3	399.6	398.7	387.6	378.0	362.2	326.4
17.5°	380.5	381.7	385.7	391.9	401.8	415.7	422.8	416.6	404.2	387.6	343.4
20°	378.0	378.9	387.0	399.0	411.7	429.6	447.5	447.5	435.7	416.6	362.2
22.5°	382.6	384.2	389.7	401.2	418.5	441.6	471.0	481.1	471.0	450.0	384.2
25°	400.5	399.9	404.6	409.2	424.0	452.7	491.0	517.3	508.0	484.8	405.5
27.5°	426.5	426.5	429.0	428.6	433.9	462.0	508.6	549.1	541.4	513.6	423.1
30°	456.4	457.1	456.4	456.1	455.2	474.7	524.4	577.5	573.5	546.0	439.1
32.5°	492.9	494.4	492.0	485.8	482.1	492.9	537.7	609.3	610.5	578.1	454.9
35°	538.6	541.1	531.8	522.8	513.6	518.5	553.1	639.3	651.6	614.6	474.0
37.5°	584.3	588.3	586.8	562.7	549.7	549.4	576.0	676.6	697.3	662.1	501.2
40°	622.9	626.3	628.1	606.2	588.3	587.7	609.6	715.5	753.5	716.8	533.3
42.5°	648.5	651.6	657.2	644.2	627.5	635.2	646.7	754.1	814.1	783.5	572.9
45°	676.3	678.8	682.2	674.8	666.1	688.4	693.6	797.1	874.6	855.1	619.2
47.5°	706.0	708.4	710.3	704.7	701.6	732.8	739.6	840.9	935.7	929.2	664.3
50°	738.7	739.6	741.5	738.7	739.6	773.3	777.6	879.5	984.2	1006.4	711.2
52.5°	794.9	796.1	796.8	783.5	778.8	798.9	808.2	920.6	1026.8	1070.7	752.6
55°	839.4	843.7	863.2	854.5	843.4	817.1	833.5	953.6	1057.1	1130.6	795.8
57.5°	802.9	812.8	861.3	902.1	933.3	870.6	863.5	987.6	1092.0	1182.2	846.2
60°	697.0	711.5	781.9	866.9	967.8	993.2	924.9	1029.9	1130.0	1235.9	900.2
62.5°	483.3	498.1	595.4	731.0	909.5	1063.3	1093.2	1105.0	1182.8	1290.9	970.6
65°	231.6	246.7	327.0	470.0	718.3	1018.2	1289.3	1260.6	1271.7	1360.7	1074.4
67.5°	147.3	155.3	186.8	256.0	417.8	793.1	1359.7	1570.7	1482.3	1521.6	1281.0
70°	107.8	109.6	136.8	177.3	248.0	463.2	1200.7	1867.4	1798.3	1793.9	1530.2
72°	79.7	82.8	103.8	141.4	183.4	270.8	893.4	1831.3	1933.5	1892.5	1515.4
72.5°	75.0	77.5	95.7	133.7	173.2	237.8	800.5	1789.3	1916.9	1895.2	1487.0
75°	54.7	56.5	65.5	95.1	134.0	137.7	427.4	1373.3	1627.8	1809.4	1348.0
77.5°	37.7	38.9	43.5	58.4	91.7	93.3	181.3	937.6	1174.8	1446.8	1036.7
80°	22.9	23.5	26.2	31.8	58.4	55.3	74.7	490.1	613.0	786.6	480.8
82.5°	9.6	9.9	11.4	12.7	24.7	26.2	30.3	160.0	202.9	245.8	138.7
85°	0.0	0.0	0.3	0.3	0.6	2.8	4.3	19.8	30.0	35.8	25.0
87.5°	0.0	0.0	0.3	0.3	0.3	0.6	0.6	0.9	1.2	1.2	1.9
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: P401046

CATALOG NUMBER: ENT-SA1A-830-U-T2

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	267.7	267.7	267.7	267.7	267.7	267.7	267.7	267.7	267.7	267.7	267.7
2.5°	268.7	267.4	263.7	260.6	258.2	254.2	253.9	250.8	250.8	249.8	249.2
5°	273.0	269.0	261.6	254.8	249.8	244.0	241.2	237.8	235.6	234.4	234.7
7.5°	278.6	271.8	259.1	247.7	238.4	231.0	226.7	223.9	222.4	221.7	221.7
10°	286.3	275.8	255.1	237.8	226.1	220.5	218.3	218.0	218.3	218.6	219.0
12.5°	294.9	278.6	247.7	226.1	216.8	214.6	215.9	218.6	221.1	222.0	222.0
15°	303.9	280.4	237.5	215.2	209.7	211.9	216.2	221.4	225.4	227.9	228.5
17.5°	313.1	280.7	226.7	205.4	203.5	209.1	216.8	225.1	231.6	235.6	236.2
20°	323.0	280.1	214.0	196.4	197.3	206.6	217.4	228.8	237.5	242.7	243.4
22.5°	333.8	277.6	201.7	187.8	192.1	204.1	216.8	230.1	239.3	245.5	246.7
25°	344.3	272.7	189.3	180.0	188.4	201.7	213.7	225.1	234.1	240.0	241.5
27.5°	349.9	262.2	177.6	174.2	185.6	198.0	206.6	214.3	219.3	223.0	224.5
30°	350.8	247.4	168.0	170.2	182.5	192.7	197.6	198.9	198.0	199.2	197.6
32.5°	349.0	231.3	160.3	167.1	177.6	185.3	186.5	182.8	177.3	169.5	169.9
35°	347.7	213.7	154.1	162.7	171.1	176.0	173.9	168.0	157.5	148.2	147.6
37.5°	349.9	197.6	148.9	157.2	162.7	164.9	161.8	154.1	144.8	136.8	135.9
40°	356.1	185.9	143.9	151.0	153.8	155.3	151.6	144.8	141.1	135.3	134.3
42.5°	368.1	177.9	139.3	144.2	145.5	147.0	143.3	138.7	142.1	140.8	140.8
45°	384.8	174.2	135.3	137.7	139.0	141.4	139.3	135.3	139.0	131.9	130.6
47.5°	406.4	175.4	132.5	131.2	135.0	139.3	136.8	131.9	130.6	118.0	115.8
50°	429.3	181.9	129.7	126.0	130.6	136.5	133.4	125.7	118.3	111.8	110.6
52.5°	456.1	192.7	127.2	120.1	125.7	133.4	131.2	122.9	115.2	110.6	109.6
55°	485.8	203.2	124.1	113.3	119.2	132.5	131.9	121.1	110.9	108.7	108.1
57.5°	519.1	211.9	120.4	105.6	112.7	129.7	129.1	116.7	109.6	107.8	107.5
60°	560.8	222.0	114.0	96.7	106.2	124.5	123.8	114.6	106.9	105.3	104.7
62.5°	617.6	240.9	102.8	88.3	99.4	115.2	118.9	110.2	102.8	102.5	102.5
65°	711.2	277.3	91.4	81.2	91.7	106.2	112.4	105.3	99.1	100.7	100.7
67.5°	888.2	326.4	79.7	74.4	84.3	97.6	106.9	100.4	95.1	98.2	98.2
70°	1024.7	308.2	70.4	67.9	76.9	89.9	99.7	95.1	90.2	95.4	94.8
72°	934.8	225.7	64.2	62.7	70.7	83.4	93.6	90.2	84.9	89.2	88.0
72.5°	897.4	205.1	62.4	61.1	68.9	82.1	92.3	88.9	83.4	87.7	85.9
75°	782.9	172.9	54.4	53.7	61.1	73.8	84.3	82.5	76.9	79.4	77.5
77.5°	647.9	145.8	45.7	46.9	52.2	65.8	76.0	74.1	68.9	68.6	68.2
80°	303.9	81.2	37.7	38.6	43.9	56.2	65.5	64.2	59.3	58.7	57.7
82.5°	88.0	38.9	29.0	29.6	35.2	46.0	56.2	55.6	51.9	51.0	48.8
85°	16.4	12.7	15.7	18.5	25.6	38.3	51.3	50.0	44.5	40.5	37.4
87.5°	0.9	2.5	5.2	9.0	16.4	28.7	41.4	40.5	35.5	30.6	30.9
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)