

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: P195652

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195652
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-04-D-UNV-SL3-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 615mA 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: 16053 lumens
Efficiency: N/A
Efficacy: 124.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G3

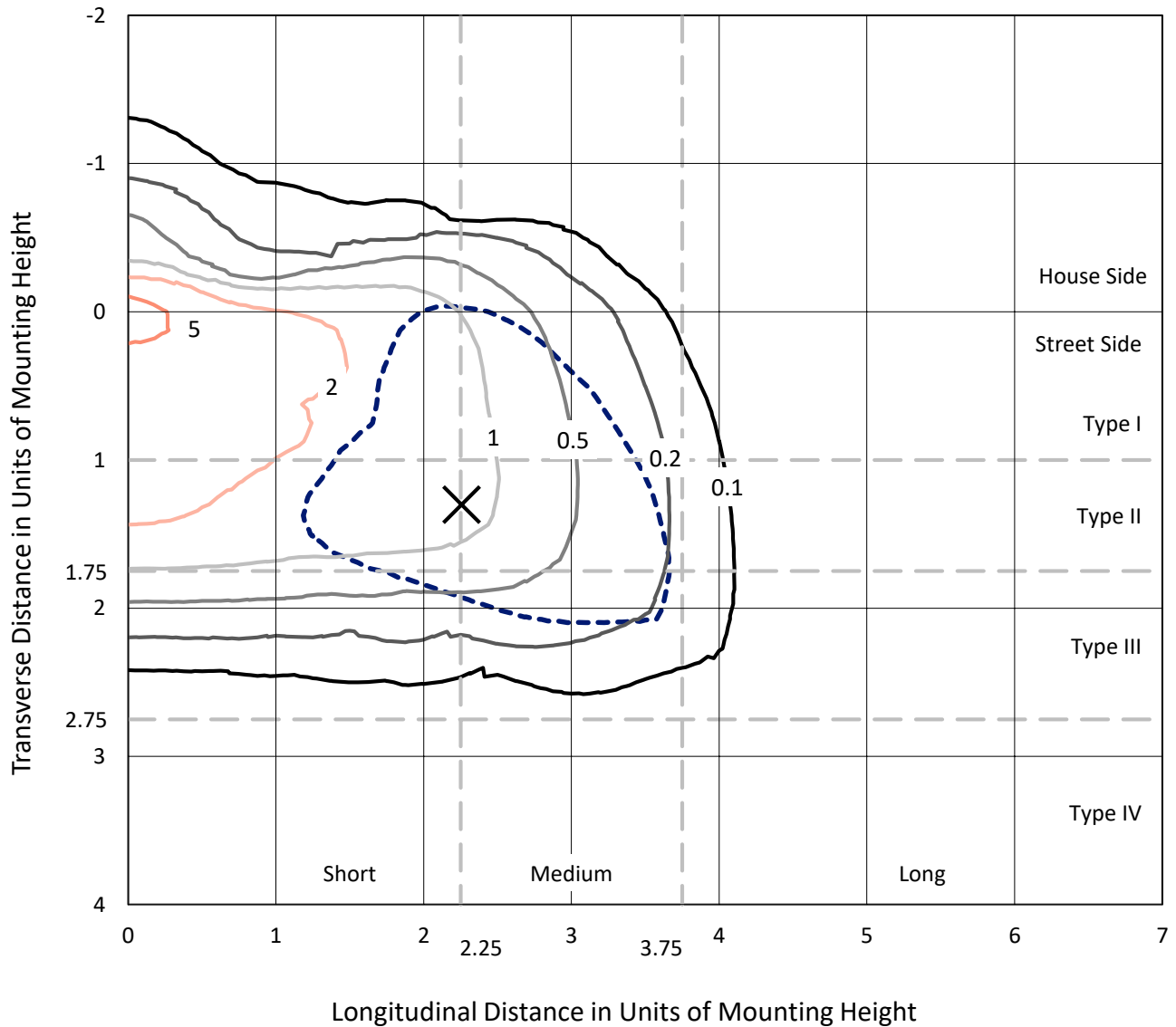
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

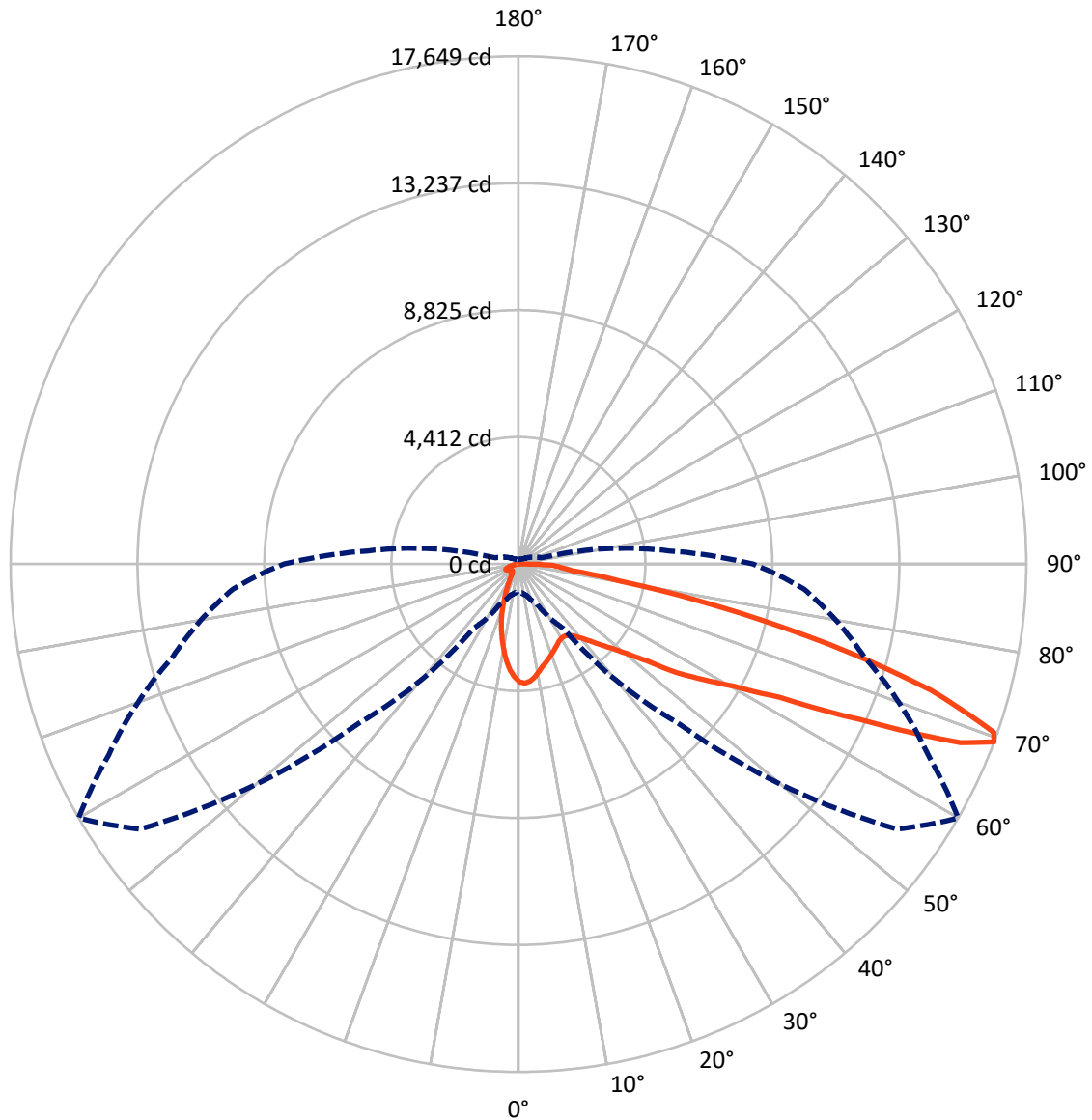
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.6 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	2289.7	0.0	2289.7
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	13763.3	0.0	13763.3
	% Fixture	85.7	0.0	85.7
Total	Lumens	16053.0	0.0	16053.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	347.5	2.2
10°-20°	744.0	4.6
20°-30°	949.1	5.9
30°-40°	1306.0	8.1
40°-50°	2115.6	13.2
50°-60°	3320.3	20.7
60°-70°	4426.5	27.6
70°-80°	2462.2	15.3
80°-90°	381.9	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°	16053.0	100.0
0°-180°	16053.0	100.0

Coefficient of Utilization



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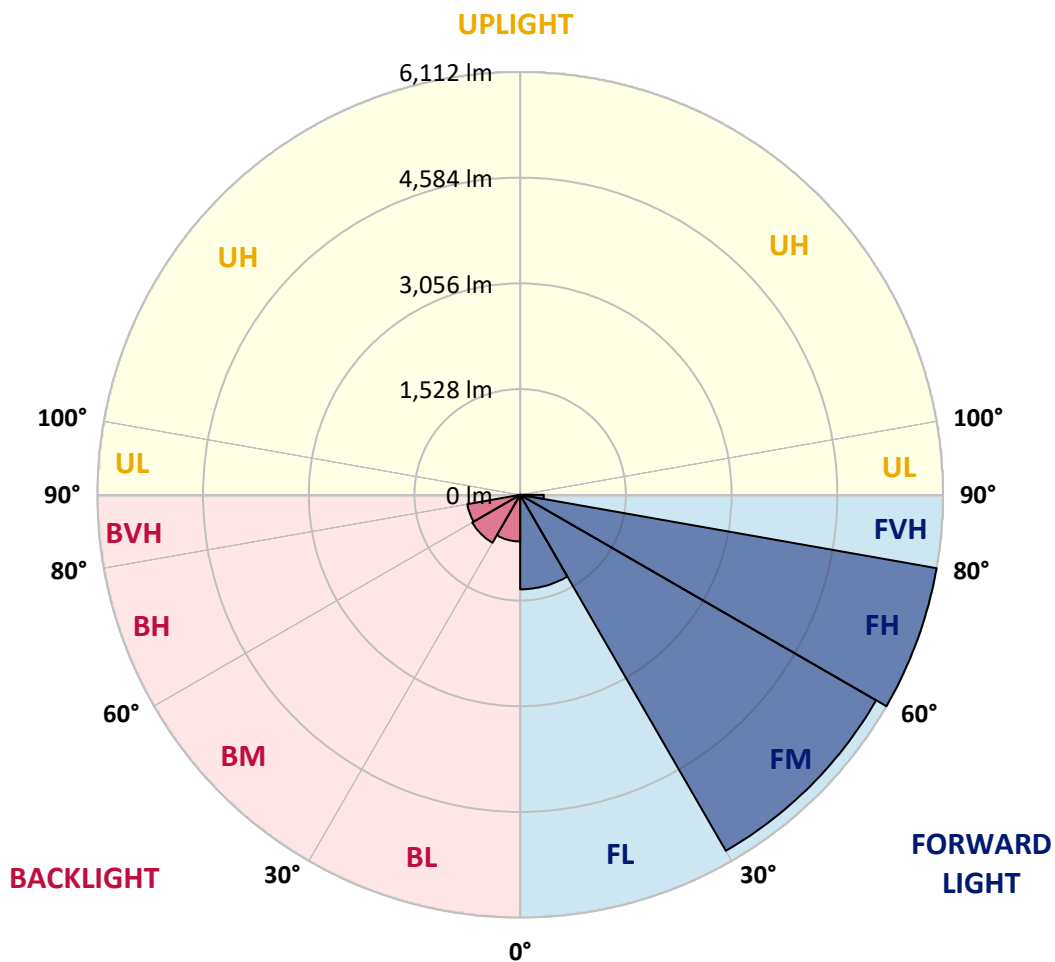
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1365.8	8.5			
FM	(30°-60°)	5942.0	37.0			
FH	(60°-80°)	6112.4	38.1			G3/7500
FVH	(80°-90°)	343.2	2.1			G3/500
BL	(0°-30°)	674.8	4.2	B2/1000		
BM	(30°-60°)	799.9	5.0	B1/1000		
BH	(60°-80°)	776.3	4.8	B2/1000		G2/1000
BVH	(80°-90°)	38.7	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°	4096.0	4096.0	4096.0	4096.0	4096.0	4096.0	4096.0	4096.0	4096.0	4096.0	4096.0
2.5°	4205.1	4216.4	4216.4	4207.1	4202.0	4172.1	4154.6	4142.3	4120.7	4080.5	4044.5
5°	4054.8	4076.4	4085.7	4089.8	4116.6	4107.3	4108.3	4100.1	4081.6	4038.3	3979.7
7.5°	3778.9	3783.0	3799.5	3827.3	3892.2	3937.4	3974.5	3981.7	3977.6	3945.7	3863.3
10°	3507.2	3514.4	3533.9	3581.3	3643.0	3707.9	3788.2	3821.1	3845.8	3835.5	3731.6
12.5°	3281.7	3282.7	3304.4	3358.9	3427.9	3509.2	3618.3	3669.8	3728.5	3752.2	3635.8
15°	3064.5	3078.9	3099.5	3165.4	3250.8	3353.8	3479.4	3550.4	3627.6	3695.5	3561.7
17.5°	2899.8	2911.1	2923.5	2978.0	3076.9	3205.5	3361.0	3437.2	3539.1	3643.0	3485.5
20°	2809.2	2813.3	2804.1	2830.8	2914.2	3053.2	3233.3	3325.0	3446.4	3592.6	3407.3
22.5°	2790.7	2790.7	2756.7	2751.6	2788.6	2906.0	3101.6	3213.8	3362.0	3557.6	3337.3
25°	2877.2	2871.0	2807.2	2748.5	2735.1	2794.8	2976.0	3113.9	3290.0	3556.6	3284.8
27.5°	3040.8	3032.6	2953.3	2854.5	2769.1	2743.3	2879.2	3020.3	3233.3	3591.6	3258.0
30°	3244.7	3241.6	3161.3	3037.8	2896.7	2763.9	2841.1	2971.9	3195.3	3656.4	3257.0
32.5°	3468.0	3453.6	3404.2	3280.7	3097.5	2878.2	2863.8	2973.9	3185.0	3751.1	3280.7
35°	3705.8	3695.5	3683.2	3558.6	3352.7	3080.0	2963.6	3045.0	3235.4	3882.9	3347.6
37.5°	4008.5	3997.2	4017.7	3881.9	3656.4	3344.5	3132.5	3187.0	3338.3	4074.4	3472.2
40°	4546.9	4513.9	4456.3	4247.3	4010.5	3668.8	3376.4	3384.7	3514.4	4330.7	3671.9
42.5°	5431.1	5325.1	5039.9	4656.0	4384.2	4045.5	3694.5	3655.4	3757.3	4669.3	3962.2
45°	6317.4	6198.0	5716.2	5101.7	4771.3	4450.1	4087.7	3994.1	4059.9	5063.6	4335.8
47.5°	6889.8	6831.1	6287.6	5547.4	5176.8	4890.7	4537.6	4383.2	4430.5	5510.4	4797.0
50°	7057.6	7007.1	6579.9	5896.4	5559.8	5422.9	5094.5	4889.6	4897.9	6032.3	5349.8
52.5°	6932.0	6911.4	6628.3	6112.6	5911.8	5983.9	5865.5	5580.4	5512.4	6604.6	5948.9
55°	6764.2	6771.4	6662.3	6329.8	6270.1	6506.8	6874.3	6644.8	6356.5	7200.6	6572.7
57.5°	6236.1	6241.2	6527.4	6743.6	6953.6	7239.8	7659.7	7563.0	7227.4	7844.0	7271.7
60°	5021.4	5061.5	5698.7	6658.1	7734.9	8684.0	8786.9	8620.2	8153.9	8585.2	8180.6
62.5°	3587.5	3623.5	4361.6	5780.1	7643.3	10318.7	10868.4	10205.4	9410.8	9693.8	9459.1
65°	1884.8	1878.7	2450.0	3994.1	6437.9	10697.5	14148.0	13019.8	11528.2	11218.4	10694.4
67.5°	1053.1	1087.0	1308.4	2014.5	4195.8	9414.9	16242.9	16575.4	14472.3	12427.9	10640.9
69°	973.8	985.1	1133.4	1557.5	2735.1	7767.8	16062.7	17649.0	15713.8	12433.1	9955.3
70°	946.0	958.4	1093.2	1435.0	2297.6	6364.8	15407.0	17523.4	16015.4	12157.2	9331.5
72.5°	848.2	864.7	995.4	1289.8	1936.3	3280.7	12410.4	14998.3	14507.3	10625.4	7235.6
75°	723.7	751.5	949.1	1280.6	1834.4	2085.6	8276.4	11174.1	10797.4	7599.0	4105.2
77.5°	299.6	302.6	414.8	937.8	1925.0	1996.0	4448.0	7078.1	6265.9	3332.2	1236.3
80°	209.0	204.9	206.9	273.8	1553.4	2009.4	2282.2	3599.8	2797.9	879.1	578.5
82.5°	176.0	174.0	182.2	171.9	526.0	2280.1	1908.5	1876.6	1317.6	473.5	275.9
85°	116.3	113.2	149.3	156.5	250.1	1810.7	2052.6	1475.1	982.0	253.2	117.4
87.5°	56.6	57.6	85.4	106.0	132.8	573.4	1966.1	1166.3	758.7	110.1	47.4
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°	4096.0	4096.0	4096.0	4096.0	4096.0	4096.0	4096.0	4096.0	4096.0	4096.0	4096.0
2.5°	4030.1	3999.2	3971.4	3936.4	3909.7	3887.0	3856.1	3855.1	3849.9	3857.2	3859.2
5°	3940.5	3889.1	3810.8	3723.3	3661.6	3580.2	3501.0	3474.2	3444.4	3441.3	3450.5
7.5°	3805.7	3725.4	3591.6	3457.7	3323.9	3187.0	3057.3	2991.4	2927.6	2908.0	2917.3
10°	3655.4	3553.5	3348.6	3130.4	2942.0	2738.2	2540.6	2412.9	2296.6	2247.2	2259.5
12.5°	3538.0	3408.3	3120.1	2837.0	2555.0	2262.6	2002.2	1750.0	1559.5	1474.1	1479.2
15°	3437.2	3271.4	2906.0	2529.2	2176.1	1775.7	1414.4	1122.0	955.3	893.5	891.5
17.5°	3328.0	3127.3	2682.6	2243.1	1785.0	1289.8	947.0	774.1	708.2	687.6	687.6
20°	3211.7	2979.1	2448.9	1931.2	1373.2	900.7	712.3	645.4	620.7	614.6	613.5
22.5°	3103.6	2833.9	2214.2	1598.7	993.4	683.5	606.3	580.6	576.5	581.6	581.6
25°	3018.2	2706.3	1976.4	1248.7	722.6	572.3	539.4	536.3	551.8	570.3	573.4
27.5°	2954.4	2592.0	1741.7	912.0	568.2	498.2	486.9	500.3	536.3	573.4	580.6
30°	2910.1	2494.2	1460.7	655.7	473.5	436.5	441.6	465.3	519.8	576.5	591.9
32.5°	2890.5	2415.0	1177.6	503.4	404.6	384.0	397.3	428.2	484.8	541.5	560.0
35°	2909.1	2357.3	916.2	417.9	354.1	338.7	354.1	386.0	423.1	450.9	462.2
37.5°	2976.0	2336.7	689.7	370.6	321.2	305.7	318.1	339.7	356.2	366.5	371.6
40°	3117.0	2358.4	540.4	345.9	302.6	285.1	288.2	298.5	309.8	318.1	319.1
42.5°	3341.4	2429.4	480.7	336.6	291.3	268.7	263.5	270.7	283.1	294.4	296.5
45°	3640.0	2547.8	474.6	339.7	286.2	255.3	245.0	252.2	268.7	287.2	290.3
47.5°	4026.0	2735.1	503.4	356.2	289.3	248.1	232.6	239.8	261.5	286.2	290.3
50°	4483.0	2994.5	556.9	380.9	303.7	248.1	227.5	233.7	256.3	284.1	288.2
52.5°	5021.4	3355.8	612.5	405.6	324.3	257.3	229.6	228.5	249.1	274.8	280.0
55°	5615.4	3804.7	666.0	427.2	335.6	269.7	234.7	222.3	238.8	259.4	263.5
57.5°	6314.3	4419.2	759.7	447.8	341.8	279.0	240.9	216.2	225.4	239.8	242.9
60°	7262.4	5322.0	941.9	482.8	353.1	283.1	241.9	210.0	209.0	219.3	220.3
62.5°	8498.7	6379.2	1115.9	524.0	375.7	284.1	237.8	205.9	195.6	198.7	198.7
65°	9377.8	6768.3	1065.4	559.0	396.3	283.1	233.7	202.8	185.3	180.1	180.1
67.5°	8877.5	5978.7	904.8	568.2	398.4	271.8	224.4	195.6	176.0	163.7	163.7
69°	8142.5	5240.7	830.7	551.8	381.9	258.4	214.1	188.4	169.9	155.4	155.4
70°	7543.4	4681.7	785.4	532.2	362.3	247.1	204.9	181.2	163.7	151.3	150.3
72.5°	5631.8	3124.2	671.2	459.1	297.5	209.0	179.1	161.6	147.2	139.0	139.0
75°	2971.9	1565.7	549.7	374.7	229.6	166.8	147.2	135.9	127.6	126.6	125.6
77.5°	973.8	708.2	395.3	282.1	168.8	129.7	117.4	110.1	109.1	113.2	113.2
80°	526.0	423.1	254.3	190.4	117.4	96.8	90.6	89.6	92.6	98.8	98.8
82.5°	255.3	209.0	151.3	117.4	80.3	71.0	71.0	72.1	76.2	83.4	83.4
85°	110.1	98.8	87.5	65.9	49.4	44.3	50.4	55.6	58.7	63.8	65.9
87.5°	52.5	46.3	40.1	25.7	21.6	22.6	26.8	32.9	39.1	43.2	44.3
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)