

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: P195101

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7060-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195101
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-05-D-UNV-SL2-7060-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 615mA 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: 16161 lumens
Efficiency: N/A
Efficacy: 99.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 162
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

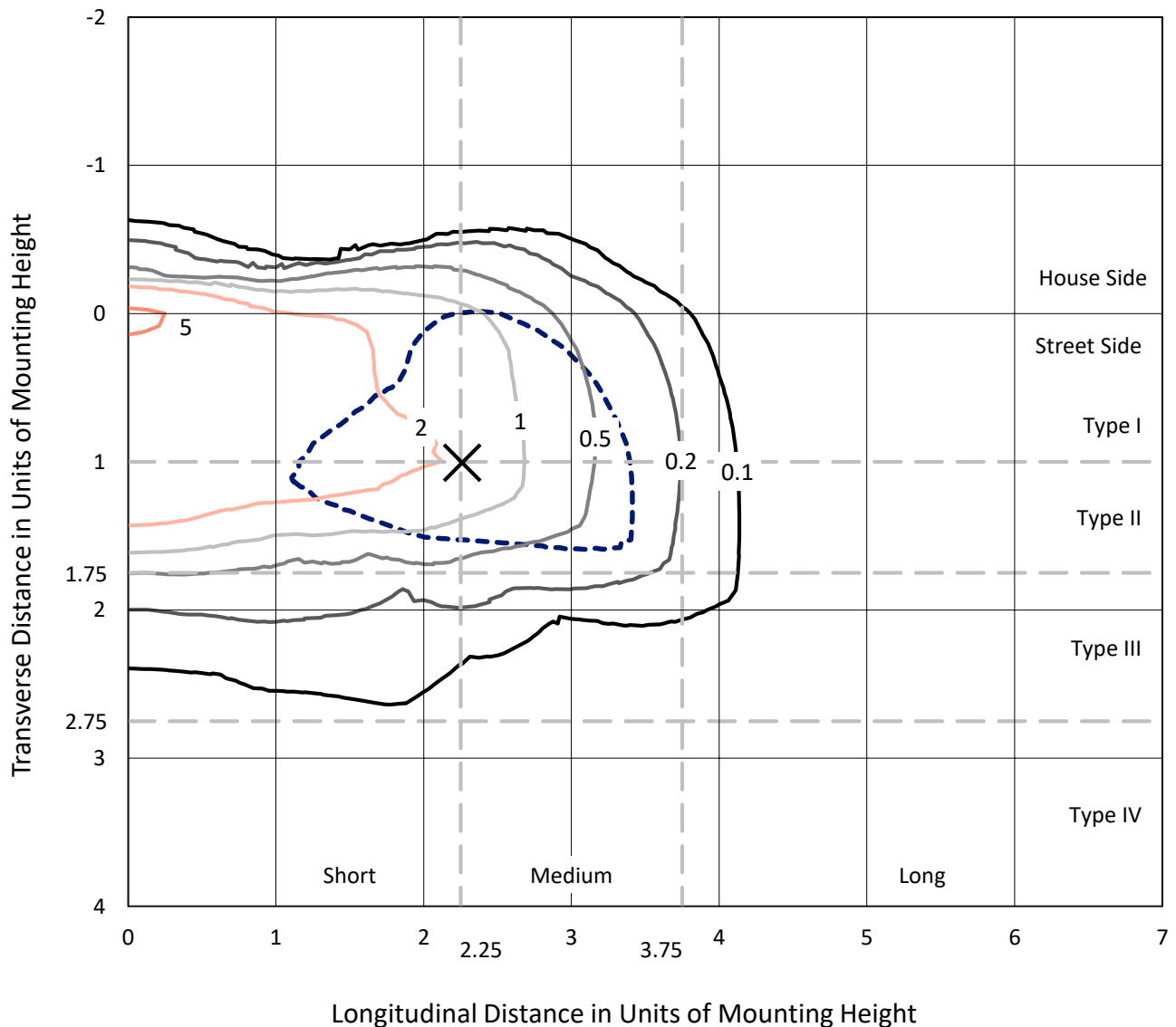


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

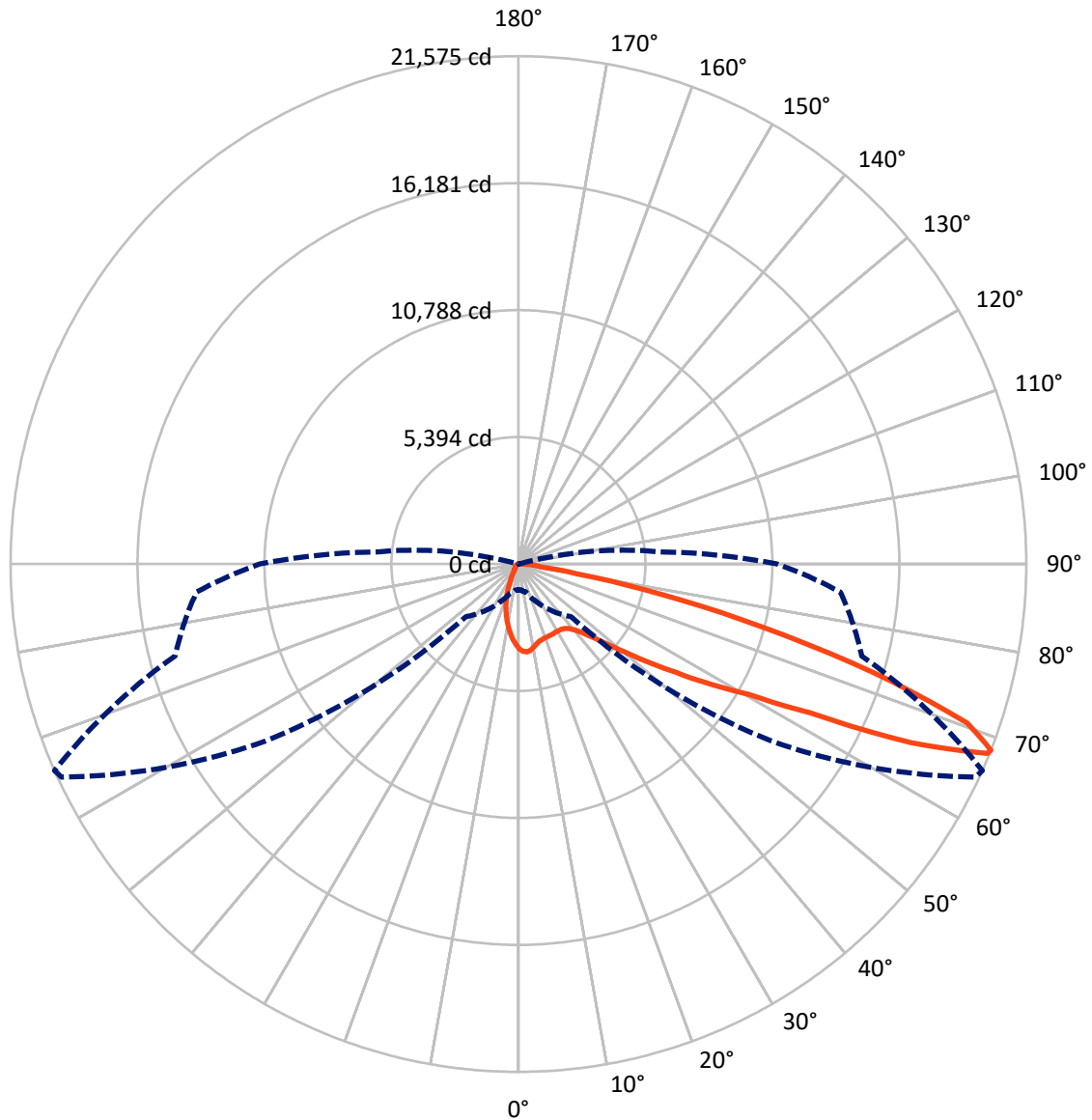


Based on 25 foot mounting height. Maximum calculated value = 5.8 fc
 Type II - Medium - Semi-Cutoff

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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	1636.9	0.0	1636.9
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	14524.1	0.0	14524.1
	% Fixture	89.9	0.0	89.9
Total	Lumens	16161.0	0.0	16161.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	295.2	1.8
10°-20°	635.1	3.9
20°-30°	920.3	5.7
30°-40°	1408.8	8.7
40°-50°	2409.6	14.9
50°-60°	3769.4	23.3
60°-70°	4340.3	26.9
70°-80°	2172.0	13.4
80°-90°	210.3	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°	16161.0	100.0
0°-180°	16161.0	100.0

Coefficient of Utilization



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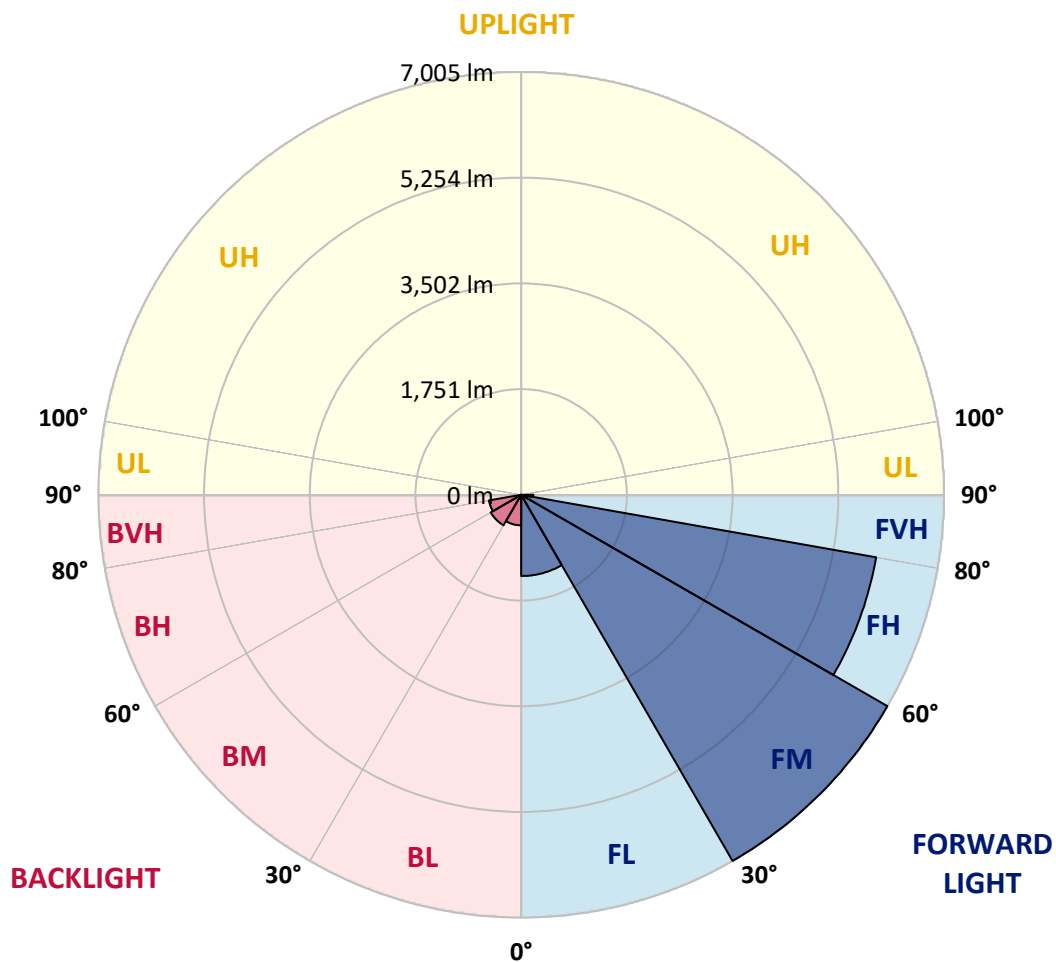
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1345.3	8.3			
FM	(30°-60°)	7004.9	43.3			
FH	(60°-80°)	5971.4	36.9			G3/7500
FVH	(80°-90°)	202.4	1.3			G2/225
BL	(0°-30°)	505.2	3.1	B2/1000		
BM	(30°-60°)	582.9	3.6	B1/1000		
BH	(60°-80°)	540.8	3.3	B2/1000		G2/1000
BVH	(80°-90°)	8.0	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°	3600.5	3600.5	3600.5	3600.5	3600.5	3600.5	3600.5	3600.5	3600.5	3600.5	3600.5
2.5°	3787.0	3789.6	3788.3	3792.1	3789.6	3770.5	3750.2	3707.1	3710.9	3655.1	3592.9
5°	3520.6	3542.2	3563.7	3585.3	3637.3	3683.0	3737.5	3750.2	3750.2	3702.0	3610.7
7.5°	3249.1	3250.4	3274.5	3303.6	3373.4	3457.2	3584.0	3698.2	3700.7	3713.4	3613.2
10°	3044.8	3051.2	3067.7	3099.4	3169.2	3251.6	3393.7	3572.6	3586.6	3680.4	3587.8
12.5°	2886.3	2893.9	2911.6	2948.4	3011.8	3096.9	3246.6	3450.8	3469.8	3648.7	3580.2
15°	2764.5	2774.6	2788.6	2825.4	2893.9	2983.9	3147.6	3369.6	3392.5	3636.0	3604.3
17.5°	2713.7	2713.7	2712.4	2737.8	2806.3	2897.7	3068.9	3326.5	3355.7	3646.2	3644.9
20°	2735.3	2731.5	2704.8	2698.5	2740.4	2831.7	3006.8	3298.6	3331.6	3665.2	3694.4
22.5°	2849.5	2841.8	2782.2	2732.7	2720.1	2780.9	2964.9	3279.5	3318.9	3704.5	3760.4
25°	3091.8	3068.9	2986.5	2874.8	2774.6	2768.3	2935.7	3269.4	3311.3	3750.2	3832.7
27.5°	3406.4	3400.1	3268.1	3118.4	2925.6	2810.1	2926.8	3261.8	3303.6	3783.2	3891.0
30°	3797.2	3799.7	3647.5	3452.1	3160.3	2928.1	2954.8	3258.0	3301.1	3785.7	3916.4
32.5°	4200.6	4203.1	4076.3	3866.9	3481.3	3131.1	3033.4	3275.7	3315.1	3775.6	3915.2
35°	4588.8	4592.6	4516.5	4347.8	3910.1	3412.8	3181.9	3336.6	3364.5	3781.9	3912.6
37.5°	5079.8	5095.0	5001.1	4843.8	4448.0	3826.3	3424.2	3459.7	3482.5	3834.0	3931.6
40°	5917.1	5896.8	5627.9	5361.4	5031.6	4330.0	3774.3	3671.6	3679.2	3968.4	4004.0
42.5°	6892.7	6867.4	6406.8	5947.6	5631.7	4937.7	4222.2	3996.3	3995.1	4194.3	4161.3
45°	7732.6	7717.4	7232.8	6620.0	6296.5	5608.8	4774.0	4464.5	4449.3	4585.0	4448.0
47.5°	8328.9	8316.2	7949.6	7335.5	7065.3	6347.2	5462.9	5102.6	5070.9	5096.3	4913.6
50°	8387.3	8373.3	8245.2	7850.6	7963.5	7430.7	6314.2	5938.7	5898.1	5858.8	5617.7
52.5°	7841.7	7840.5	7907.7	7882.3	8592.8	8824.9	7358.4	6972.7	6924.5	6824.2	6584.5
55°	6726.5	6720.2	6975.2	7345.7	8578.8	10263.6	8950.5	8203.3	8139.9	7939.4	7624.8
57.5°	4914.9	4881.9	5414.7	6200.0	7976.2	10892.9	11479.0	9732.1	9626.8	8991.1	8506.5
60°	2713.7	2726.4	3411.5	4341.4	6548.9	10768.6	13805.8	11514.6	11238.0	9898.3	9409.8
62.5°	1521.1	1552.9	2062.9	2821.5	4175.2	9760.0	15054.2	14582.2	13916.2	10956.3	10551.6
65°	1150.7	1169.7	1426.0	2177.1	2632.5	6820.4	15253.4	18871.6	18296.9	12559.9	12369.6
67.5°	1083.5	1098.7	1224.3	1805.3	2397.8	3537.1	13753.8	21409.0	21481.3	14747.2	13777.9
68°	1091.1	1110.1	1235.7	1736.8	2394.0	3164.1	13114.4	21421.7	21575.2	15099.8	13729.7
70°	1002.3	1007.3	1306.7	1703.8	2320.4	2493.0	9487.2	19953.8	20229.1	15519.8	12463.5
72.5°	383.1	384.4	586.1	1475.5	2430.8	2506.9	4779.1	15771.0	15784.9	13506.4	9716.8
75°	199.2	167.5	184.0	461.8	2321.7	2443.5	2397.8	10768.6	10701.3	9134.5	5953.9
77.5°	137.0	116.7	123.1	159.9	965.5	2442.2	1731.8	6192.4	6178.5	3886.0	1698.8
80°	77.4	67.2	73.6	134.5	338.7	2292.5	1613.8	2661.7	2508.2	682.6	275.3
82.5°	39.3	33.0	39.3	112.9	210.6	1442.5	1569.4	1044.1	929.9	162.4	178.9
85°	10.1	10.1	19.0	78.7	130.7	473.2	1407.0	753.6	677.5	71.0	126.9
87.5°	2.5	1.3	7.6	29.2	46.9	102.8	780.2	419.9	361.6	36.8	73.6
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°	3600.5	3600.5	3600.5	3600.5	3600.5	3600.5	3600.5	3600.5	3600.5	3600.5	3600.5
2.5°	3567.5	3532.0	3462.2	3383.6	3327.8	3266.9	3231.3	3188.2	3155.2	3126.0	3147.6
5°	3554.8	3486.3	3331.6	3157.7	3011.8	2872.3	2768.3	2669.3	2594.5	2547.5	2566.5
7.5°	3521.9	3420.4	3169.2	2897.7	2659.2	2434.6	2251.9	2088.2	1961.4	1892.9	1914.4
10°	3466.0	3322.7	2985.2	2608.4	2274.7	1957.6	1686.1	1442.5	1258.5	1172.3	1192.6
12.5°	3425.4	3236.4	2794.9	2329.3	1890.3	1440.0	1079.6	800.5	657.2	570.9	578.5
15°	3407.7	3169.2	2617.3	2035.0	1470.4	924.9	583.6	422.5	373.0	355.2	356.5
17.5°	3410.2	3115.9	2448.6	1729.2	1046.7	531.6	357.8	322.2	314.6	310.8	310.8
20°	3416.6	3062.6	2273.5	1410.8	669.9	342.5	298.1	286.7	282.9	277.8	279.1
22.5°	3435.6	3022.0	2097.1	1091.1	412.3	279.1	263.9	253.7	247.4	239.8	241.0
25°	3464.8	2991.6	1923.3	785.3	290.5	243.6	229.6	215.7	204.3	195.4	196.6
27.5°	3482.5	2948.4	1738.1	535.4	241.0	213.1	194.1	175.1	162.4	154.8	153.5
30°	3469.8	2878.6	1527.5	351.4	213.1	184.0	161.1	139.6	126.9	120.5	120.5
32.5°	3435.6	2788.6	1295.3	256.3	189.0	158.6	130.7	111.6	102.8	99.0	100.2
35°	3396.3	2694.7	1047.9	216.9	170.0	134.5	106.6	91.3	87.5	86.3	86.3
37.5°	3374.7	2613.5	810.7	196.6	152.2	111.6	87.5	78.7	74.9	74.9	74.9
40°	3398.8	2551.3	600.1	181.4	134.5	92.6	73.6	67.2	66.0	66.0	66.0
42.5°	3501.6	2529.8	439.0	168.7	116.7	77.4	63.4	58.4	57.1	58.4	58.4
45°	3702.0	2576.7	332.4	156.0	100.2	63.4	54.6	50.7	50.7	52.0	52.0
47.5°	4042.0	2697.2	272.8	143.4	83.7	53.3	46.9	44.4	44.4	45.7	45.7
50°	4569.8	2920.5	244.9	129.4	69.8	45.7	39.3	38.1	38.1	39.3	40.6
52.5°	5371.6	3345.5	230.9	115.5	57.1	38.1	33.0	31.7	33.0	34.3	34.3
55°	6263.5	3889.8	214.4	101.5	48.2	31.7	26.6	26.6	27.9	30.4	30.4
57.5°	7094.5	4415.0	199.2	83.7	41.9	25.4	21.6	21.6	24.1	26.6	26.6
60°	7972.4	4930.1	178.9	67.2	35.5	20.3	17.8	17.8	21.6	24.1	25.4
62.5°	9057.1	5528.9	152.2	53.3	27.9	15.2	12.7	16.5	20.3	24.1	24.1
65°	10625.2	6273.6	119.3	41.9	21.6	11.4	10.1	15.2	19.0	22.8	24.1
67.5°	11194.8	6178.5	90.1	34.3	16.5	8.9	8.9	14.0	19.0	22.8	22.8
68°	10986.8	5970.4	86.3	33.0	15.2	8.9	8.9	14.0	19.0	22.8	22.8
70°	9573.5	4880.6	71.0	25.4	12.7	7.6	7.6	12.7	19.0	21.6	22.8
72.5°	7168.1	3242.7	60.9	16.5	11.4	7.6	6.3	12.7	17.8	21.6	21.6
75°	4111.8	1346.1	52.0	12.7	10.1	6.3	6.3	11.4	17.8	21.6	21.6
77.5°	1162.1	314.6	41.9	10.1	8.9	6.3	5.1	11.4	16.5	20.3	20.3
80°	213.1	93.9	33.0	8.9	7.6	6.3	5.1	11.4	16.5	20.3	20.3
82.5°	140.8	44.4	24.1	8.9	7.6	6.3	5.1	10.1	15.2	19.0	19.0
85°	105.3	31.7	15.2	8.9	7.6	6.3	5.1	10.1	15.2	19.0	19.0
87.5°	58.4	14.0	11.4	10.1	8.9	6.3	5.1	8.9	14.0	17.8	17.8
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)