

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: P188976

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

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P188976
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P34804)
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-S
Description: ARBOR OUTDOOR ARCHITECTURAL BOLLARD
70 CRI, 4000K LEDS AND SYMMETRIC OPTIC, GRAPHITE METALLIC PAINTED FINISH
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 706.1 lumens
Efficiency: N/A
Efficacy: 44.1 lumens/watt
Luminous Opening: Circular (Dia: 4.75' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G1

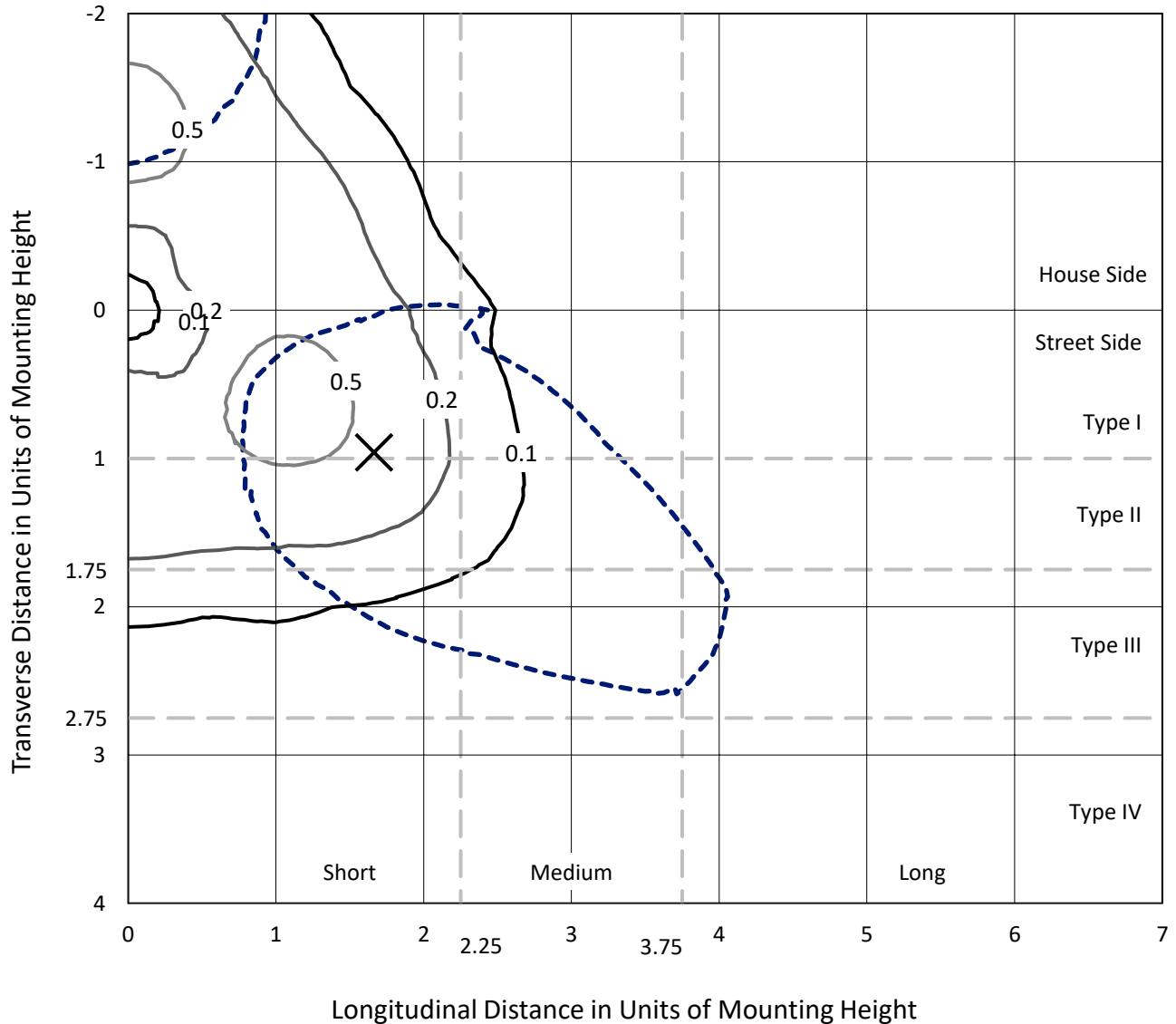
Input Watts (W): 16
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P188976
 CATALOG NUMBER: ABB-B1-LED-D1-S

Iso-Footcandle Lines of Horizontal Illumination

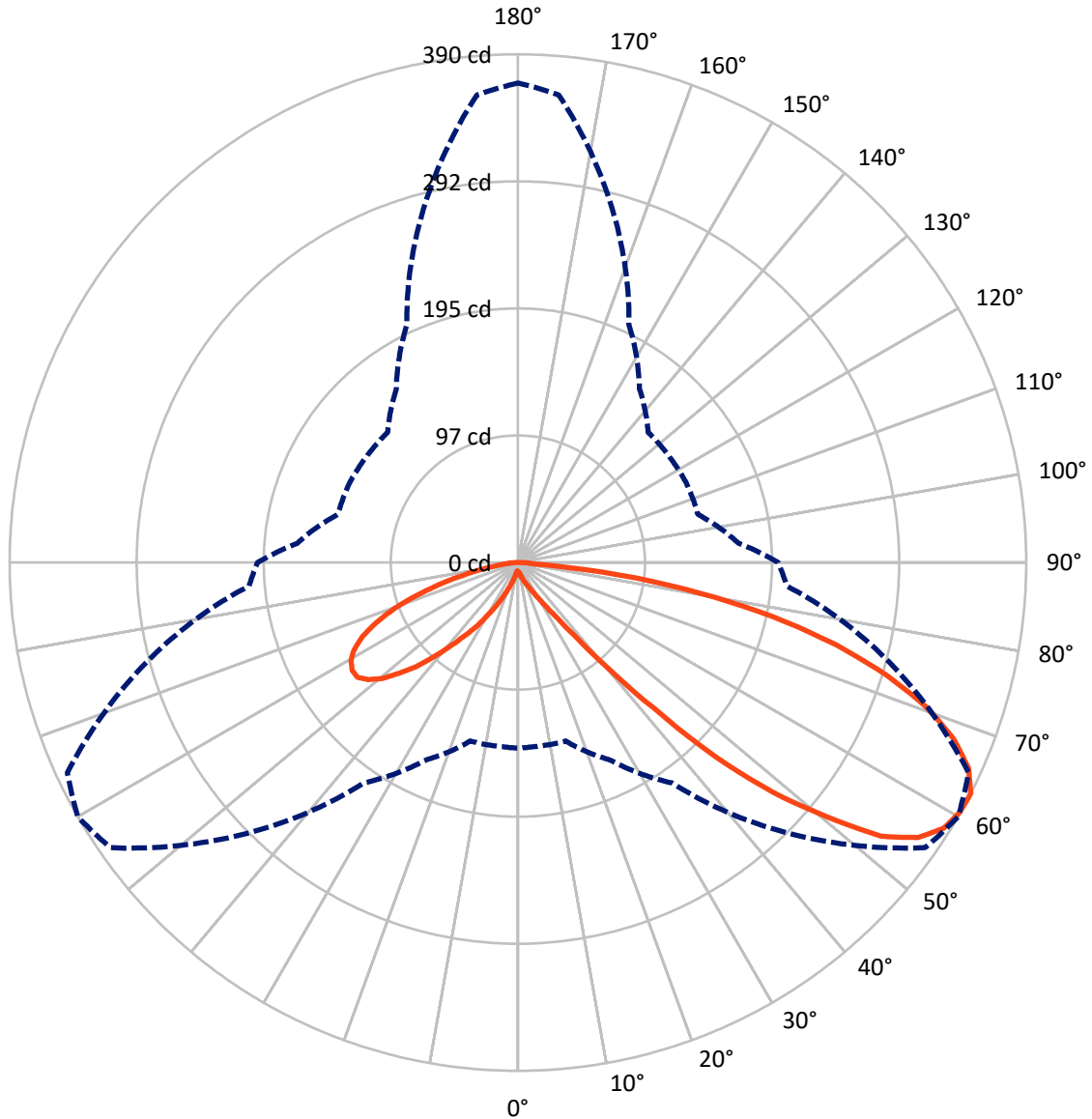
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 0.8 fc
 Type III - Short - N/A

REPORT NUMBER: P188976
CATALOG NUMBER: ABB-B1-LED-D1-S

Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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

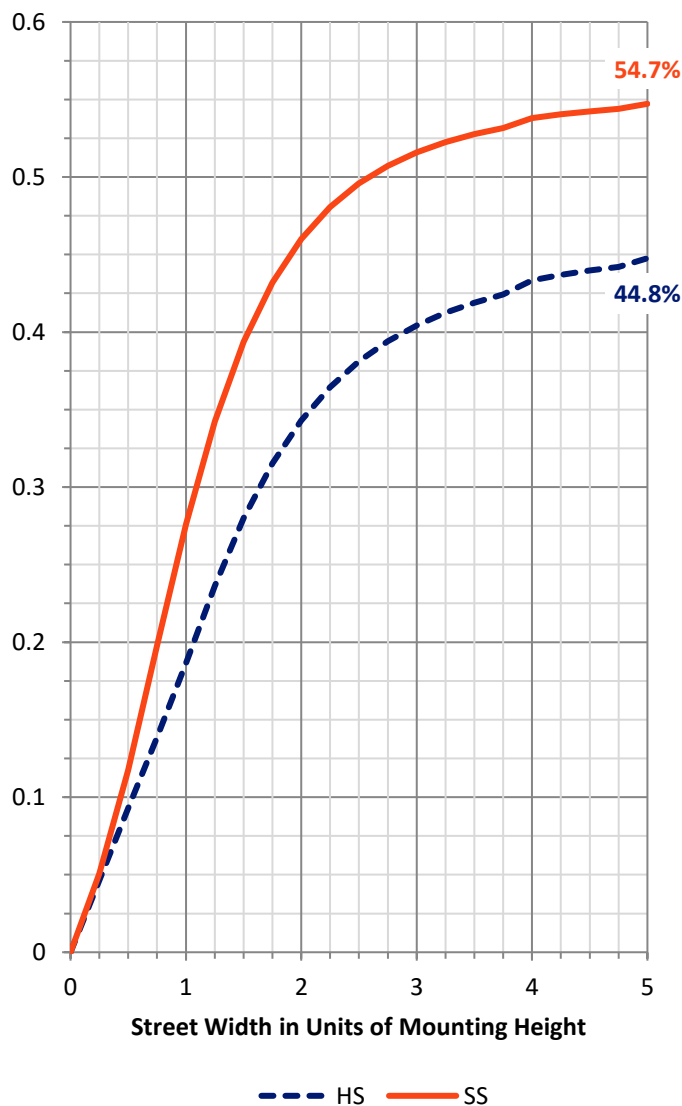
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	317.6	0.0	317.6
	% Fixture	45.0	0.0	45.0
Street Side	Lumens	388.5	0.0	388.5
	% Fixture	55.0	0.0	55.0
Total	Lumens	706.1	0.0	706.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	0.8	0.1
10°-20°	3.9	0.6
20°-30°	12.2	1.7
30°-40°	35.7	5.1
40°-50°	104.7	14.8
50°-60°	188.9	26.8
60°-70°	205.8	29.2
70°-80°	132.5	18.8
80°-90°	21.6	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°	706.1	100.0
0°-180°	706.1	100.0



REPORT NUMBER: P188976

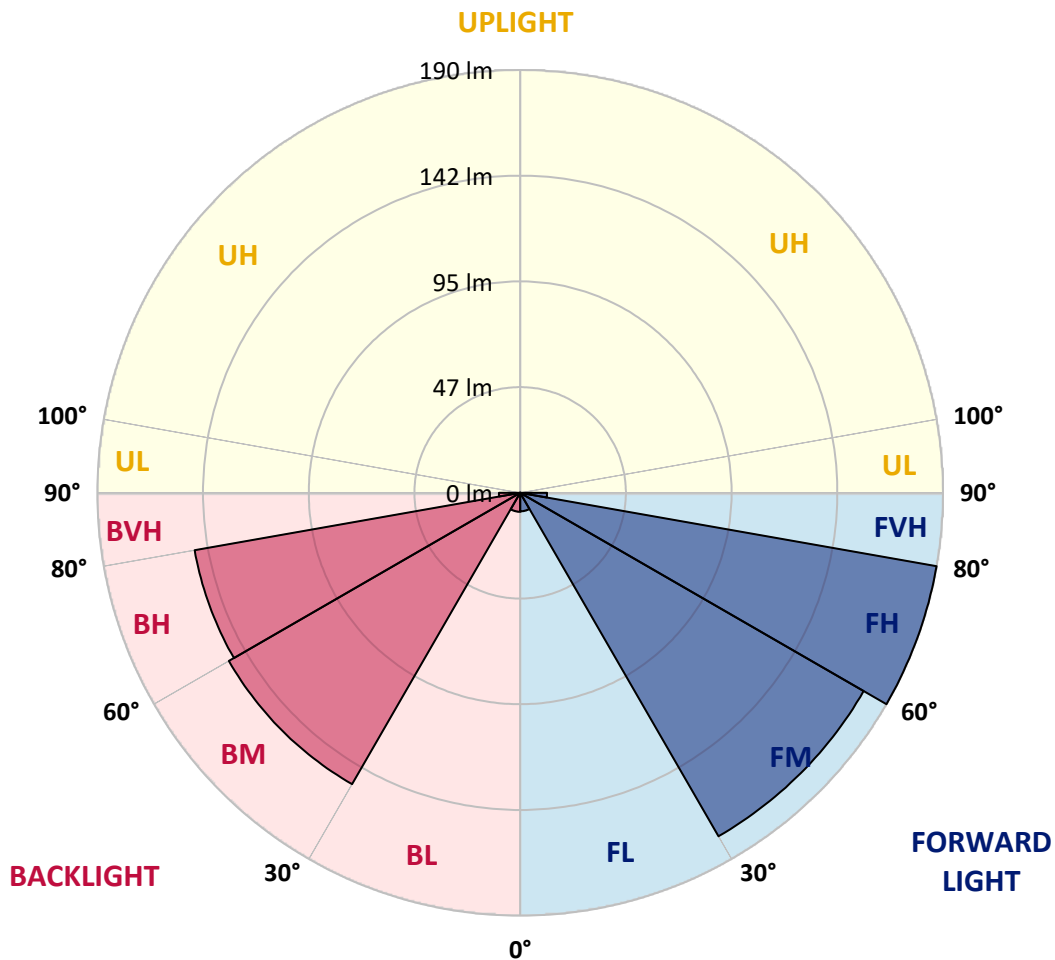
CATALOG NUMBER: ABB-B1-LED-D1-S

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	8.3	1.2			
FM (30°-60°)	178.1	25.2			
FH (60°-80°)	189.9	26.9			G0/660
FVH (80°-90°)	12.1	1.7			G1/100
BL (0°-30°)	8.5	1.2	B0/110		
BM (30°-60°)	151.1	21.4	B0/220		
BH (60°-80°)	148.4	21.0	B1/500		G1/500
BVH (80°-90°)	9.5	1.3			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 III Short





REPORT NUMBER: P188976
 CATALOG NUMBER: ABB-B1-LED-D1-S

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
2.5°	7.3	7.3	7.3	7.3	7.9	7.9	7.9	7.9	7.9	7.9	7.9
5°	6.7	6.7	6.7	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
7.5°	7.9	7.9	7.9	8.4	8.4	8.4	8.4	8.4	8.4	8.4	7.9
10°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
12.5°	11.2	11.2	11.8	11.8	11.2	11.2	11.2	10.7	11.2	11.2	11.2
15°	14.0	14.0	14.0	13.5	13.5	12.9	12.4	12.4	12.4	12.9	12.9
17.5°	16.9	16.9	16.3	15.7	15.2	15.2	14.6	14.6	14.6	14.6	15.2
20°	20.8	20.8	19.7	18.5	18.0	16.9	16.9	16.9	16.9	16.9	17.4
22.5°	25.9	25.3	23.6	21.4	20.2	19.7	19.1	19.1	19.1	19.7	20.2
25°	32.0	31.5	28.1	25.3	23.6	22.5	22.5	22.5	22.5	22.5	23.6
27.5°	38.8	37.7	34.3	29.2	27.5	26.4	27.0	27.0	27.0	26.4	27.0
30°	46.6	45.5	41.0	34.8	32.0	32.0	32.6	33.2	32.6	32.0	32.0
32.5°	54.5	54.0	48.3	42.1	38.2	39.3	41.6	41.6	40.5	39.9	37.7
35°	63.5	62.9	57.9	51.1	47.2	49.5	53.4	52.8	54.0	50.6	46.6
37.5°	73.1	73.1	69.1	61.8	58.4	66.9	72.5	73.1	73.6	67.4	58.4
40°	84.9	83.7	82.0	76.4	73.1	89.4	102.8	106.8	104.5	91.6	74.2
42.5°	97.2	97.2	96.7	93.3	93.3	122.0	148.4	152.3	148.4	125.3	96.1
45°	111.3	112.4	111.8	109.6	115.8	156.2	202.3	212.4	204.6	160.2	118.0
47.5°	123.6	124.2	126.4	126.4	138.8	188.8	251.8	263.0	248.4	194.4	140.5
50°	134.9	136.0	139.4	141.1	160.7	223.1	299.0	305.7	299.0	227.0	164.1
52.5°	144.4	144.4	147.8	152.9	179.3	254.0	337.2	348.4	337.8	257.4	181.5
55°	149.5	150.6	152.9	161.3	194.4	279.3	362.5	372.0	363.6	280.4	196.7
57.5°	150.0	150.6	153.4	164.7	203.4	293.4	377.7	384.4	376.5	293.9	204.6
60°	147.8	147.2	148.9	167.5	207.9	296.7	381.6	388.9	379.9	297.9	209.1
62.5°	142.2	141.6	141.6	166.9	206.2	293.4	381.0	389.5	381.0	294.5	206.8
65°	130.9	130.9	129.3	165.2	197.8	282.1	372.0	379.3	370.3	283.2	199.5
67.5°	117.5	116.9	114.1	160.2	183.8	261.9	353.5	359.7	351.2	263.0	185.5
70°	100.0	99.5	96.7	149.5	165.8	233.8	322.6	332.1	321.5	235.5	168.0
72.5°	81.5	80.4	80.4	132.6	144.4	200.1	286.6	295.6	286.6	204.0	145.6
75°	60.7	60.1	65.2	113.0	119.7	161.9	241.7	251.8	244.5	164.1	120.8
77.5°	41.6	41.6	48.9	85.4	92.2	119.7	195.6	199.5	192.8	123.6	93.3
80°	25.9	27.0	31.5	54.0	62.4	78.7	134.3	141.1	138.8	79.8	62.9
82.5°	15.2	15.7	16.9	21.9	28.1	36.5	73.6	78.7	75.3	39.9	29.8
85°	7.9	7.3	7.3	6.7	7.3	7.9	10.1	10.7	10.7	8.4	7.3
87.5°	6.2	5.6	5.6	5.1	5.6	5.6	7.3	7.3	7.3	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



REPORT NUMBER: P188976
 CATALOG NUMBER: ABB-B1-LED-D1-S

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
2.5°	7.9	7.9	7.9	7.9	7.3	7.3	7.3	7.3	7.3	7.3	7.9
5°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
7.5°	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
10°	9.6	9.6	9.6	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
12.5°	11.2	11.2	11.2	11.2	10.7	11.2	10.7	10.7	10.1	10.1	10.1
15°	12.9	13.5	14.0	13.5	13.5	13.5	12.9	12.4	11.8	11.8	11.8
17.5°	15.7	15.7	16.3	16.3	16.3	15.7	15.2	14.0	13.5	13.5	13.5
20°	18.0	18.5	19.7	20.8	20.2	19.1	18.0	16.3	15.7	15.7	15.7
22.5°	20.8	21.4	23.6	25.3	25.3	23.0	20.8	19.1	18.0	18.0	18.0
25°	24.2	24.7	28.1	31.5	31.5	28.1	23.6	21.9	20.8	20.8	21.4
27.5°	27.5	29.2	33.7	37.7	37.7	33.7	28.1	25.9	24.7	25.3	25.3
30°	33.2	34.8	39.9	45.0	45.5	40.5	34.3	30.9	30.3	29.8	30.9
32.5°	39.9	41.6	47.2	54.5	54.5	47.8	41.6	36.5	37.7	38.8	38.2
35°	47.8	50.6	56.8	62.9	64.1	58.4	50.6	45.5	47.8	50.0	49.5
37.5°	59.0	61.3	68.6	73.1	73.6	69.7	60.7	56.8	63.5	68.0	68.0
40°	73.1	75.3	81.5	84.9	84.9	82.6	75.9	71.4	87.7	97.8	100.0
42.5°	92.7	93.3	97.2	97.8	98.3	96.7	92.7	92.2	118.0	141.1	147.2
45°	111.3	110.7	111.8	112.4	111.8	111.8	109.0	114.1	153.4	194.4	202.3
47.5°	129.3	127.6	126.4	124.8	123.6	125.9	123.1	134.9	183.2	243.3	252.3
50°	146.1	142.7	140.5	136.6	136.6	138.2	137.7	156.8	214.7	284.9	293.9
52.5°	162.4	152.9	148.9	145.6	145.6	146.7	148.4	173.1	244.5	319.8	328.2
55°	174.2	162.4	154.0	151.2	151.2	151.2	156.8	187.7	265.8	343.4	352.4
57.5°	185.5	166.3	154.0	151.7	151.2	151.7	160.2	196.7	279.3	355.2	363.6
60°	193.9	169.2	149.5	148.4	148.4	148.4	163.0	201.8	283.2	358.5	366.4
62.5°	199.5	169.7	142.7	142.7	141.6	141.1	162.4	201.2	279.9	359.7	367.5
65°	201.2	168.0	130.9	132.1	132.1	129.3	160.7	193.3	269.2	352.4	359.7
67.5°	195.6	163.5	116.9	118.0	117.5	114.1	156.8	182.1	250.1	334.9	340.6
70°	182.1	152.9	99.5	101.2	101.7	98.9	146.7	164.1	224.2	307.4	315.8
72.5°	160.7	136.0	83.2	81.5	82.0	81.5	130.9	145.0	194.4	275.4	281.6
75°	133.2	115.8	68.6	61.3	61.3	66.3	110.7	120.8	157.4	234.9	240.0
77.5°	102.3	88.2	51.1	43.3	42.1	49.5	86.0	93.9	119.1	187.7	194.4
80°	65.8	58.4	34.3	26.4	27.0	34.3	56.8	64.6	78.1	132.6	137.7
82.5°	27.5	23.6	18.0	16.3	15.7	18.0	25.9	30.9	37.7	74.7	79.2
85°	6.2	6.7	7.3	7.3	7.3	6.7	6.2	6.7	6.7	8.4	9.0
87.5°	4.5	5.1	5.6	5.6	5.6	5.1	4.5	4.5	5.1	6.2	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)