

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: LUMARK

Report Number: P270512

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7027-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270512
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-SL2-7027-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17289.7 lumens
Efficiency: N/A
Efficacy: 76.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 225
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

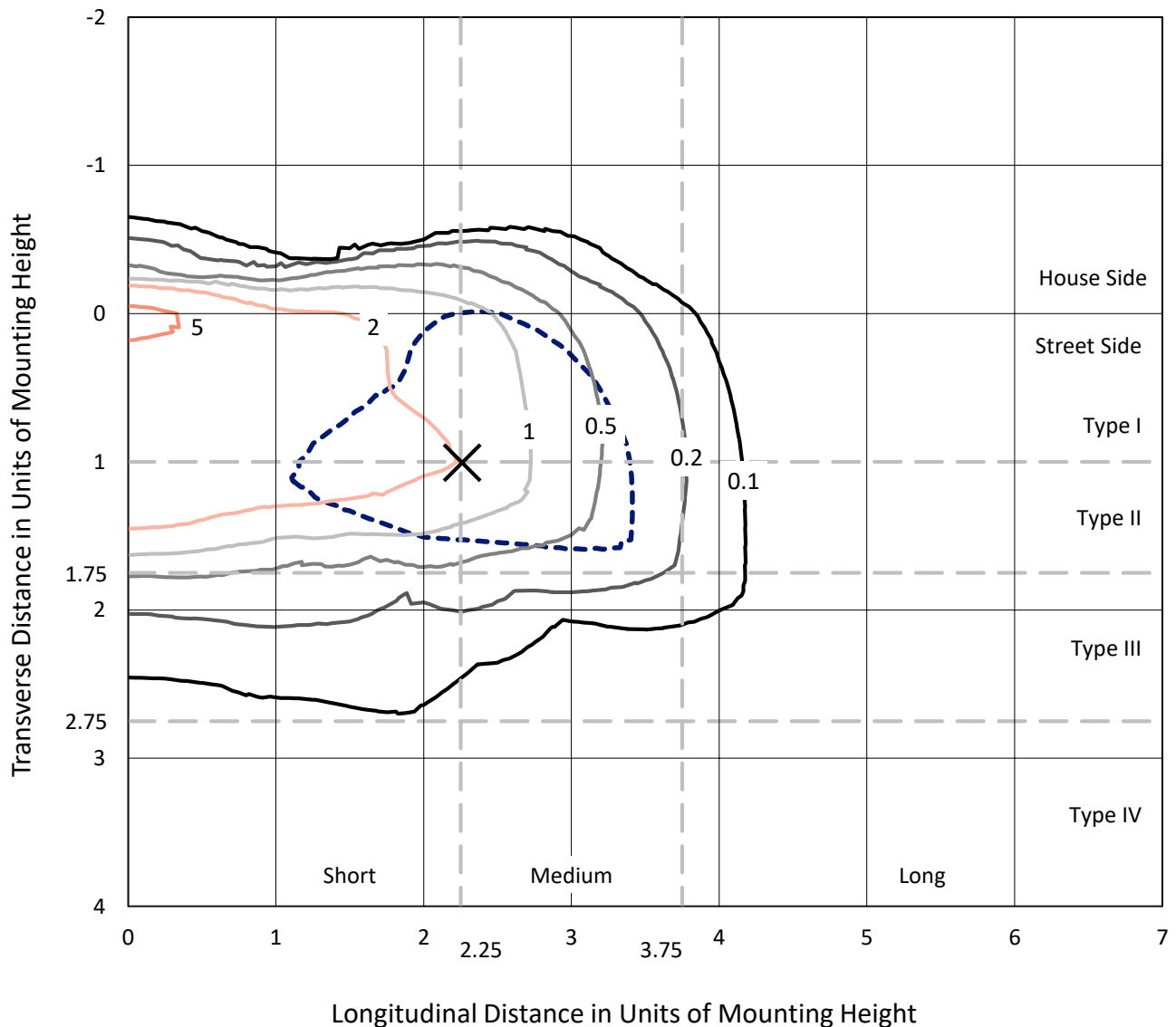


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

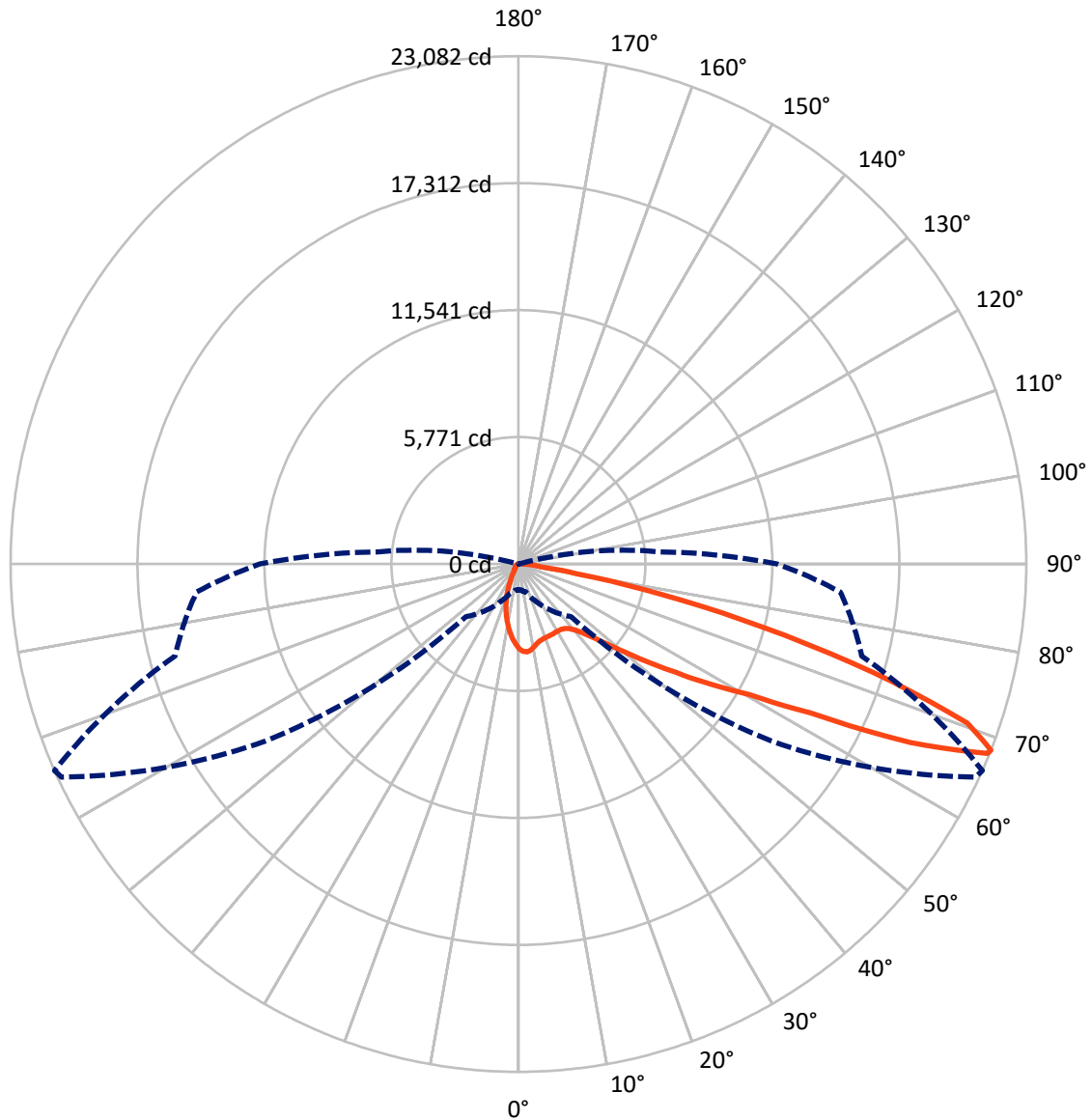


Based on 25 foot mounting height. Maximum calculated value = 6.2 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1751.2	0.0	1751.2
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	15538.5	0.0	15538.5
	% Fixture	89.9	0.0	89.9
Total	Lumens	17289.7	0.0	17289.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	315.8	1.8
10°-20°	679.4	3.9
20°-30°	984.6	5.7
30°-40°	1507.2	8.7
40°-50°	2578.0	14.9
50°-60°	4032.7	23.3
60°-70°	4643.5	26.9
70°-80°	2323.7	13.4
80°-90°	225.0	1.3
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°	17289.7	100.0
0°-180°	17289.7	100.0

Coefficient of Utilization



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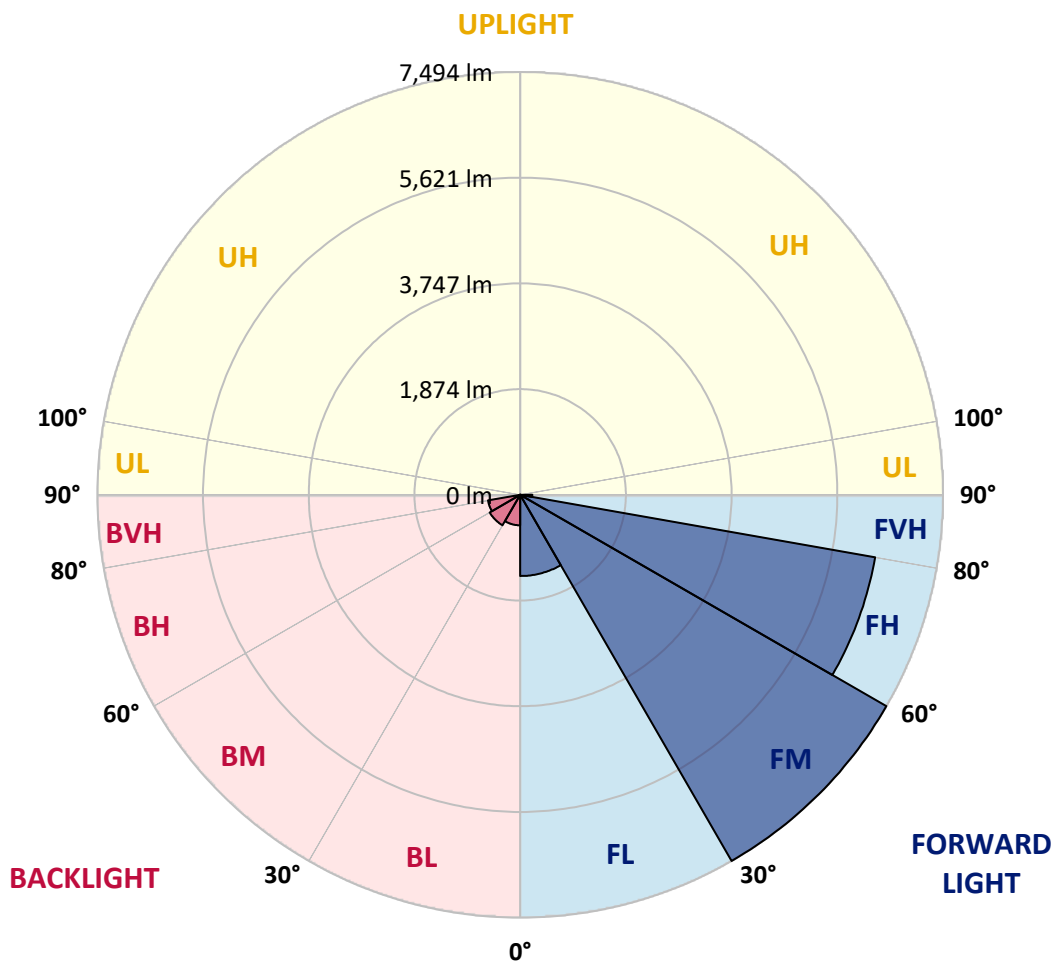
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1439.3	8.3			
FM	(30°-60°)	7494.2	43.3			
FH	(60°-80°)	6388.5	36.9			G3/7500
FVH	(80°-90°)	216.5	1.3			G2/225
BL	(0°-30°)	540.5	3.1	B2/1000		
BM	(30°-60°)	623.6	3.6	B1/1000		
BH	(60°-80°)	578.6	3.3	B2/1000		G2/1000
BVH	(80°-90°)	8.5	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	3852.0	3852.0	3852.0	3852.0	3852.0	3852.0	3852.0	3852.0	3852.0	3852.0	3852.0
2.5°	4051.5	4054.2	4052.9	4056.9	4054.2	4033.8	4012.2	3965.9	3970.1	3910.3	3843.8
5°	3766.6	3789.6	3812.6	3835.8	3891.4	3940.2	3998.5	4012.2	4012.2	3960.5	3862.8
7.5°	3476.0	3477.3	3503.2	3534.4	3609.0	3698.6	3834.3	3956.6	3959.2	3972.8	3865.5
10°	3257.6	3264.4	3282.0	3315.9	3390.6	3478.7	3630.8	3822.2	3837.1	3937.5	3838.4
12.5°	3087.8	3096.0	3115.1	3154.4	3222.2	3313.2	3473.2	3691.9	3712.2	3903.6	3830.4
15°	2957.5	2968.4	2983.4	3022.6	3096.0	3192.3	3367.4	3605.0	3629.4	3890.0	3856.1
17.5°	2903.2	2903.2	2901.9	2929.1	3002.3	3100.1	3283.2	3558.8	3590.0	3900.9	3899.5
20°	2926.3	2922.2	2893.7	2887.0	2931.8	3029.4	3216.8	3528.9	3564.2	3921.2	3952.5
22.5°	3048.5	3040.4	2976.5	2923.7	2910.0	2975.1	3171.9	3508.6	3550.7	3963.3	4023.0
25°	3307.6	3283.2	3195.1	3075.6	2968.4	2961.6	3140.7	3497.7	3542.6	4012.2	4100.4
27.5°	3644.3	3637.5	3496.5	3336.2	3130.0	3006.4	3131.3	3489.6	3534.4	4047.5	4162.8
30°	4062.3	4065.1	3902.1	3693.2	3381.0	3132.6	3161.1	3485.6	3531.6	4050.2	4190.0
32.5°	4494.0	4496.7	4361.0	4137.1	3724.5	3349.8	3245.2	3504.6	3546.6	4039.3	4188.5
35°	4909.3	4913.4	4832.0	4651.5	4183.1	3651.2	3404.0	3569.7	3599.6	4046.1	4185.9
37.5°	5434.6	5450.8	5350.5	5182.1	4758.7	4093.5	3663.4	3701.3	3725.8	4101.8	4206.3
40°	6330.4	6308.6	6021.0	5735.9	5383.1	4632.4	4037.9	3928.0	3936.2	4245.6	4283.6
42.5°	7374.1	7347.1	6854.3	6363.0	6025.0	5282.7	4517.0	4275.5	4274.1	4487.3	4451.9
45°	8272.8	8256.4	7737.9	7082.3	6736.2	6000.6	5107.6	4776.3	4759.9	4905.3	4758.7
47.5°	8910.6	8897.1	8504.9	7847.9	7558.8	6790.6	5844.6	5459.0	5425.1	5452.3	5256.8
50°	8973.1	8958.2	8821.0	8399.0	8519.7	7949.7	6755.3	6353.5	6310.1	6268.0	6010.1
52.5°	8389.5	8388.1	8460.0	8432.8	9193.0	9441.4	7872.2	7459.6	7408.1	7300.9	7044.4
55°	7196.4	7189.6	7462.4	7858.7	9178.1	10980.5	9575.8	8776.3	8708.3	8494.0	8157.2
57.5°	5258.1	5222.8	5792.9	6633.1	8533.3	11653.7	12280.8	10411.7	10299.2	9619.1	9100.6
60°	2903.2	2916.8	3649.8	4644.6	7006.3	11520.8	14770.0	12318.7	12022.9	10589.6	10067.0
62.5°	1627.4	1661.3	2207.0	3018.7	4466.8	10441.7	16105.6	15600.8	14888.1	11721.5	11288.6
65°	1231.0	1251.3	1525.6	2329.1	2816.4	7296.8	16318.7	20189.8	19574.8	13437.1	13233.7
67.5°	1159.2	1175.4	1309.8	1931.4	2565.3	3784.1	14714.3	22904.4	22981.7	15777.2	14740.2
68°	1167.3	1187.6	1321.9	1858.1	2561.2	3385.2	14030.4	22917.9	23082.0	16154.5	14688.6
70°	1072.2	1077.6	1398.0	1822.8	2482.5	2667.1	10149.8	21347.5	21642.1	16603.8	13334.0
72.5°	409.8	411.2	627.0	1578.5	2600.6	2682.0	5113.0	16872.5	16887.4	14449.7	10395.5
75°	213.1	179.1	196.8	494.1	2483.9	2614.2	2565.3	11520.8	11448.8	9772.5	6369.8
77.5°	146.7	124.9	131.6	170.9	1033.0	2612.8	1852.8	6624.9	6610.0	4157.4	1817.5
80°	82.9	72.0	78.7	143.9	362.3	2452.6	1726.5	2847.5	2683.3	730.2	294.6
82.5°	42.1	35.4	42.1	120.8	225.4	1543.3	1679.0	1117.0	995.0	173.7	191.3
85°	10.9	10.9	20.3	84.1	139.7	506.3	1505.2	806.1	724.8	75.9	135.7
87.5°	2.8	1.3	8.2	31.3	50.2	110.0	834.7	449.2	386.8	39.3	78.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3852.0	3852.0	3852.0	3852.0	3852.0	3852.0	3852.0	3852.0	3852.0	3852.0	3852.0
2.5°	3816.7	3778.7	3704.0	3619.9	3560.3	3495.0	3457.0	3410.9	3375.7	3344.4	3367.4
5°	3803.2	3729.9	3564.2	3378.3	3222.2	3072.9	2961.6	2855.7	2775.7	2725.5	2745.8
7.5°	3767.9	3659.2	3390.6	3100.1	2844.9	2604.6	2409.3	2234.2	2098.4	2025.0	2048.1
10°	3708.2	3554.8	3193.7	2790.6	2433.6	2094.3	1803.8	1543.3	1346.4	1254.2	1275.9
12.5°	3664.6	3462.4	2990.1	2492.0	2022.4	1540.6	1155.1	856.4	703.1	610.8	618.9
15°	3645.7	3390.6	2800.0	2177.1	1573.1	989.5	624.3	451.9	399.0	380.1	381.4
17.5°	3648.3	3333.5	2619.5	1850.0	1119.7	568.6	382.8	344.8	336.7	332.6	332.6
20°	3655.3	3276.5	2432.3	1509.3	716.7	366.5	319.0	306.7	302.6	297.2	298.5
22.5°	3675.5	3233.1	2243.5	1167.3	441.1	298.5	282.2	271.5	264.7	256.6	258.0
25°	3706.8	3200.5	2057.7	840.2	310.9	260.6	245.6	230.8	218.5	209.0	210.4
27.5°	3725.8	3154.4	1859.5	572.8	258.0	228.0	207.7	187.2	173.7	165.6	164.2
30°	3712.2	3079.7	1634.1	376.0	228.0	196.8	172.4	149.3	135.7	128.9	128.9
32.5°	3675.5	2983.4	1385.7	274.2	202.3	169.7	139.7	119.5	110.0	105.9	107.2
35°	3633.5	2882.9	1121.2	232.1	181.8	143.9	114.1	97.7	93.7	92.3	92.3
37.5°	3610.4	2796.1	867.4	210.4	162.9	119.5	93.7	84.1	80.0	80.0	80.0
40°	3636.2	2729.5	642.0	194.2	143.9	99.2	78.7	72.0	70.5	70.5	70.5
42.5°	3746.1	2706.5	469.6	180.5	124.9	82.9	67.8	62.4	61.1	62.4	62.4
45°	3960.5	2756.7	355.5	166.9	107.2	67.8	58.4	54.3	54.3	55.7	55.7
47.5°	4324.4	2885.6	291.8	153.4	89.7	57.0	50.2	47.5	47.5	48.9	48.9
50°	4888.9	3124.5	261.9	138.5	74.6	48.9	42.1	40.8	40.8	42.1	43.5
52.5°	5746.7	3579.1	247.0	123.4	61.1	40.8	35.4	34.0	35.4	36.7	36.7
55°	6700.9	4161.5	229.3	108.5	51.7	34.0	28.4	28.4	29.9	32.6	32.6
57.5°	7590.0	4723.4	213.1	89.7	44.7	27.2	23.0	23.0	25.8	28.4	28.4
60°	8529.2	5274.5	191.3	72.0	38.0	21.6	19.0	19.0	23.0	25.8	27.2
62.5°	9689.7	5915.1	162.9	57.0	29.9	16.3	13.6	17.6	21.6	25.8	25.8
65°	11367.3	6711.9	127.6	44.7	23.0	12.1	10.9	16.3	20.3	24.4	25.8
67.5°	11976.7	6610.0	96.4	36.7	17.6	9.5	9.5	14.9	20.3	24.4	24.4
68°	11754.1	6387.4	92.3	35.4	16.3	9.5	9.5	14.9	20.3	24.4	24.4
70°	10242.1	5221.5	75.9	27.2	13.6	8.2	8.2	13.6	20.3	23.0	24.4
72.5°	7668.7	3469.3	65.1	17.6	12.1	8.2	6.7	13.6	19.0	23.0	23.0
75°	4399.0	1440.2	55.7	13.6	10.9	6.7	6.7	12.1	19.0	23.0	23.0
77.5°	1243.3	336.7	44.7	10.9	9.5	6.7	5.4	12.1	17.6	21.6	21.6
80°	228.0	100.4	35.4	9.5	8.2	6.7	5.4	12.1	17.6	21.6	21.6
82.5°	150.6	47.5	25.8	9.5	8.2	6.7	5.4	10.9	16.3	20.3	20.3
85°	112.6	34.0	16.3	9.5	8.2	6.7	5.4	10.9	16.3	20.3	20.3
87.5°	62.4	14.9	12.1	10.9	9.5	6.7	5.4	9.5	14.9	19.0	19.0
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)