

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: P197103

Luminaire Tested: **NAV-AF-03-D-UNV-SL3-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197103
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14761 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G3

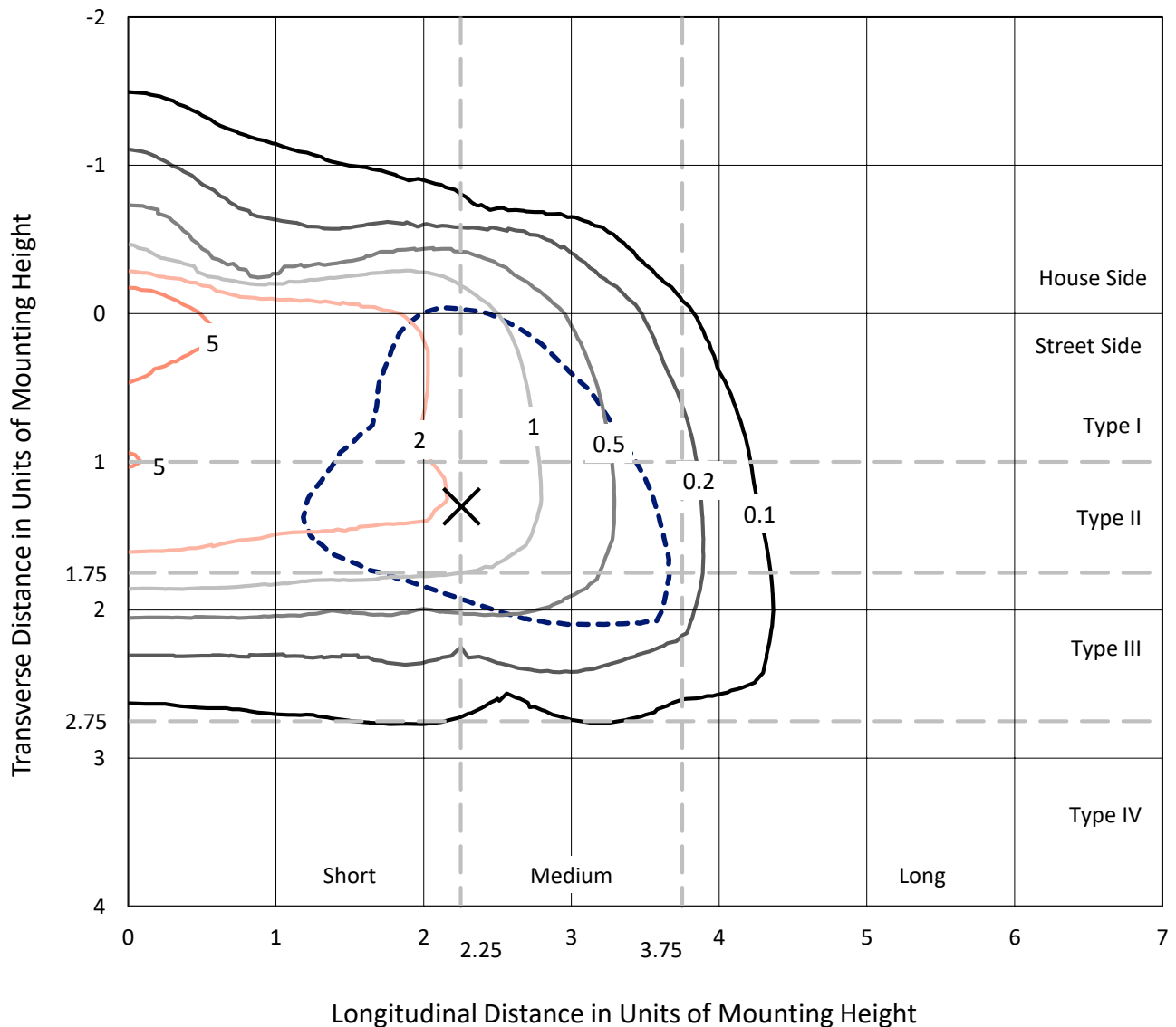
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

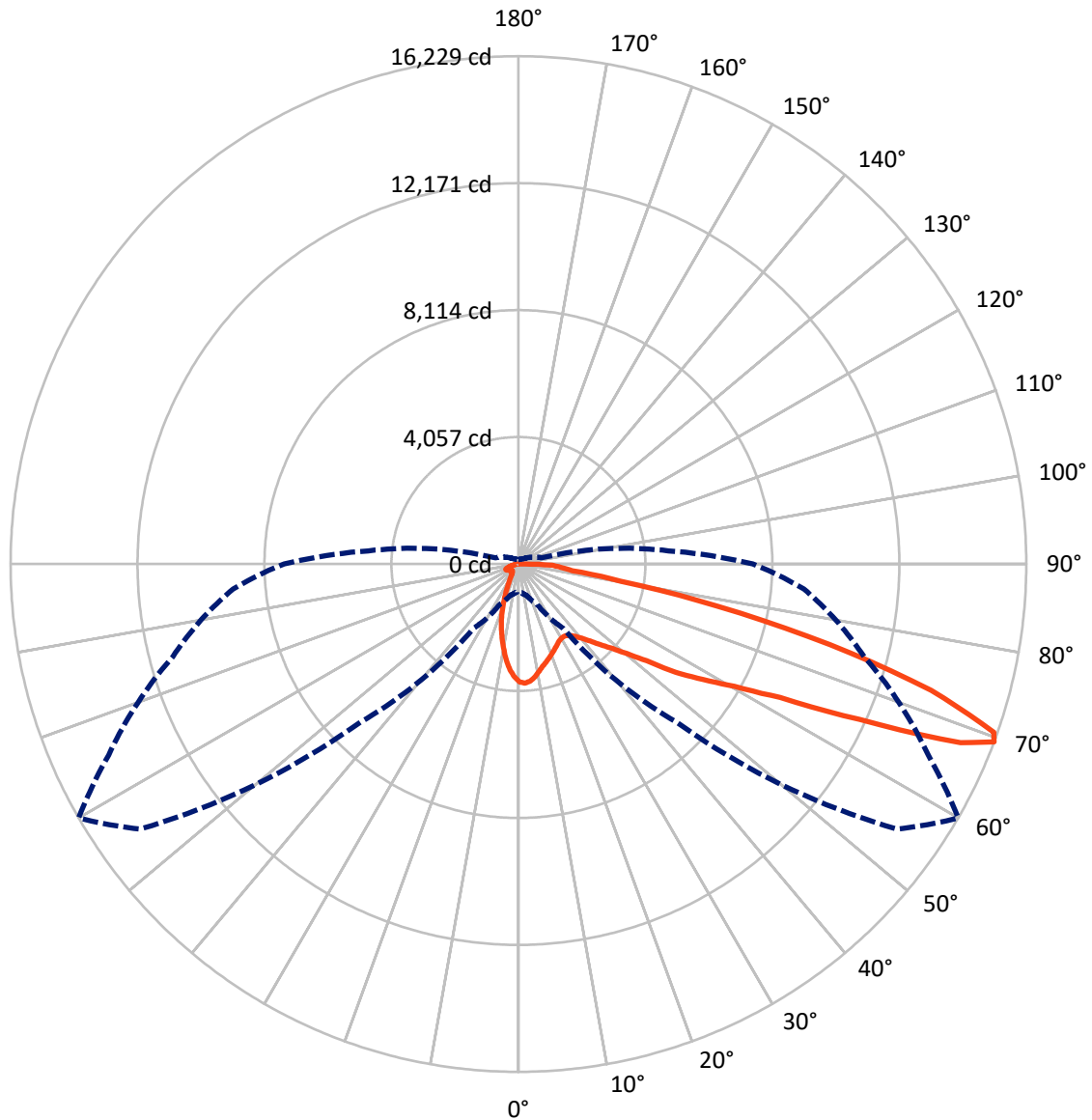
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.4 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2105.4	0.0	2105.4
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	12655.6	0.0	12655.6
	% Fixture	85.7	0.0	85.7
Total	Lumens	14761.0	0.0	14761.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	319.5	2.2
10°-20°	684.1	4.6
20°-30°	872.7	5.9
30°-40°	1200.9	8.1
40°-50°	1945.3	13.2
50°-60°	3053.0	20.7
60°-70°	4070.3	27.6
70°-80°	2264.0	15.3
80°-90°	351.1	2.4
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°	14761.0	100.0
0°-180°	14761.0	100.0



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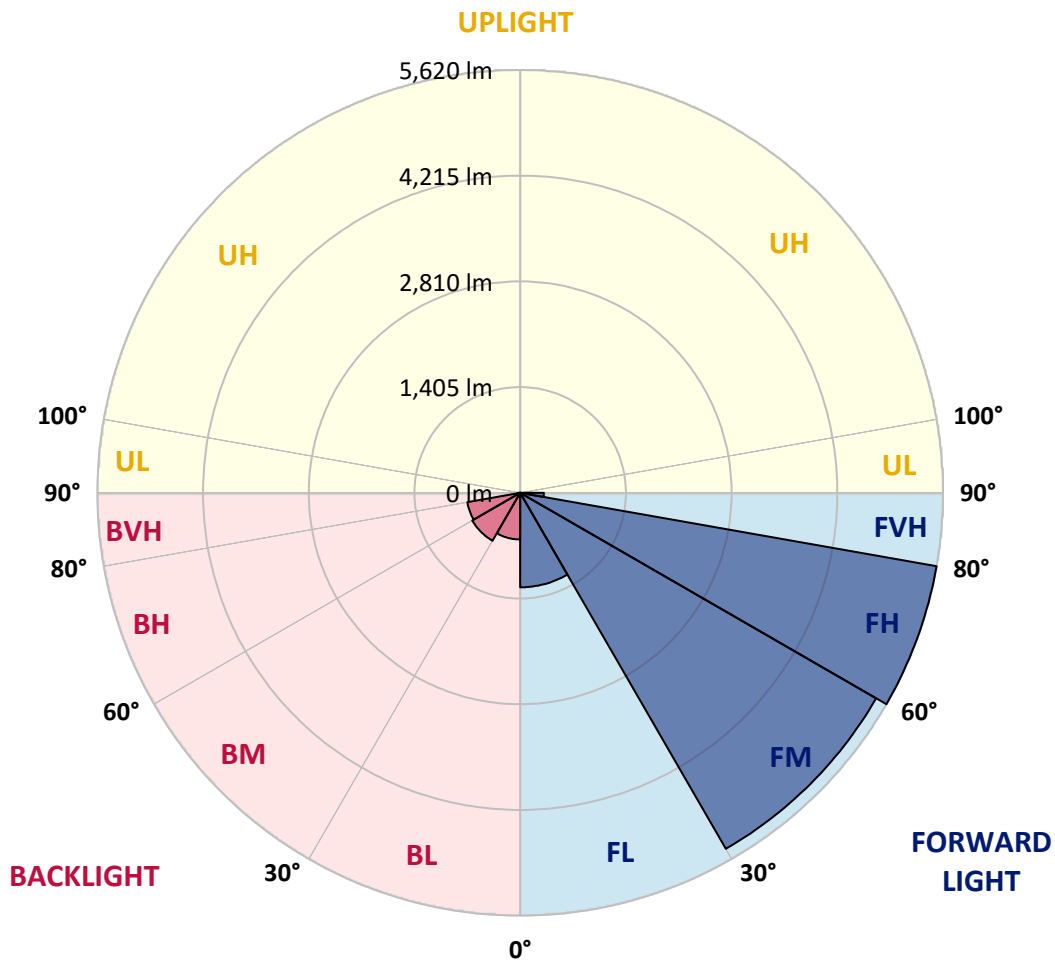
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1255.9	8.5			
FM	(30°-60°)	5463.8	37.0			
FH	(60°-80°)	5620.4	38.1			G3/7500
FVH	(80°-90°)	315.6	2.1			G3/500
BL	(0°-30°)	620.5	4.2	B2/1000		
BM	(30°-60°)	735.5	5.0	B1/1000		
BH	(60°-80°)	713.8	4.8	B2/1000		G2/1000
BVH	(80°-90°)	35.6	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	3766.3	3766.3	3766.3	3766.3	3766.3	3766.3	3766.3	3766.3	3766.3	3766.3	3766.3
2.5°	3866.7	3877.1	3877.1	3868.5	3863.8	3836.4	3820.3	3808.9	3789.0	3752.1	3719.0
5°	3728.5	3748.3	3756.9	3760.6	3785.2	3776.7	3777.7	3770.1	3753.1	3713.3	3659.4
7.5°	3474.8	3478.6	3493.7	3519.3	3578.9	3620.5	3654.6	3661.2	3657.5	3628.1	3552.4
10°	3224.9	3231.5	3249.5	3293.0	3349.8	3409.5	3483.3	3513.6	3536.3	3526.8	3431.2
12.5°	3017.6	3018.5	3038.4	3088.6	3152.0	3226.8	3327.1	3374.4	3428.4	3450.2	3343.2
15°	2817.9	2831.1	2850.1	2910.6	2989.2	3083.9	3199.3	3264.6	3335.6	3398.1	3275.1
17.5°	2666.4	2676.8	2688.2	2738.4	2829.2	2947.6	3090.5	3160.5	3254.2	3349.8	3205.0
20°	2583.1	2586.9	2578.4	2603.0	2679.7	2807.5	2973.1	3057.4	3169.0	3303.5	3133.1
22.5°	2566.1	2566.1	2534.9	2530.1	2564.2	2672.1	2852.0	2955.1	3091.4	3271.3	3068.7
25°	2645.6	2639.9	2581.2	2527.3	2515.0	2569.9	2736.5	2863.3	3025.2	3270.3	3020.4
27.5°	2796.1	2788.5	2715.6	2624.8	2546.2	2522.6	2647.5	2777.2	2973.1	3302.5	2995.8
30°	2983.5	2980.7	2906.9	2793.3	2663.6	2541.5	2612.5	2732.7	2938.1	3362.1	2994.9
32.5°	3188.9	3175.7	3130.2	3016.6	2848.2	2646.5	2633.3	2734.6	2928.6	3449.2	3016.6
35°	3407.6	3398.1	3386.8	3272.2	3082.9	2832.1	2725.1	2799.9	2975.0	3570.4	3078.2
37.5°	3685.9	3675.4	3694.4	3569.4	3362.1	3075.3	2880.3	2930.5	3069.7	3746.4	3192.7
40°	4180.9	4150.6	4097.6	3905.5	3687.8	3373.5	3104.7	3112.3	3231.5	3982.1	3376.3
42.5°	4994.0	4896.5	4634.3	4281.2	4031.3	3719.9	3397.2	3361.2	3454.9	4293.5	3643.3
45°	5809.0	5699.2	5256.2	4691.1	4387.3	4091.9	3758.7	3672.6	3733.2	4656.1	3986.9
47.5°	6335.2	6281.3	5781.5	5100.9	4760.2	4497.1	4172.4	4030.4	4073.9	5066.9	4410.9
50°	6489.5	6443.2	6050.3	5421.8	5112.3	4986.4	4684.5	4496.1	4503.7	5546.8	4919.2
52.5°	6374.1	6355.1	6094.8	5620.6	5436.0	5502.3	5393.4	5131.2	5068.8	6073.1	5470.1
55°	6219.8	6226.4	6126.1	5820.3	5765.4	5983.1	6321.0	6110.0	5844.9	6621.1	6043.7
57.5°	5734.2	5738.9	6002.1	6200.8	6393.9	6657.1	7043.3	6954.3	6645.7	7212.7	6686.4
60°	4617.3	4654.2	5240.1	6122.3	7112.4	7985.1	8079.7	7926.4	7497.6	7894.2	7522.2
62.5°	3298.7	3331.9	4010.5	5314.9	7028.1	9488.2	9993.7	9384.1	8653.3	8913.6	8697.8
65°	1733.1	1727.5	2252.8	3672.6	5919.7	9836.5	13009.4	11971.9	10600.4	10315.5	9833.7
67.5°	968.3	999.6	1203.1	1852.4	3858.1	8657.1	14935.6	15241.3	13307.5	11427.7	9784.5
69°	895.4	905.8	1042.1	1432.1	2515.0	7142.7	14769.9	16228.6	14449.1	11432.4	9154.1
70°	869.9	881.2	1005.2	1319.5	2112.7	5852.5	14167.0	16113.1	14726.4	11178.7	8580.5
72.5°	780.0	795.1	915.3	1186.0	1780.5	3016.6	11411.6	13791.2	13339.7	9770.3	6653.3
75°	665.4	691.0	872.7	1177.5	1686.7	1917.7	7610.2	10274.8	9928.3	6987.4	3774.8
77.5°	275.4	278.3	381.5	862.3	1770.0	1835.4	4090.0	6508.5	5761.6	3064.0	1136.8
80°	192.1	188.4	190.3	251.8	1428.3	1847.7	2098.5	3310.1	2572.7	808.4	532.0
82.5°	161.9	160.0	167.5	158.1	483.7	2096.6	1754.9	1725.6	1211.6	435.4	253.7
85°	107.0	104.1	137.2	143.9	230.0	1665.0	1887.4	1356.4	903.0	232.9	107.9
87.5°	52.1	53.0	78.6	97.5	122.1	527.2	1807.9	1072.4	697.6	101.3	43.5
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°	3766.3	3766.3	3766.3	3766.3	3766.3	3766.3	3766.3	3766.3	3766.3	3766.3	3766.3
2.5°	3705.7	3677.3	3651.8	3619.6	3595.0	3574.2	3545.8	3544.8	3540.1	3546.7	3548.6
5°	3623.4	3576.1	3504.1	3423.7	3366.9	3292.1	3219.2	3194.6	3167.2	3164.3	3172.8
7.5°	3499.4	3425.6	3302.5	3179.5	3056.4	2930.5	2811.2	2750.7	2692.0	2674.0	2682.5
10°	3361.2	3267.5	3079.1	2878.5	2705.2	2517.8	2336.1	2218.7	2111.7	2066.3	2077.7
12.5°	3253.3	3134.0	2869.0	2608.7	2349.3	2080.5	1841.0	1609.1	1434.0	1355.5	1360.2
15°	3160.5	3008.1	2672.1	2325.7	2001.0	1632.8	1300.6	1031.7	878.4	821.6	819.7
17.5°	3060.2	2875.6	2466.7	2062.5	1641.3	1186.0	870.8	711.8	651.2	632.3	632.3
20°	2953.2	2739.3	2251.8	1775.7	1262.7	828.2	655.0	593.5	570.8	565.1	564.1
22.5°	2853.8	2605.8	2036.0	1470.0	913.4	628.5	557.5	533.9	530.1	534.8	534.8
25°	2775.3	2488.5	1817.4	1148.2	664.5	526.3	496.0	493.2	507.3	524.4	527.2
27.5°	2716.6	2383.4	1601.6	838.6	522.5	458.1	447.7	460.0	493.2	527.2	533.9
30°	2675.9	2293.5	1343.2	603.0	435.4	401.3	406.1	427.8	478.0	530.1	544.3
32.5°	2657.9	2220.6	1082.9	462.9	372.0	353.1	365.4	393.8	445.8	497.9	514.9
35°	2674.9	2167.6	842.4	384.3	325.6	311.4	325.6	355.0	389.0	414.6	425.0
37.5°	2736.5	2148.7	634.2	340.8	295.3	281.1	292.5	312.4	327.5	337.0	341.7
40°	2866.1	2168.5	496.9	318.0	278.3	262.2	265.0	274.5	284.9	292.5	293.4
42.5°	3072.5	2233.9	442.0	309.5	267.9	247.0	242.3	248.9	260.3	270.7	272.6
45°	3347.0	2342.7	436.4	312.4	263.1	234.7	225.3	231.9	247.0	264.1	266.9
47.5°	3702.0	2515.0	462.9	327.5	266.0	228.1	213.9	220.5	240.4	263.1	266.9
50°	4122.2	2753.5	512.1	350.2	279.2	228.1	209.2	214.9	235.7	261.2	265.0
52.5°	4617.3	3085.7	563.2	372.9	298.2	236.6	211.1	210.1	229.1	252.7	257.5
55°	5163.4	3498.4	612.4	392.8	308.6	248.0	215.8	204.5	219.6	238.5	242.3
57.5°	5806.1	4063.5	698.6	411.7	314.3	256.5	221.5	198.8	207.3	220.5	223.4
60°	6677.9	4893.7	866.1	443.9	324.7	260.3	222.4	193.1	192.1	201.6	202.6
62.5°	7814.7	5865.8	1026.1	481.8	345.5	261.2	218.7	189.3	179.8	182.7	182.7
65°	8623.1	6223.6	979.7	514.0	364.4	260.3	214.9	186.5	170.4	165.6	165.6
67.5°	8163.0	5497.6	832.0	522.5	366.3	249.9	206.3	179.8	161.9	150.5	150.5
69°	7487.2	4818.9	763.9	507.3	351.2	237.6	196.9	173.2	156.2	142.9	142.9
70°	6936.3	4304.9	722.2	489.4	333.2	227.2	188.4	166.6	150.5	139.1	138.2
72.5°	5178.6	2872.8	617.1	422.2	273.6	192.1	164.7	148.6	135.4	127.8	127.8
75°	2732.7	1439.7	505.5	344.5	211.1	153.3	135.4	124.9	117.4	116.4	115.5
77.5°	895.4	651.2	363.5	259.4	155.2	119.3	107.9	101.3	100.3	104.1	104.1
80°	483.7	389.0	233.8	175.1	107.9	89.0	83.3	82.3	85.2	90.9	90.9
82.5°	234.7	192.1	139.1	107.9	73.8	65.3	65.3	66.3	70.0	76.7	76.7
85°	101.3	90.9	80.5	60.6	45.4	40.7	46.4	51.1	54.0	58.7	60.6
87.5°	48.3	42.6	36.9	23.7	19.9	20.8	24.6	30.3	36.0	39.8	40.7
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)