

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: P196077

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196077
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-03-D-UNV-SL2-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 1200mA 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: 16581 lumens
Efficiency: N/A
Efficacy: 86.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

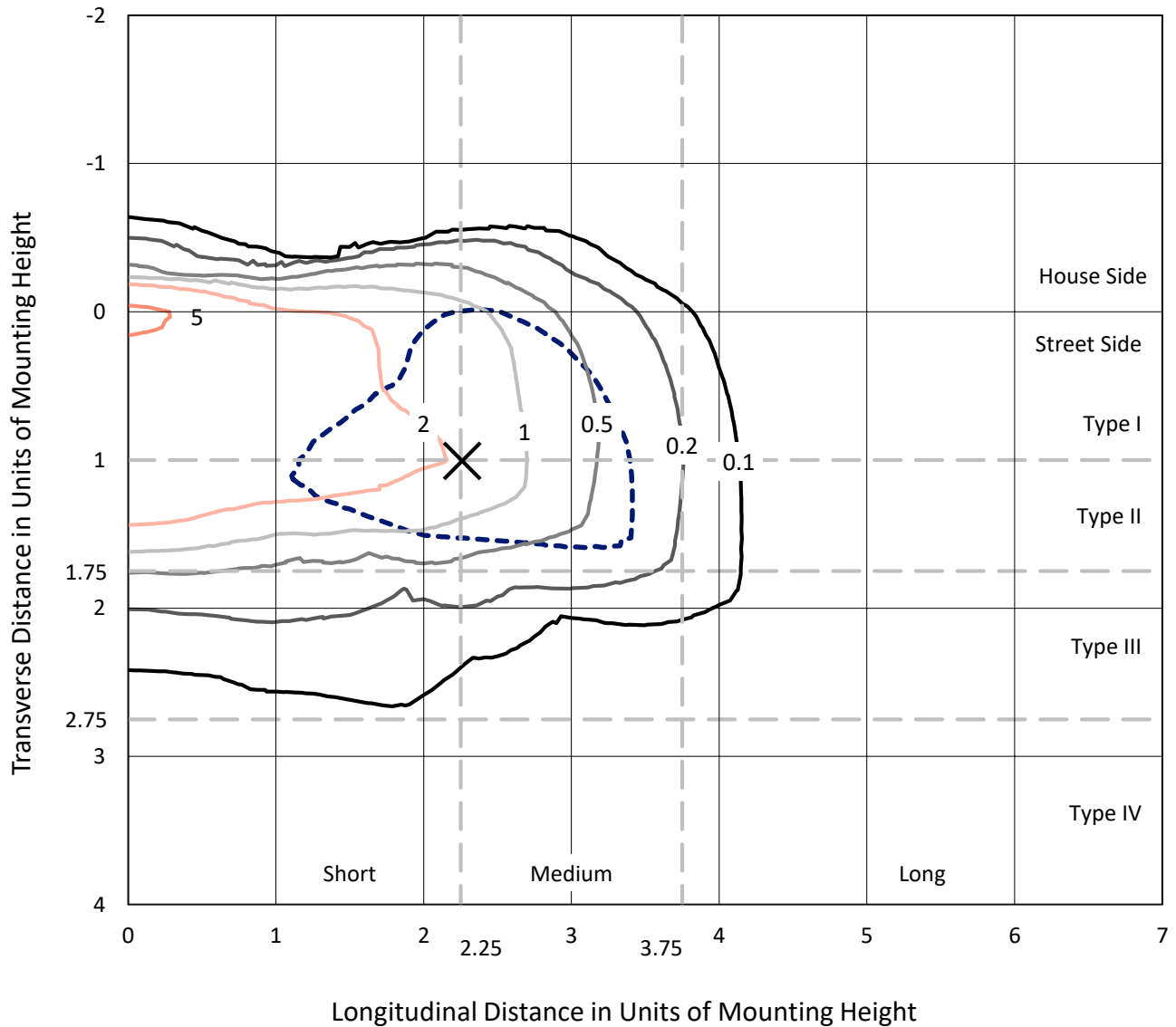
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

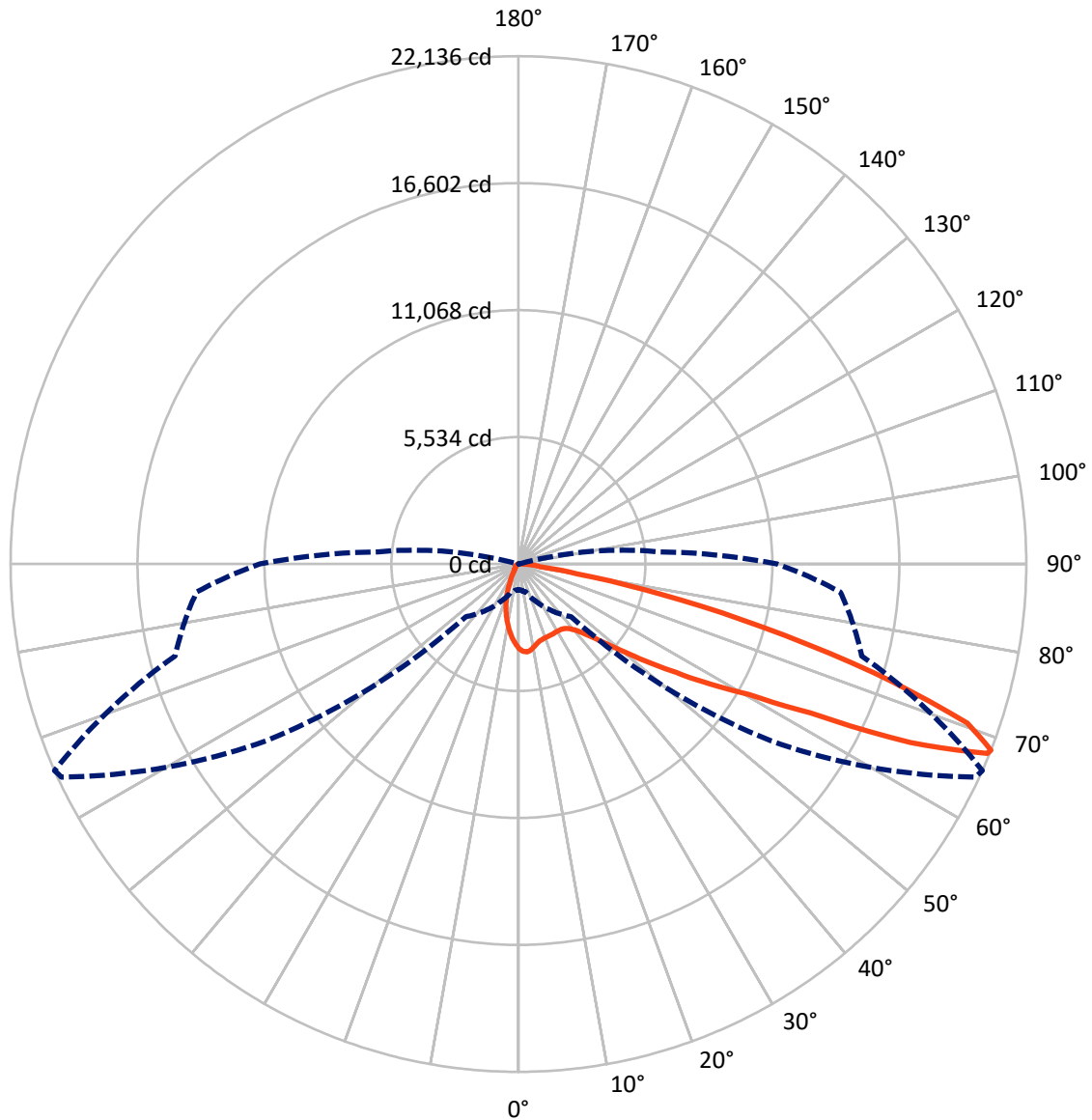


Based on 25 foot mounting height. Maximum calculated value = 5.9 fc
 Type II - Medium - Semi-Cutoff

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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	1679.5	0.0	1679.5
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	14901.5	0.0	14901.5
	% Fixture	89.9	0.0	89.9
Total	Lumens	16581.0	0.0	16581.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	302.8	1.8
10°-20°	651.6	3.9
20°-30°	944.2	5.7
30°-40°	1445.4	8.7
40°-50°	2472.3	14.9
50°-60°	3867.3	23.3
60°-70°	4453.1	26.9
70°-80°	2228.4	13.4
80°-90°	215.8	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°	16581.0	100.0
0°-180°	16581.0	100.0



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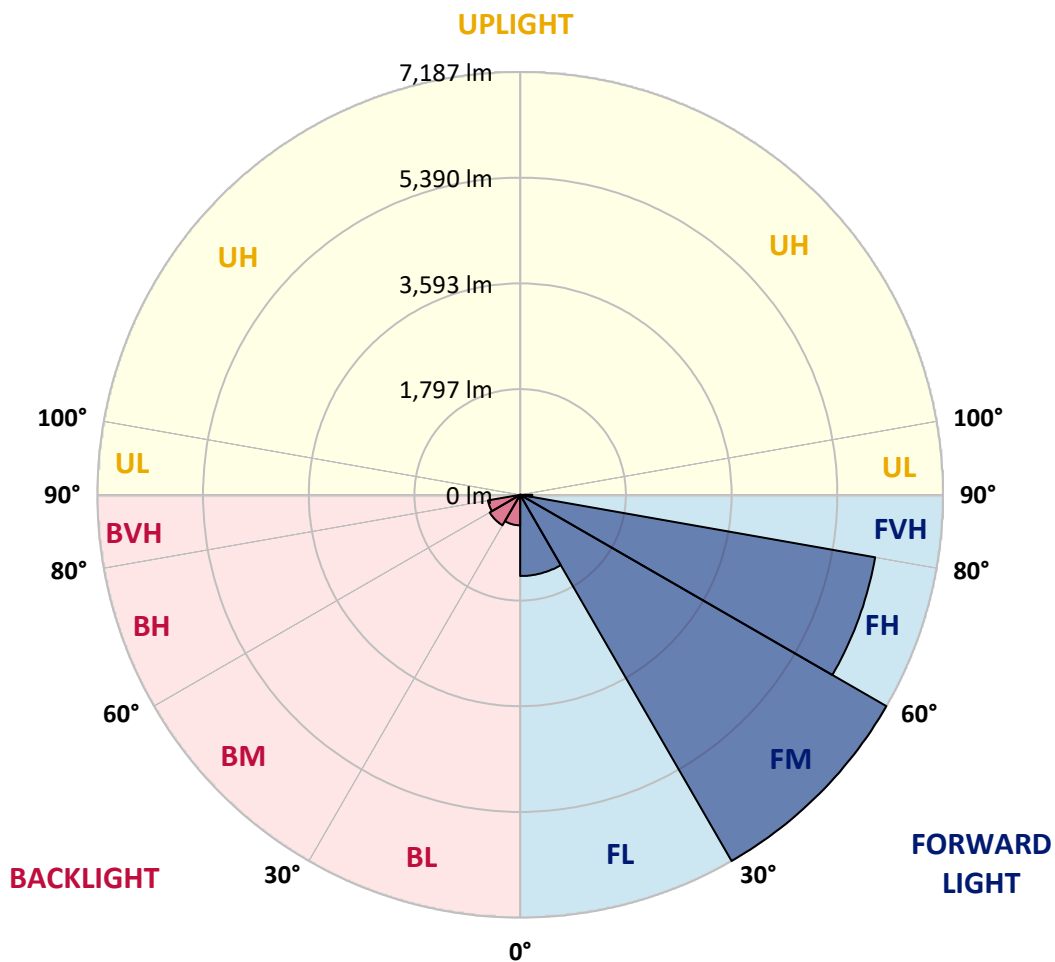
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1380.3	8.3			
FM	(30°-60°)	7187.0	43.3			
FH	(60°-80°)	6126.6	36.9			G3/7500
FVH	(80°-90°)	207.6	1.3			G2/225
BL	(0°-30°)	518.4	3.1	B2/1000		
BM	(30°-60°)	598.1	3.6	B1/1000		
BH	(60°-80°)	554.9	3.3	B2/1000		G2/1000
BVH	(80°-90°)	8.2	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°	3694.1	3694.1	3694.1	3694.1	3694.1	3694.1	3694.1	3694.1	3694.1	3694.1	3694.1
2.5°	3885.5	3888.0	3886.7	3890.7	3888.0	3868.5	3847.7	3803.4	3807.3	3750.0	3686.3
5°	3612.0	3634.2	3656.3	3678.4	3731.8	3778.7	3834.6	3847.7	3847.7	3798.2	3704.5
7.5°	3333.5	3334.8	3359.6	3389.5	3461.1	3547.0	3677.2	3794.3	3796.9	3810.0	3707.1
10°	3124.0	3130.4	3147.4	3179.9	3251.6	3336.1	3481.9	3665.4	3679.8	3776.1	3681.1
12.5°	2961.2	2969.1	2987.3	3025.1	3090.1	3177.3	3330.9	3540.5	3560.0	3743.6	3673.3
15°	2836.3	2846.7	2861.0	2898.7	2969.1	3061.5	3229.4	3457.2	3480.6	3730.5	3698.0
17.5°	2784.3	2784.3	2782.9	2808.9	2879.3	2973.0	3148.7	3413.0	3442.8	3740.9	3739.6
20°	2806.4	2802.5	2775.2	2768.6	2811.6	2905.3	3084.9	3384.3	3418.2	3760.5	3790.4
22.5°	2923.5	2915.7	2854.5	2803.8	2790.7	2853.2	3041.9	3364.8	3405.1	3800.9	3858.1
25°	3172.2	3148.7	3064.0	2949.6	2846.7	2840.2	3012.0	3354.4	3397.3	3847.7	3932.3
27.5°	3494.9	3488.5	3353.0	3199.5	3001.6	2883.2	3002.9	3346.6	3389.5	3881.5	3992.2
30°	3895.8	3898.5	3742.3	3541.8	3242.4	3004.2	3031.5	3342.7	3386.9	3884.1	4018.3
32.5°	4309.8	4312.4	4182.2	3967.4	3571.7	3212.5	3112.2	3360.9	3401.2	3873.7	4016.9
35°	4708.1	4712.0	4633.9	4460.8	4011.7	3501.5	3264.5	3423.3	3451.9	3880.3	4014.3
37.5°	5211.8	5227.5	5131.1	4969.7	4563.6	3925.8	3513.1	3549.6	3573.1	3933.6	4033.8
40°	6070.9	6050.0	5774.1	5500.8	5162.3	4442.6	3872.4	3767.0	3774.8	4071.5	4108.1
42.5°	7071.9	7045.9	6573.4	6102.1	5778.0	5066.1	4331.9	4100.2	4098.9	4303.2	4269.4
45°	7933.6	7917.9	7420.7	6792.0	6460.1	5754.6	4898.1	4580.6	4564.9	4704.1	4563.6
47.5°	8545.3	8532.3	8156.2	7526.2	7248.9	6512.2	5605.0	5235.3	5202.7	5228.7	5041.3
50°	8605.3	8590.9	8459.4	8054.6	8170.5	7623.7	6478.3	6093.0	6051.4	6011.1	5763.7
52.5°	8045.5	8044.2	8113.2	8087.1	8816.1	9054.3	7549.6	7153.9	7104.4	7001.6	6755.6
55°	6901.3	6894.9	7156.5	7536.6	8801.8	10530.4	9183.1	8416.5	8351.4	8145.8	7822.9
57.5°	5042.6	5008.8	5555.4	6361.2	8183.5	11176.0	11777.3	9985.0	9876.9	9224.9	8727.6
60°	2784.3	2797.3	3500.1	4454.2	6719.2	11048.5	14164.6	11813.9	11530.1	10155.5	9654.4
62.5°	1560.7	1593.2	2116.5	2894.8	4283.7	10013.7	15445.4	14961.2	14277.8	11241.1	10825.9
65°	1180.6	1200.1	1463.0	2233.6	2700.9	6997.7	15649.8	19362.1	18772.5	12886.4	12691.1
67.5°	1111.6	1127.2	1256.1	1852.3	2460.1	3629.0	14111.2	21965.4	22039.6	15130.5	14136.0
68°	1119.4	1139.0	1267.8	1782.0	2456.2	3246.3	13455.2	21978.4	22135.9	15492.3	14086.4
70°	1028.3	1033.5	1340.7	1748.1	2380.7	2557.8	9733.8	20472.4	20754.9	15923.2	12787.4
72.5°	393.1	394.4	601.4	1513.9	2494.0	2572.1	4903.3	16180.8	16195.2	13857.4	9969.4
75°	204.4	171.9	188.7	473.8	2382.0	2506.9	2460.1	11048.5	10979.4	9371.9	6108.7
77.5°	140.6	119.8	126.2	164.0	990.5	2505.7	1776.8	6353.3	6339.0	3987.0	1742.9
80°	79.4	68.9	75.5	138.0	347.5	2352.1	1655.7	2730.9	2573.3	700.3	282.4
82.5°	40.3	33.9	40.3	115.8	216.0	1480.0	1610.1	1071.2	954.1	166.6	183.5
85°	10.4	10.4	19.5	80.7	134.1	485.5	1443.5	773.1	695.1	72.9	130.1
87.5°	2.6	1.3	7.8	30.0	48.2	105.5	800.6	430.9	370.9	37.7	75.5
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°	3694.1	3694.1	3694.1	3694.1	3694.1	3694.1	3694.1	3694.1	3694.1	3694.1	3694.1
2.5°	3660.2	3623.8	3552.2	3471.5	3414.2	3351.8	3315.3	3271.1	3237.2	3207.3	3229.4
5°	3647.2	3577.0	3418.2	3239.8	3090.1	2946.9	2840.2	2738.6	2661.9	2613.7	2633.3
7.5°	3613.4	3509.2	3251.6	2973.0	2728.3	2497.8	2310.4	2142.6	2012.3	1942.1	1964.2
10°	3556.1	3409.0	3062.8	2676.2	2333.9	2008.5	1729.9	1480.0	1291.3	1202.7	1223.6
12.5°	3514.4	3320.5	2867.5	2389.8	1939.4	1477.3	1107.8	821.3	674.2	585.7	593.5
15°	3496.2	3251.6	2685.3	2087.8	1508.6	948.9	598.7	433.4	382.7	364.5	365.8
17.5°	3498.8	3196.8	2512.2	1774.1	1073.9	545.4	367.0	330.6	322.8	319.0	319.0
20°	3505.3	3142.2	2332.5	1447.5	687.3	351.5	305.9	294.2	290.3	285.1	286.3
22.5°	3524.9	3100.6	2151.7	1119.4	423.0	286.3	270.8	260.3	253.8	246.0	247.3
25°	3554.9	3069.3	1973.3	805.7	298.1	249.9	235.6	221.3	209.6	200.5	201.7
27.5°	3573.1	3025.1	1783.3	549.3	247.3	218.7	199.2	179.6	166.6	158.8	157.5
30°	3560.0	2953.5	1567.2	360.6	218.7	188.7	165.3	143.2	130.1	123.7	123.7
32.5°	3524.9	2861.0	1329.0	262.9	194.0	162.8	134.1	114.6	105.5	101.6	102.8
35°	3484.5	2764.7	1075.1	222.6	174.4	138.0	109.4	93.7	89.8	88.5	88.5
37.5°	3462.4	2681.4	831.8	201.7	156.2	114.6	89.8	80.7	76.8	76.8	76.8
40°	3487.1	2617.6	615.7	186.2	138.0	95.0	75.5	68.9	67.7	67.7	67.7
42.5°	3592.6	2595.5	450.4	173.1	119.8	79.4	65.1	59.8	58.6	59.8	59.8
45°	3798.2	2643.6	341.1	160.1	102.8	65.1	56.0	52.1	52.1	53.4	53.4
47.5°	4147.0	2767.3	279.9	147.1	85.9	54.6	48.2	45.5	45.5	46.9	46.9
50°	4688.6	2996.4	251.2	132.8	71.6	46.9	40.3	39.1	39.1	40.3	41.6
52.5°	5511.2	3432.4	236.9	118.5	58.6	39.1	33.9	32.5	33.9	35.2	35.2
55°	6426.3	3990.8	219.9	104.1	49.5	32.5	27.3	27.3	28.6	31.2	31.2
57.5°	7278.8	4529.7	204.4	85.9	43.0	26.0	22.1	22.1	24.8	27.3	27.3
60°	8179.6	5058.2	183.5	68.9	36.4	20.9	18.2	18.2	22.1	24.8	26.0
62.5°	9292.5	5672.6	156.2	54.6	28.6	15.7	13.0	16.9	20.9	24.8	24.8
65°	10901.4	6436.7	122.3	43.0	22.1	11.8	10.4	15.7	19.5	23.4	24.8
67.5°	11485.8	6339.0	92.4	35.2	16.9	9.1	9.1	14.3	19.5	23.4	23.4
68°	11272.3	6125.5	88.5	33.9	15.7	9.1	9.1	14.3	19.5	23.4	23.4
70°	9822.3	5007.4	72.9	26.0	13.0	7.8	7.8	13.0	19.5	22.1	23.4
72.5°	7354.3	3327.0	62.5	16.9	11.8	7.8	6.5	13.0	18.2	22.1	22.1
75°	4218.6	1381.1	53.4	13.0	10.4	6.5	6.5	11.8	18.2	22.1	22.1
77.5°	1192.4	322.8	43.0	10.4	9.1	6.5	5.2	11.8	16.9	20.9	20.9
80°	218.7	96.4	33.9	9.1	7.8	6.5	5.2	11.8	16.9	20.9	20.9
82.5°	144.4	45.5	24.8	9.1	7.8	6.5	5.2	10.4	15.7	19.5	19.5
85°	108.0	32.5	15.7	9.1	7.8	6.5	5.2	10.4	15.7	19.5	19.5
87.5°	59.8	14.3	11.8	10.4	9.1	6.5	5.2	9.1	14.3	18.2	18.2
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)