

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: P270433

Luminaire Tested: **NAV-AF-03-D-UNV-SL3-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270433
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-SL3-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 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: 15716.5 lumens
Efficiency: N/A
Efficacy: 94.7 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

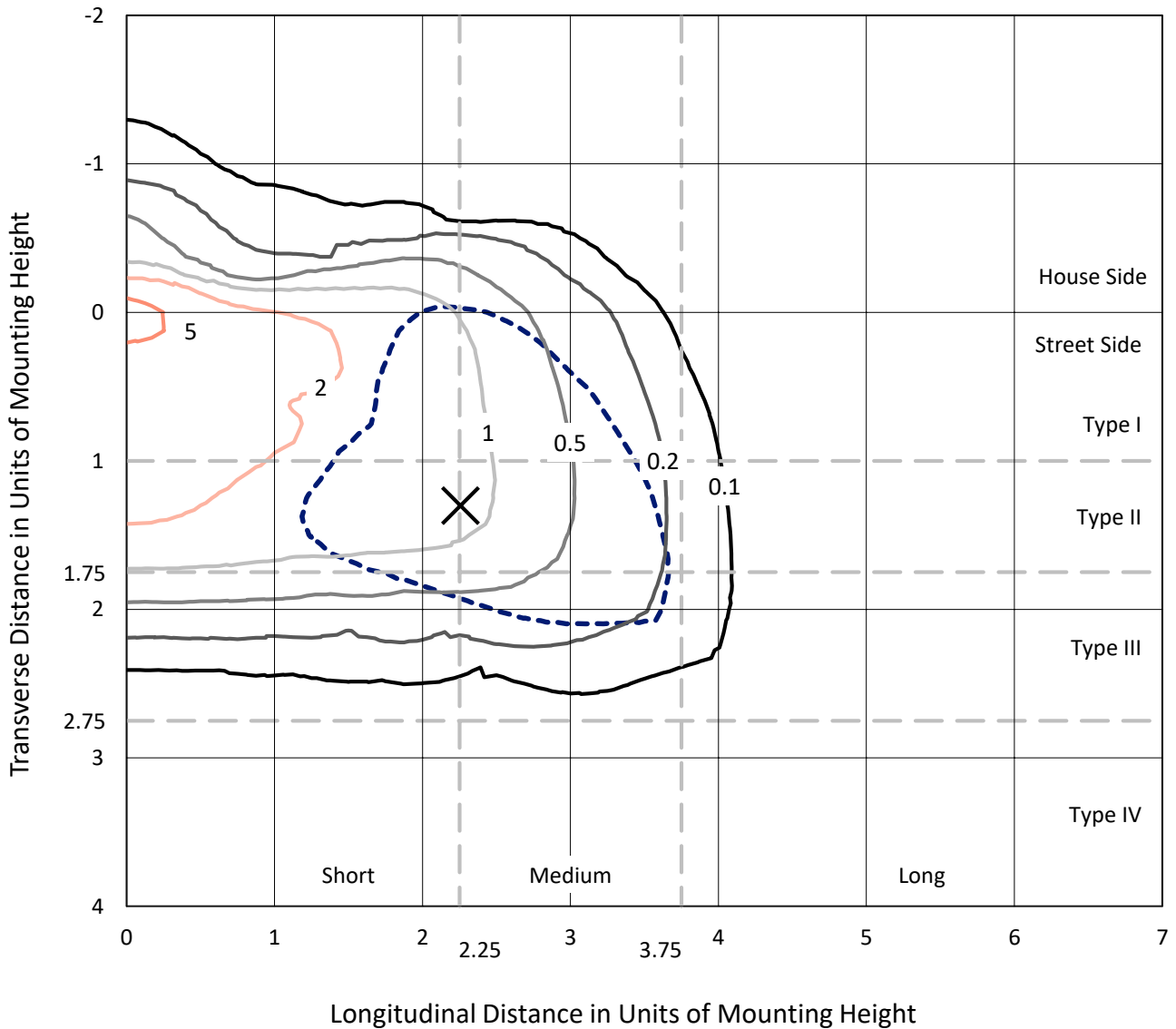
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

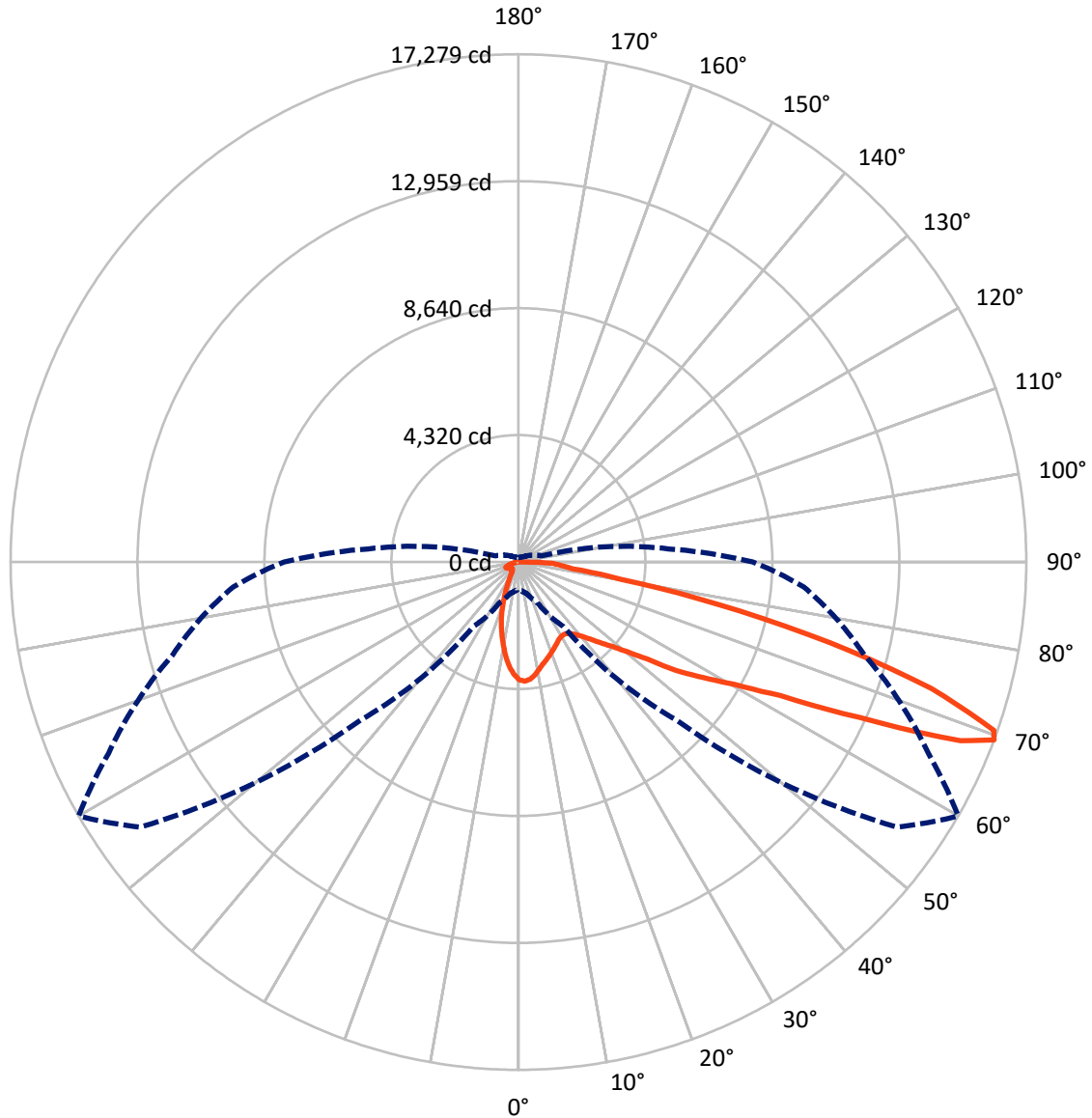
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.4 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	2241.7	0.0	2241.7
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	13474.8	0.0	13474.8
	% Fixture	85.7	0.0	85.7
Total	Lumens	15716.5	0.0	15716.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	340.2	2.2
10°-20°	728.4	4.6
20°-30°	929.2	5.9
30°-40°	1278.7	8.1
40°-50°	2071.2	13.2
50°-60°	3250.7	20.7
60°-70°	4333.7	27.6
70°-80°	2410.5	15.3
80°-90°	373.9	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°	15716.5	100.0
0°-180°	15716.5	100.0



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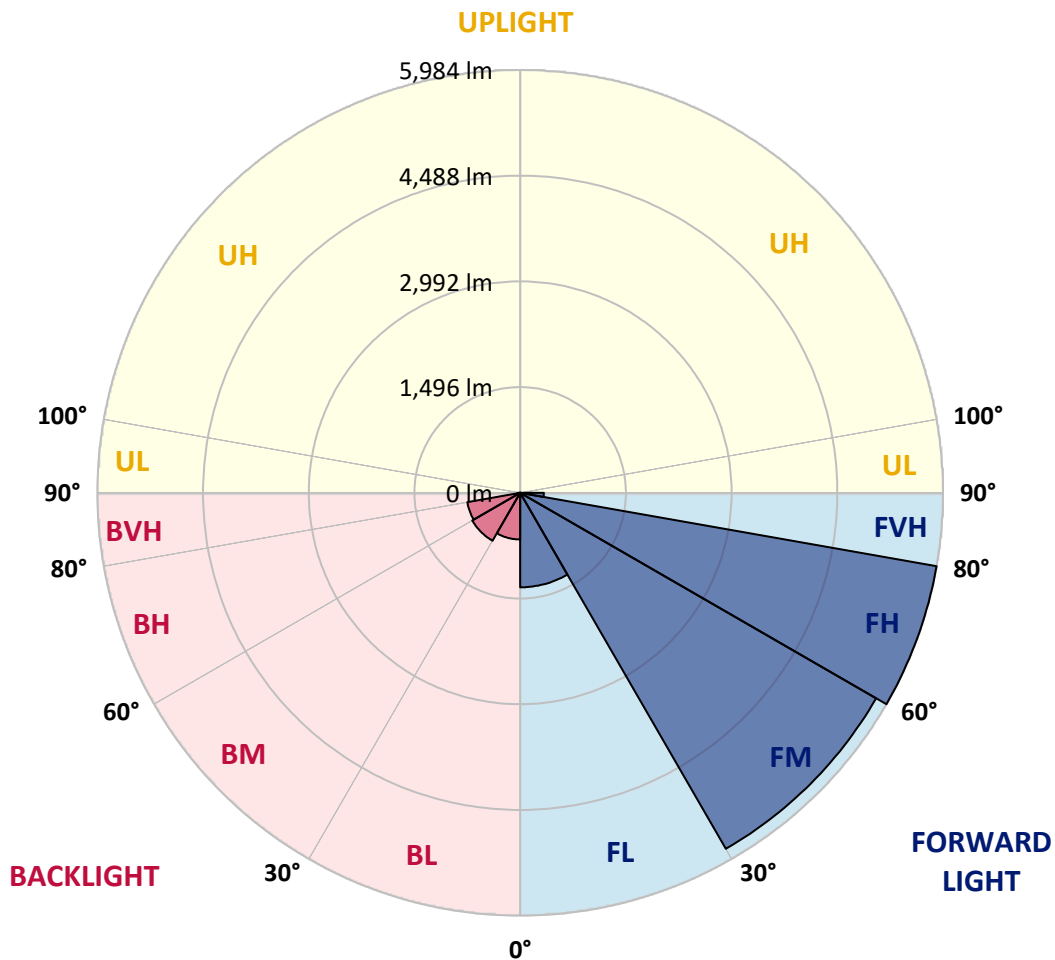
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1337.2	8.5			
FM	(30°-60°)	5817.4	37.0			
FH	(60°-80°)	5984.2	38.1			G3/7500
FVH	(80°-90°)	336.0	2.1			G3/500
BL	(0°-30°)	660.6	4.2	B2/1000		
BM	(30°-60°)	783.1	5.0	B1/1000		
BH	(60°-80°)	760.0	4.8	B2/1000		G2/1000
BVH	(80°-90°)	37.9	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°	4010.2	4010.2	4010.2	4010.2	4010.2	4010.2	4010.2	4010.2	4010.2	4010.2	4010.2
2.5°	4116.9	4128.0	4128.0	4119.0	4113.9	4084.8	4067.5	4055.5	4034.3	3995.0	3959.6
5°	3969.8	3991.0	4000.1	4004.0	4030.2	4021.3	4022.3	4014.2	3996.0	3953.7	3896.2
7.5°	3699.7	3703.7	3719.8	3747.1	3810.6	3854.8	3891.2	3898.3	3894.2	3863.0	3782.4
10°	3433.6	3440.7	3459.8	3506.3	3566.7	3630.2	3708.7	3741.0	3765.2	3755.2	3653.3
12.5°	3212.9	3214.0	3235.1	3288.5	3356.1	3435.7	3542.5	3593.0	3650.4	3673.4	3559.7
15°	3000.2	3014.4	3034.6	3099.1	3182.7	3283.5	3406.5	3475.9	3551.5	3618.1	3487.0
17.5°	2839.1	2850.1	2862.2	2915.5	3012.3	3138.4	3290.5	3365.1	3464.9	3566.7	3412.5
20°	2750.3	2754.4	2745.3	2771.5	2853.1	2989.2	3165.5	3255.3	3374.2	3517.3	3335.9
22.5°	2732.1	2732.1	2699.0	2693.8	2730.2	2845.0	3036.5	3146.5	3291.5	3483.0	3267.3
25°	2816.8	2810.7	2748.4	2690.9	2677.8	2736.2	2913.7	3048.7	3221.1	3482.0	3215.9
27.5°	2977.2	2969.0	2891.5	2794.6	2711.1	2685.8	2818.9	2957.0	3165.5	3516.2	3189.7
30°	3176.6	3173.6	3095.0	2974.1	2835.9	2706.0	2781.6	2909.6	3128.3	3579.7	3188.8
32.5°	3395.4	3381.2	3332.8	3211.9	3032.5	2817.9	2803.7	2911.5	3118.1	3672.5	3211.9
35°	3628.2	3618.1	3605.9	3484.0	3282.4	3015.4	2901.5	2981.1	3167.6	3801.4	3277.5
37.5°	3924.4	3913.3	3933.5	3800.5	3579.7	3274.4	3066.9	3120.3	3268.4	3989.0	3399.4
40°	4451.6	4419.3	4362.9	4158.3	3926.4	3591.9	3305.7	3313.7	3440.7	4239.9	3594.8
42.5°	5317.2	5213.5	4934.3	4558.4	4292.3	3960.7	3617.0	3578.8	3678.5	4571.5	3879.2
45°	6185.0	6068.1	5596.4	4994.8	4671.2	4356.8	4002.0	3910.3	3974.8	4957.4	4244.9
47.5°	6745.4	6687.9	6155.7	5431.2	5068.2	4788.1	4442.5	4291.4	4337.6	5394.9	4696.3
50°	6909.7	6860.3	6441.9	5772.8	5443.2	5309.3	4987.7	4787.2	4795.2	5905.7	5237.7
52.5°	6786.6	6766.6	6489.4	5984.4	5787.9	5858.4	5742.5	5463.4	5396.8	6466.2	5824.3
55°	6622.3	6629.4	6522.7	6197.0	6138.6	6370.4	6730.2	6505.4	6223.3	7049.7	6434.9
57.5°	6105.4	6110.5	6390.5	6602.3	6807.9	7087.9	7499.2	7404.4	7075.9	7679.6	7119.2
60°	4916.2	4955.4	5579.3	6518.6	7572.7	8502.0	8602.7	8439.4	7982.9	8405.3	8009.1
62.5°	3512.3	3547.5	4270.2	5659.0	7483.1	10102.3	10640.6	9991.5	9213.5	9490.7	9260.8
65°	1845.3	1839.3	2398.7	3910.3	6302.9	10473.2	13851.4	12746.9	11286.6	10983.1	10470.3
67.5°	1031.0	1064.2	1281.0	1972.3	4107.9	9217.5	15902.3	16227.9	14168.8	12167.5	10417.9
69°	953.5	964.5	1109.5	1524.9	2677.8	7605.1	15726.0	17279.0	15384.4	12172.5	9746.6
70°	926.2	938.3	1070.3	1404.9	2249.4	6231.4	15084.0	17156.1	15679.6	11902.4	9135.9
72.5°	830.5	846.6	974.5	1262.7	1895.8	3211.9	12150.2	14684.0	14203.2	10402.7	7083.9
75°	708.6	735.7	929.1	1253.8	1795.9	2041.8	8102.8	10939.9	10571.0	7439.8	4019.1
77.5°	293.2	296.4	406.2	918.1	1884.6	1954.2	4354.8	6929.7	6134.5	3262.4	1210.3
80°	204.5	200.5	202.6	268.1	1520.8	1967.3	2234.4	3524.3	2739.2	860.7	566.4
82.5°	172.4	170.3	178.4	168.3	515.0	2232.3	1868.5	1837.3	1290.0	463.5	270.1
85°	113.8	110.9	146.2	153.3	244.9	1772.7	2009.6	1444.2	961.5	247.9	115.0
87.5°	55.4	56.5	83.6	103.8	130.1	561.4	1925.0	1141.8	742.8	107.8	46.4
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°	4010.2	4010.2	4010.2	4010.2	4010.2	4010.2	4010.2	4010.2	4010.2	4010.2	4010.2
2.5°	3945.6	3915.4	3888.1	3853.9	3827.7	3805.5	3775.2	3774.3	3769.3	3776.3	3778.4
5°	3858.0	3807.6	3730.9	3645.3	3584.7	3505.1	3427.7	3401.4	3372.1	3369.2	3378.2
7.5°	3725.9	3647.3	3516.2	3385.3	3254.2	3120.3	2993.2	2928.7	2866.2	2847.1	2856.2
10°	3578.8	3479.0	3278.5	3064.7	2880.3	2680.8	2487.2	2362.4	2248.5	2200.0	2212.2
12.5°	3463.9	3336.8	3054.6	2777.6	2501.4	2215.2	1960.2	1713.2	1526.8	1443.1	1448.2
15°	3365.1	3202.8	2845.0	2476.2	2130.5	1738.5	1384.7	1098.4	935.2	874.8	872.8
17.5°	3258.3	3061.8	2626.4	2196.0	1747.6	1262.7	927.2	757.9	693.4	673.2	673.2
20°	3144.3	2916.6	2397.5	1890.7	1344.5	881.9	697.4	631.9	607.8	601.7	600.6
22.5°	3038.5	2774.5	2167.8	1565.1	972.5	669.1	593.6	568.4	564.3	569.4	569.4
25°	2955.0	2649.6	1934.9	1222.5	707.4	560.4	528.2	525.1	540.2	558.3	561.4
27.5°	2892.5	2537.7	1705.3	892.9	556.3	487.8	476.7	489.8	525.1	561.4	568.4
30°	2849.2	2442.0	1430.1	642.0	463.5	427.4	432.4	455.5	509.0	564.3	579.4
32.5°	2829.9	2364.2	1153.0	492.8	396.1	375.9	389.1	419.2	474.7	530.1	548.2
35°	2848.0	2307.8	897.0	409.2	346.7	331.6	346.7	377.9	414.2	441.4	452.4
37.5°	2913.7	2287.8	675.3	362.8	314.4	299.3	311.4	332.6	348.7	358.9	363.9
40°	3051.6	2309.0	529.1	338.7	296.4	279.2	282.2	292.3	303.4	311.4	312.4
42.5°	3271.4	2378.4	470.6	329.6	285.2	263.1	258.1	265.1	277.1	288.3	290.2
45°	3563.7	2494.4	464.7	332.6	280.2	250.0	239.8	246.9	263.1	281.2	284.3
47.5°	3941.6	2677.8	492.8	348.7	283.1	242.9	227.8	234.8	255.9	280.2	284.3
50°	4389.1	2931.8	545.2	372.8	297.2	242.9	222.7	228.8	250.9	278.1	282.2
52.5°	4916.2	3285.6	599.7	397.1	317.6	252.0	224.8	223.8	243.9	269.1	274.2
55°	5497.6	3724.9	652.1	418.3	328.5	264.0	229.7	217.7	233.7	254.0	258.1
57.5°	6182.0	4326.5	743.7	438.5	334.6	273.2	235.9	211.6	220.8	234.8	237.8
60°	7110.2	5210.3	922.2	472.7	345.7	277.1	236.9	205.6	204.5	214.7	215.7
62.5°	8320.6	6245.5	1092.5	513.0	367.9	278.1	232.8	201.6	191.5	194.6	194.6
65°	9181.1	6626.3	1043.1	547.2	388.0	277.1	228.8	198.5	181.4	176.3	176.3
67.5°	8691.5	5853.4	885.9	556.3	390.0	266.1	219.6	191.5	172.4	160.3	160.3
69°	7971.7	5130.8	813.3	540.2	374.0	253.0	209.7	184.4	166.2	152.3	152.3
70°	7385.2	4583.5	768.9	521.0	354.7	241.9	200.5	177.3	160.3	148.1	147.1
72.5°	5513.7	3058.6	657.1	449.5	291.3	204.5	175.3	158.2	144.1	136.1	136.1
75°	2909.6	1532.9	538.2	366.9	224.8	163.2	144.1	132.9	125.0	124.0	123.0
77.5°	953.5	693.4	387.0	276.1	165.3	127.0	115.0	107.8	106.8	110.9	110.9
80°	515.0	414.2	248.9	186.5	115.0	94.7	88.8	87.7	90.6	96.7	96.7
82.5°	250.0	204.5	148.1	115.0	78.6	69.6	69.6	70.5	74.6	81.7	81.7
85°	107.8	96.7	85.7	64.5	48.4	43.4	49.3	54.3	57.4	62.5	64.5
87.5°	51.5	45.4	39.3	25.2	21.2	22.2	26.2	32.2	38.3	42.3	43.4
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)