

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: P188980

Luminaire Tested: **ABB-B1-LED-D1-A**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P188980  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P34805)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ABB-B1-LED-D1-A  
Description: ARBOR OUTDOOR ARCHITECTURAL BOLLARD  
70 CRI, 4000K LEDS AND ASYMMETRIC OPTIC, GRAPHITE METALLIC PAINTED FINISH  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 464.4 lumens  
Efficiency: N/A  
Efficacy: 42.2 lumens/watt  
Luminous Opening: Circular (Dia: 4.75' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B0 - U0 - G0

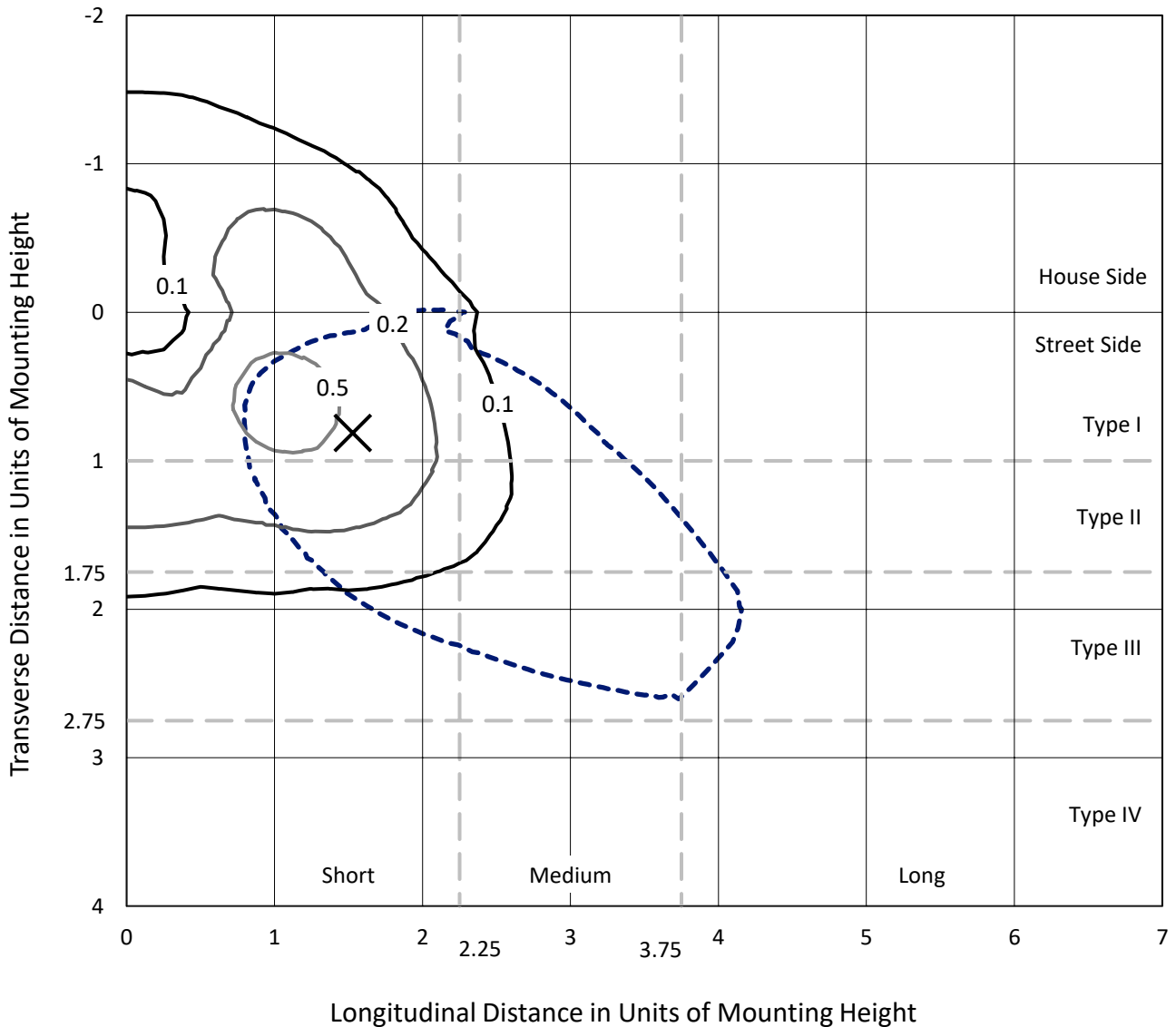
Input Watts (W): 11  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



REPORT NUMBER: P188980  
 CATALOG NUMBER: ABB-B1-LED-D1-A

### Iso-Footcandle Lines of Horizontal Illumination

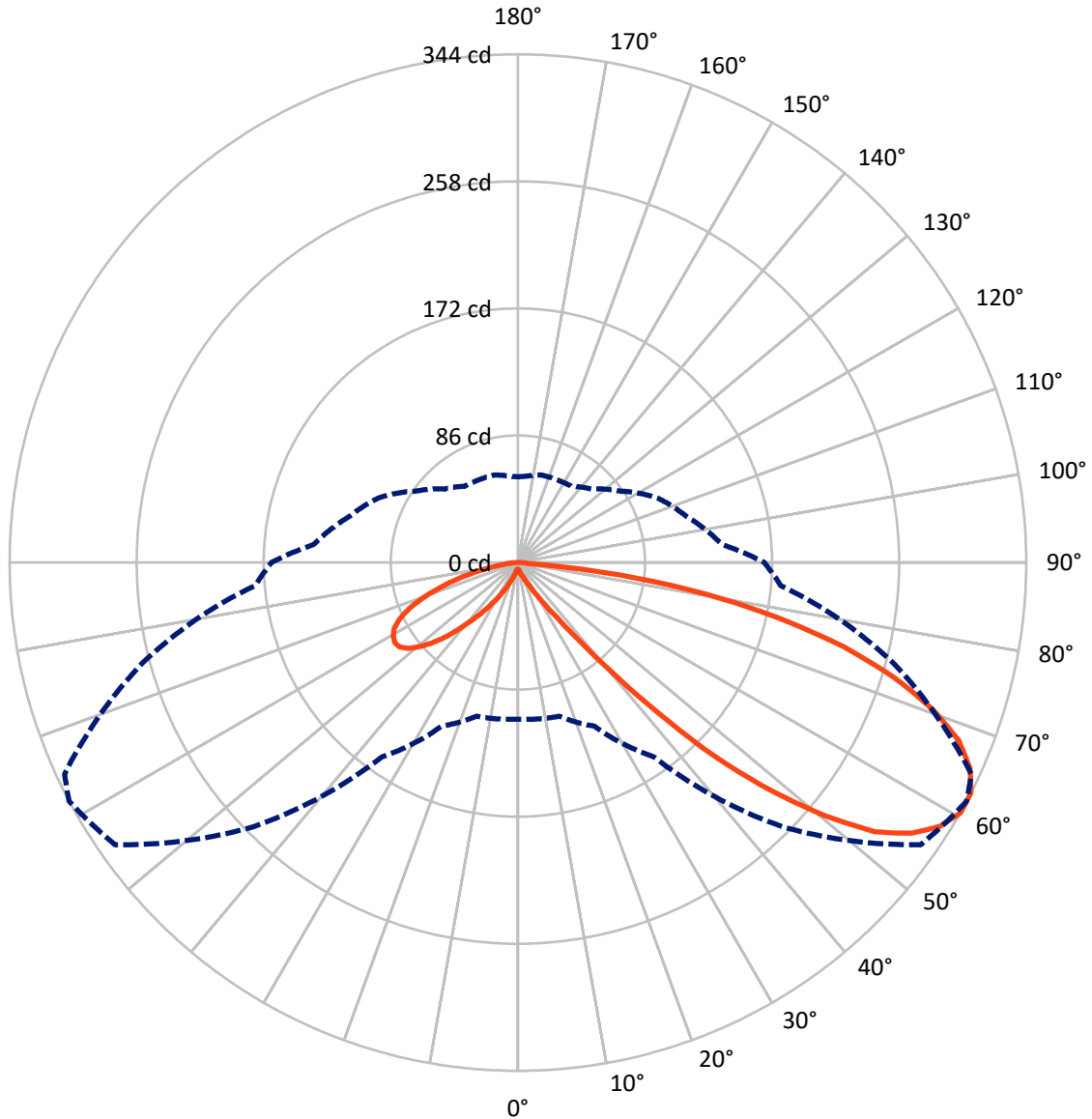
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 0.7 fc  
 Type III - Short - N/A

REPORT NUMBER: P188980  
CATALOG NUMBER: ABB-B1-LED-D1-A

### Luminous Intensity Polar Plot



— Vertical Plane Through 62-Deg Lateral      - - - Horizontal Cone Through 60-Deg Vertical

REPORT NUMBER: P188980

CATALOG NUMBER: ABB-B1-LED-D1-A

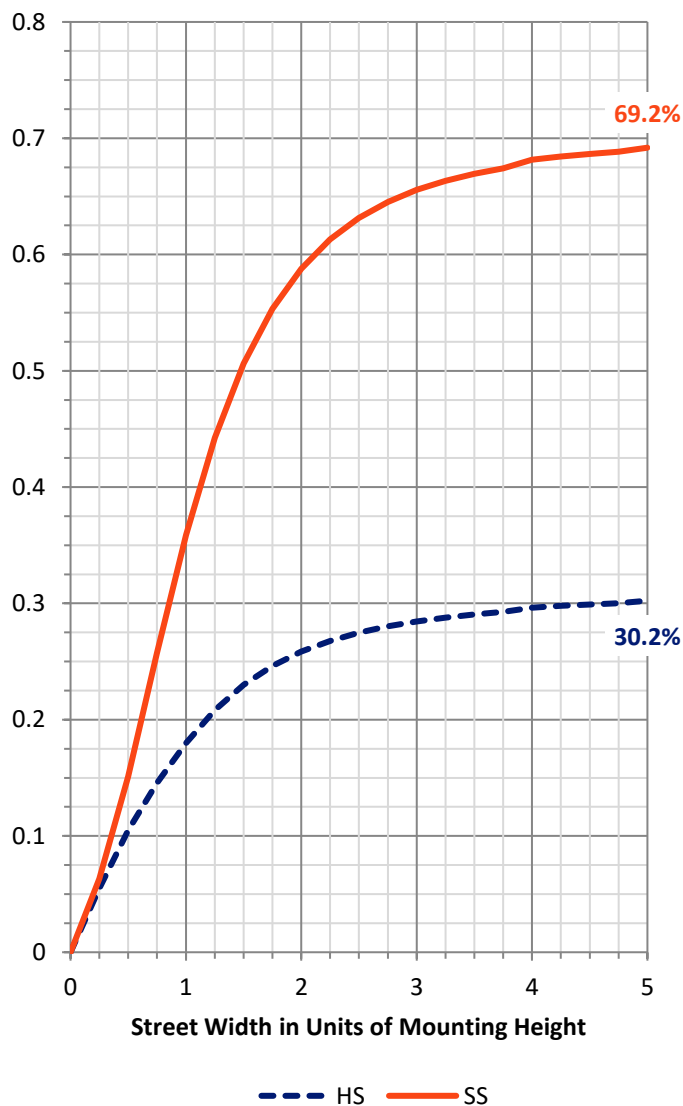
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	141.9	0.0	141.9
	% Fixture	30.6	0.0	30.6
<b>Street Side</b>	Lumens	322.5	0.0	322.5
	% Fixture	69.4	0.0	69.4
<b>Total</b>	Lumens	464.4	0.0	464.4
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	0.5	0.1
10°-20°	2.6	0.5
20°-30°	8.1	1.7
30°-40°	24.0	5.2
40°-50°	68.7	14.8
50°-60°	122.9	26.5
60°-70°	135.4	29.1
70°-80°	88.0	18.9
80°-90°	14.3	3.1
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°	464.4	100.0
0°-180°	464.4	100.0

**Coefficient of Utilization**



REPORT NUMBER: P188980

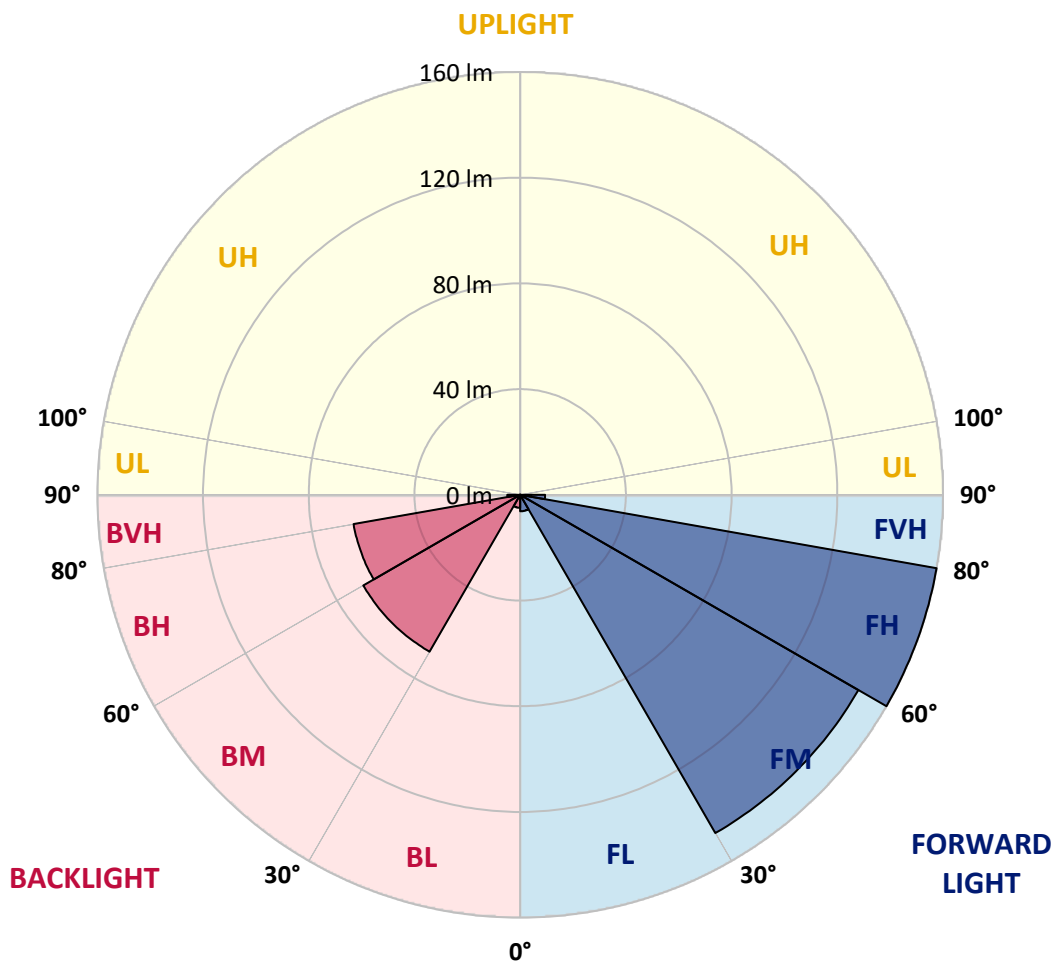
CATALOG NUMBER: ABB-B1-LED-D1-A

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	6.2	1.3			
FM	(30°-60°)	147.3	31.7			
FH	(60°-80°)	159.5	34.3			G0/660
FVH	(80°-90°)	9.4	2.0			G0/10
BL	(0°-30°)	4.9	1.1	B0/110		
BM	(30°-60°)	68.3	14.7	B0/220		
BH	(60°-80°)	63.8	13.7	B0/110		G0/110
BVH	(80°-90°)	4.9	1.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G0**

Type III Short





REPORT NUMBER: P188980  
 CATALOG NUMBER: ABB-B1-LED-D1-A

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	62°	65°	75°	85°
0°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
5°	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.5	4.5	4.5	4.5
7.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.0	5.0	5.0	5.0
10°	6.1	6.1	6.7	6.7	6.7	6.7	6.1	6.1	6.1	5.6	5.6
12.5°	8.4	8.4	8.4	8.4	7.8	7.8	7.2	7.2	6.7	6.7	6.7
15°	10.0	10.6	10.6	10.0	9.5	8.9	8.4	8.4	7.8	7.8	7.8
17.5°	13.4	13.4	12.8	12.2	11.1	10.6	10.0	9.5	9.5	8.9	8.9
20°	17.3	17.3	15.6	13.9	13.4	12.2	11.7	11.1	11.1	10.6	10.6
22.5°	22.3	21.7	18.9	16.7	15.6	14.5	13.9	13.9	13.4	12.8	12.2
25°	27.8	27.3	23.4	20.0	18.4	17.3	17.3	16.7	16.1	15.6	15.0
27.5°	34.5	33.4	28.4	23.9	21.2	21.2	21.2	20.6	20.6	19.5	18.4
30°	41.2	40.1	34.5	28.4	25.6	26.2	26.7	26.2	26.2	24.5	22.3
32.5°	47.9	47.3	41.2	34.5	31.2	32.9	34.5	34.5	34.5	31.2	27.8
35°	54.6	54.0	49.0	41.8	37.9	42.9	47.3	46.2	45.7	41.2	35.6
37.5°	61.8	61.8	57.9	49.6	46.8	57.4	64.6	65.1	64.6	55.1	45.7
40°	69.6	69.6	66.8	60.1	58.5	77.4	92.4	94.7	93.0	77.4	59.0
42.5°	78.0	78.0	76.3	71.3	72.4	104.7	133.1	138.1	133.1	105.8	74.6
45°	86.9	86.9	86.9	83.0	88.5	131.4	180.4	187.6	183.2	135.9	95.2
47.5°	93.5	94.1	96.9	93.0	105.8	159.2	220.5	230.5	224.4	164.8	114.1
50°	101.3	101.9	103.6	103.0	122.5	188.8	259.5	268.9	263.4	192.7	132.5
52.5°	106.9	106.9	110.2	110.8	136.4	216.0	293.4	302.3	296.2	221.6	150.3
55°	109.1	110.2	112.5	116.9	149.2	235.5	316.3	322.9	319.6	243.9	163.7
57.5°	108.6	109.1	111.4	119.2	155.9	248.3	329.6	336.3	333.0	258.4	173.2
60°	105.8	106.3	107.5	121.9	160.4	252.2	332.4	343.5	338.0	262.8	178.2
62.5°	100.8	100.2	100.2	123.1	159.8	249.4	334.6	343.5	338.0	261.1	177.6
65°	91.9	91.9	90.2	123.6	153.7	241.6	327.4	335.7	331.3	251.7	170.9
67.5°	81.8	80.7	78.0	120.8	145.9	224.4	311.8	321.3	315.7	234.4	160.9
70°	66.8	67.9	65.1	114.1	131.4	199.3	287.3	297.3	292.3	211.0	145.3
72.5°	52.3	51.8	52.9	101.3	115.3	171.5	257.8	266.1	261.1	181.0	128.1
75°	37.9	37.3	41.8	85.7	96.9	138.6	217.2	227.2	221.0	149.8	105.8
77.5°	24.5	23.4	30.6	64.6	74.1	102.5	173.7	179.8	176.5	111.4	81.8
80°	13.4	13.9	18.9	41.2	47.9	65.7	122.5	128.6	121.9	72.4	55.1
82.5°	8.4	7.8	8.9	15.0	20.0	31.7	64.0	69.0	64.0	32.3	25.6
85°	4.5	3.9	3.9	3.9	3.9	4.5	5.6	6.1	5.6	4.5	4.5
87.5°	3.3	3.3	3.3	2.8	3.3	3.3	3.9	3.9	3.9	3.3	3.3
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: P188980  
 CATALOG NUMBER: ABB-B1-LED-D1-A

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6
5°	4.5	3.9	3.9	4.5	4.5	4.5	4.5	5.0	5.0	5.0	5.0
7.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.6
10°	5.6	5.6	5.6	5.6	5.6	6.1	6.1	6.1	6.1	6.1	6.1
12.5°	6.7	6.7	6.7	6.7	7.2	7.2	7.2	7.2	7.2	6.7	6.7
15°	7.8	7.8	7.8	7.8	8.4	8.9	8.4	8.4	7.8	7.2	7.2
17.5°	8.9	8.9	9.5	9.5	10.0	10.0	9.5	9.5	8.4	8.4	7.8
20°	10.6	10.6	11.1	11.7	12.2	12.2	11.1	10.0	9.5	8.9	8.9
22.5°	12.2	12.2	13.4	14.5	14.5	13.9	12.2	11.1	10.0	9.5	9.5
25°	14.5	15.0	16.7	18.4	17.8	15.6	13.9	12.2	10.6	10.0	10.0
27.5°	17.8	18.4	20.6	22.3	21.2	18.4	15.6	13.4	11.7	11.1	11.1
30°	22.3	22.8	26.2	27.8	25.1	20.6	17.3	14.5	12.8	11.7	11.7
32.5°	27.8	29.0	32.9	33.4	29.5	23.4	20.0	16.7	14.5	13.4	12.8
35°	35.1	36.7	41.2	40.1	34.5	27.8	22.8	19.5	16.7	15.0	14.5
37.5°	44.5	46.2	49.6	47.3	40.1	32.3	26.7	22.8	19.5	17.3	17.3
40°	56.8	57.9	60.7	55.1	46.2	38.4	32.3	27.3	23.9	22.3	22.3
42.5°	71.8	72.4	72.9	64.6	54.0	45.1	39.0	35.1	30.1	29.0	28.4
45°	87.4	86.3	85.7	75.2	61.8	51.2	46.2	41.8	37.9	36.2	36.2
47.5°	101.9	99.7	98.0	84.1	69.6	58.5	51.2	46.8	44.0	43.4	43.4
50°	118.0	111.9	107.5	92.4	75.7	63.5	56.2	52.3	49.6	49.0	49.6
52.5°	132.0	122.5	115.3	99.7	81.3	67.9	59.6	56.2	54.6	54.0	54.0
55°	144.8	129.7	119.7	104.1	84.6	70.2	62.4	59.0	58.5	56.8	56.8
57.5°	157.0	134.7	120.8	105.2	85.2	71.3	63.5	60.7	60.1	58.5	57.9
60°	166.5	138.6	118.6	103.6	84.1	70.2	62.9	61.8	61.2	58.5	57.9
62.5°	174.3	140.9	112.5	100.2	81.8	68.5	61.2	61.2	60.7	57.9	57.4
65°	174.3	142.0	103.6	93.5	76.8	65.1	57.9	60.1	59.0	55.7	55.1
67.5°	169.3	139.8	91.9	84.1	69.6	59.6	54.6	56.8	55.7	52.9	52.3
70°	157.0	130.8	78.5	72.4	60.7	52.9	50.1	51.8	51.2	47.9	47.9
72.5°	138.1	117.5	66.8	59.0	50.1	46.2	44.0	46.2	45.7	42.3	42.9
75°	114.7	98.0	54.0	45.1	39.5	37.9	37.3	39.0	37.9	36.7	36.7
77.5°	88.0	74.1	40.1	31.7	29.0	29.5	29.5	31.2	30.1	29.5	30.1
80°	55.1	47.3	25.6	20.6	20.0	21.2	21.2	22.8	22.8	22.3	21.7
82.5°	23.4	18.4	12.8	11.7	11.7	12.8	12.8	13.9	14.5	14.5	14.5
85°	3.9	3.9	5.0	5.0	5.6	5.0	5.0	5.6	6.1	7.2	7.2
87.5°	2.8	2.8	3.3	3.9	3.9	3.9	3.9	3.9	4.5	5.6	5.6
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)