

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: P197104

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197104
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-SL3-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 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: 19882 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G4

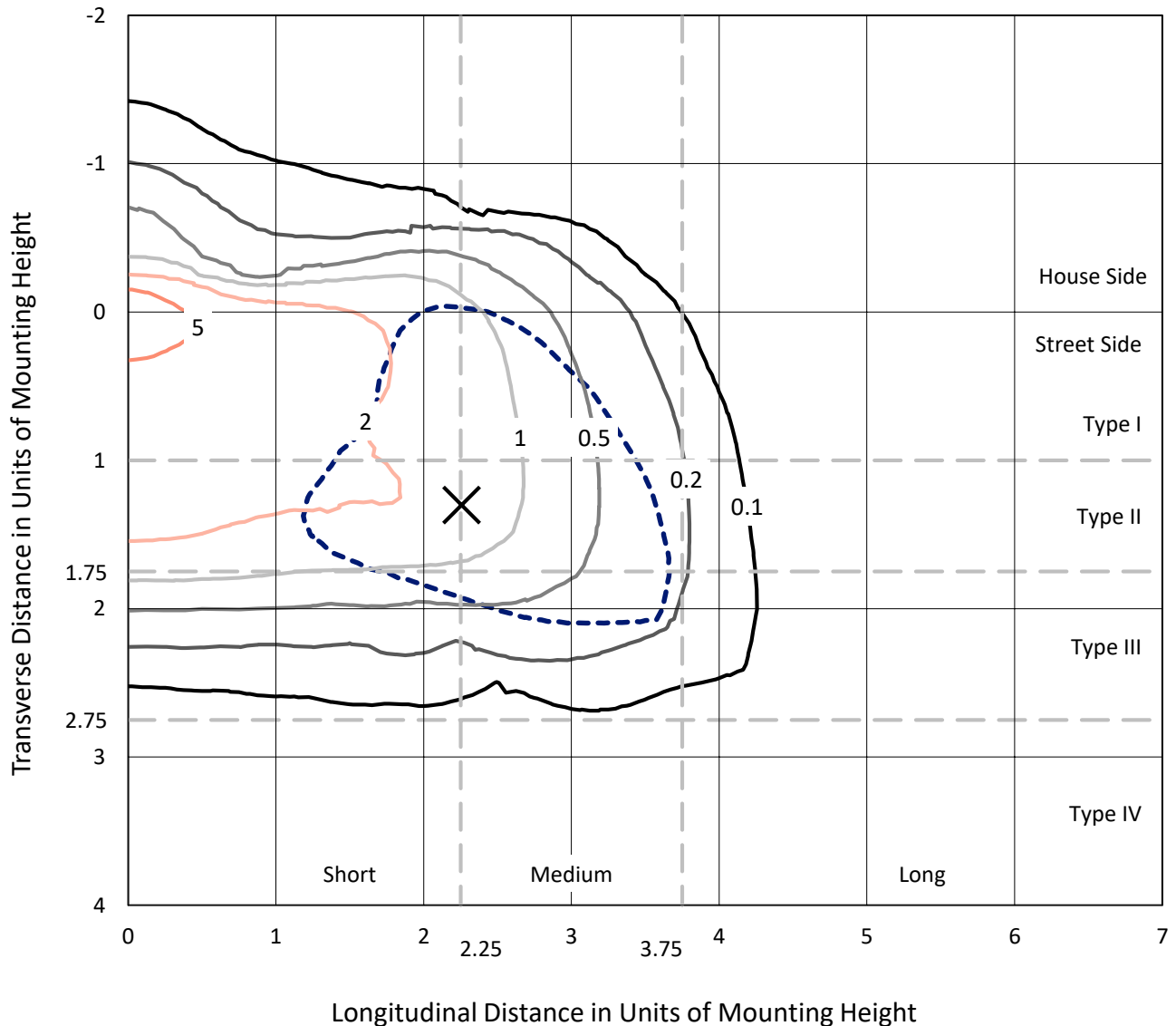
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P197104
 CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-8030

Iso-Footcandle Lines of Horizontal Illumination

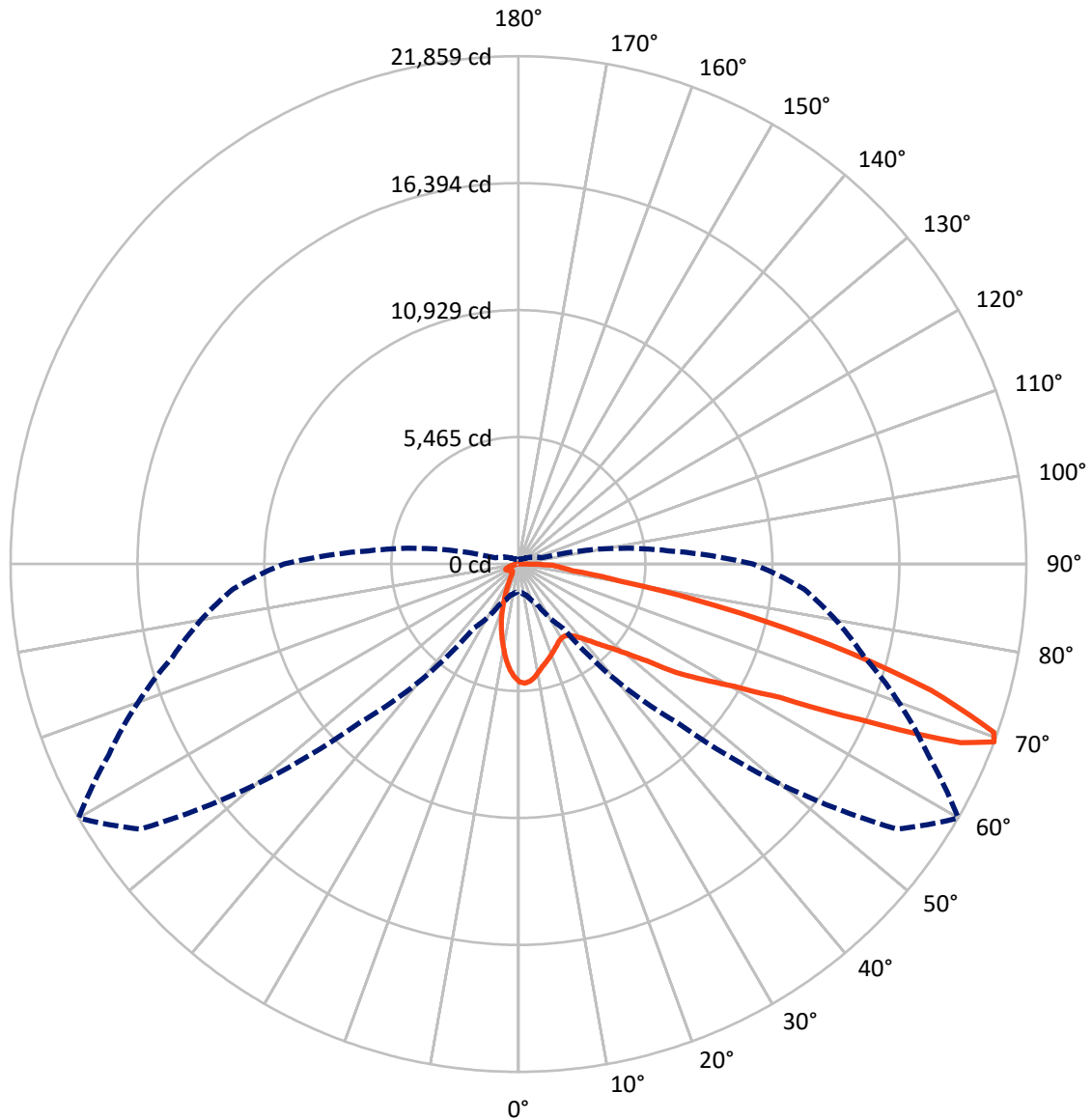
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.1 fc
 Type III - Medium - Non-Cutoff

REPORT NUMBER: P197104
CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-8030

Luminous Intensity Polar Plot



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

REPORT NUMBER: P197104

CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-8030

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2835.8	0.0	2835.8
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	17046.2	0.0	17046.2
	% Fixture	85.7	0.0	85.7
Total	Lumens	19882.0	0.0	19882.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	430.4	2.2
10°-20°	921.5	4.6
20°-30°	1175.5	5.9
30°-40°	1617.6	8.1
40°-50°	2620.2	13.2
50°-60°	4112.2	20.7
60°-70°	5482.3	27.6
70°-80°	3049.4	15.3
80°-90°	473.0	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°	19882.0	100.0
0°-180°	19882.0	100.0



REPORT NUMBER: P197104

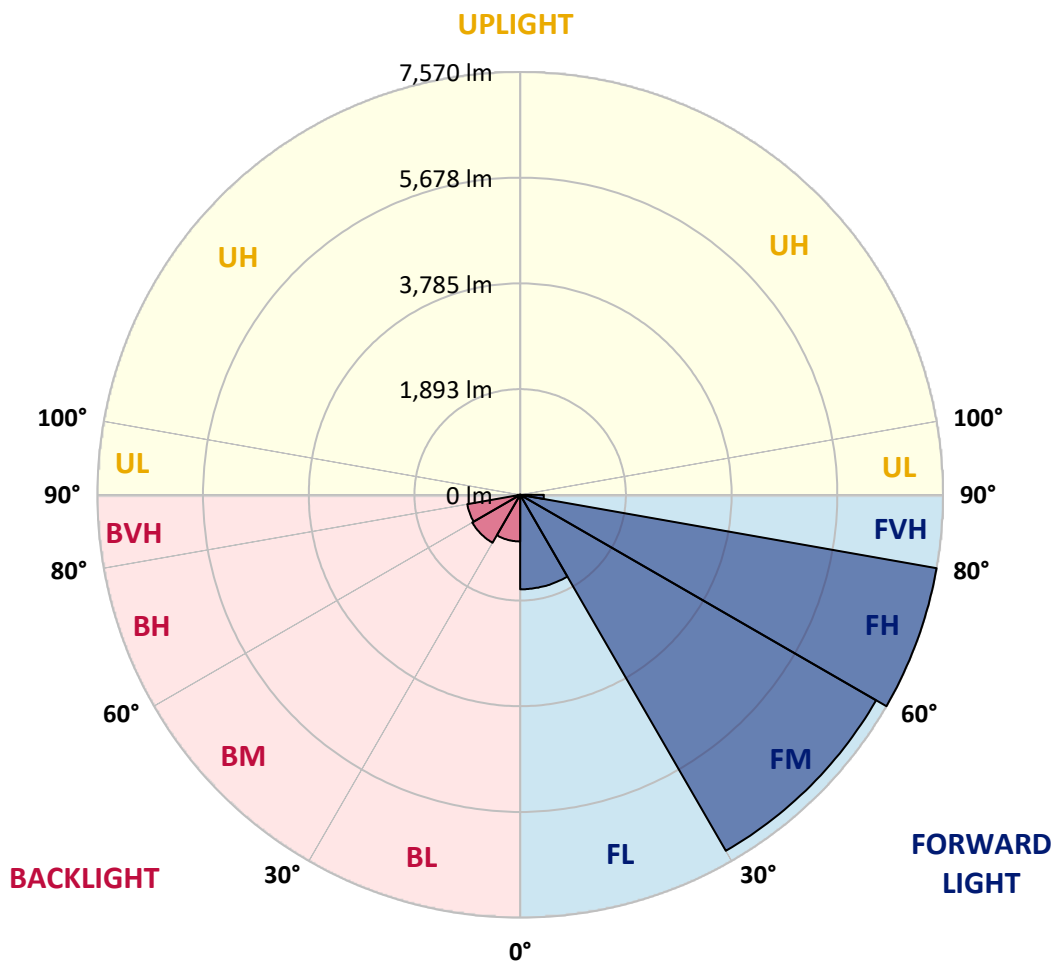
CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1691.6	8.5			
FM	(30°-60°)	7359.3	37.0			
FH	(60°-80°)	7570.3	38.1			G4/12000
FVH	(80°-90°)	425.0	2.1			G3/500
BL	(0°-30°)	835.7	4.2	B2/1000		
BM	(30°-60°)	990.7	5.0	B1/1000		
BH	(60°-80°)	961.5	4.8	B2/1000		G2/1000
BVH	(80°-90°)	47.9	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-G4

Type III Medium





REPORT NUMBER: P197104

CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-8030

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	5073.0	5073.0	5073.0	5073.0	5073.0	5073.0	5073.0	5073.0	5073.0	5073.0	5073.0
2.5°	5208.1	5222.1	5222.1	5210.6	5204.3	5167.3	5145.6	5130.3	5103.6	5053.8	5009.2
5°	5022.0	5048.7	5060.2	5065.3	5098.5	5087.0	5088.3	5078.1	5055.1	5001.6	4928.9
7.5°	4680.3	4685.4	4705.8	4740.2	4820.5	4876.6	4922.5	4931.4	4926.3	4886.8	4784.8
10°	4343.7	4352.6	4376.8	4435.5	4512.0	4592.3	4691.8	4732.5	4763.1	4750.4	4621.6
12.5°	4064.5	4065.8	4092.5	4160.1	4245.5	4346.2	4481.4	4545.1	4617.8	4647.1	4503.1
15°	3795.5	3813.3	3838.8	3920.4	4026.2	4153.7	4309.3	4397.2	4492.9	4577.0	4411.3
17.5°	3591.5	3605.5	3620.8	3688.4	3810.8	3970.1	4162.7	4257.0	4383.2	4512.0	4316.9
20°	3479.3	3484.4	3472.9	3506.1	3609.3	3781.4	4004.6	4118.0	4268.5	4449.5	4220.0
22.5°	3456.3	3456.3	3414.3	3407.9	3453.8	3599.1	3841.4	3980.3	4163.9	4406.2	4133.3
25°	3563.4	3555.8	3476.7	3404.1	3387.5	3461.4	3685.8	3856.7	4074.7	4404.9	4068.3
27.5°	3766.1	3756.0	3657.8	3535.4	3429.6	3397.7	3566.0	3740.7	4004.6	4448.2	4035.2
30°	4018.6	4014.8	3915.3	3762.3	3587.7	3423.2	3518.8	3680.7	3957.4	4528.6	4033.9
32.5°	4295.2	4277.4	4216.2	4063.2	3836.3	3564.7	3546.9	3683.3	3944.6	4645.9	4063.2
35°	4589.8	4577.0	4561.7	4407.4	4152.5	3814.6	3670.5	3771.2	4007.1	4809.0	4146.1
37.5°	4964.6	4950.6	4976.1	4807.8	4528.6	4142.3	3879.6	3947.2	4134.6	5046.2	4300.3
40°	5631.4	5590.6	5519.2	5260.4	4967.1	4543.9	4181.8	4192.0	4352.6	5363.6	4547.7
42.5°	6726.5	6595.2	6242.1	5766.5	5429.9	5010.5	4575.7	4527.3	4653.5	5783.1	4907.2
45°	7824.3	7676.4	7079.7	6318.6	5909.3	5511.5	5062.8	4946.7	5028.3	6271.4	5370.0
47.5°	8533.1	8460.5	7787.3	6870.6	6411.6	6057.2	5619.9	5428.7	5487.3	6824.7	5941.2
50°	8740.9	8678.5	8149.4	7302.8	6885.9	6716.3	6309.6	6055.9	6066.1	7471.1	6625.8
52.5°	8585.4	8559.9	8209.3	7570.5	7321.9	7411.2	7264.6	6911.4	6827.3	8180.0	7367.8
55°	8377.6	8386.5	8251.4	7839.6	7765.6	8058.8	8514.0	8229.7	7872.7	8918.2	8140.4
57.5°	7723.5	7729.9	8084.3	8352.1	8612.2	8966.6	9486.8	9366.9	8951.3	9715.0	9006.1
60°	6219.1	6268.8	7058.0	8246.3	9579.8	10755.3	10882.8	10676.3	10098.7	10632.9	10131.9
62.5°	4443.1	4487.8	5401.9	7158.7	9466.4	12779.9	13460.7	12639.7	11655.4	12006.0	11715.4
65°	2334.4	2326.8	3034.3	4946.7	7973.4	13249.1	17522.7	16125.3	14278.0	13894.2	13245.3
67.5°	1304.3	1346.3	1620.4	2495.0	5196.6	11660.5	20117.2	20529.0	17924.3	15392.3	13179.0
69°	1206.1	1220.1	1403.7	1929.0	3387.5	9620.6	19894.0	21858.7	19461.8	15398.6	12329.9
70°	1171.7	1187.0	1354.0	1777.3	2845.6	7882.9	19081.9	21703.2	19835.4	15056.9	11557.3
72.5°	1050.5	1070.9	1232.9	1597.5	2398.1	4063.2	15370.6	18575.8	17967.6	13159.9	8961.5
75°	896.3	930.7	1175.5	1586.0	2271.9	2583.0	10250.5	13839.4	13372.8	9411.5	5084.4
77.5°	371.0	374.8	513.8	1161.5	2384.1	2472.1	5509.0	8766.4	7760.5	4127.0	1531.2
80°	258.8	253.7	256.3	339.1	1923.9	2488.7	2826.5	4458.4	3465.3	1088.8	716.5
82.5°	218.0	215.5	225.7	212.9	651.5	2824.0	2363.7	2324.2	1631.9	586.5	341.7
85°	144.1	140.2	184.9	193.8	309.8	2242.6	2542.2	1827.0	1216.3	313.6	145.3
87.5°	70.1	71.4	105.8	131.3	164.5	710.1	2435.1	1444.5	939.6	136.4	58.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P197104

CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-8030

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5073.0	5073.0	5073.0	5073.0	5073.0	5073.0	5073.0	5073.0	5073.0	5073.0	5073.0
2.5°	4991.4	4953.1	4918.7	4875.3	4842.2	4814.1	4775.9	4774.6	4768.2	4777.2	4779.7
5°	4880.4	4816.7	4719.8	4611.4	4534.9	4434.2	4336.0	4302.9	4265.9	4262.1	4273.6
7.5°	4713.4	4614.0	4448.2	4282.5	4116.8	3947.2	3786.5	3705.0	3625.9	3601.7	3613.2
10°	4527.3	4401.1	4147.4	3877.1	3643.8	3391.3	3146.5	2988.4	2844.4	2783.2	2798.5
12.5°	4381.9	4221.3	3864.3	3513.7	3164.4	2802.3	2479.7	2167.4	1931.5	1825.7	1832.1
15°	4257.0	4051.7	3599.1	3132.5	2695.2	2199.3	1751.8	1389.7	1183.1	1106.6	1104.1
17.5°	4121.9	3873.2	3322.5	2778.1	2210.7	1597.5	1172.9	958.7	877.2	851.7	851.7
20°	3977.8	3689.7	3033.1	2391.8	1700.8	1115.6	882.3	799.4	768.8	761.1	759.9
22.5°	3843.9	3509.9	2742.4	1980.0	1230.3	846.6	750.9	719.1	714.0	720.3	720.3
25°	3738.1	3351.8	2447.9	1546.5	895.0	708.9	668.1	664.2	683.4	706.3	710.1
27.5°	3659.1	3210.3	2157.2	1129.6	703.8	617.1	603.0	619.6	664.2	710.1	719.1
30°	3604.2	3089.2	1809.1	812.1	586.5	540.6	546.9	576.3	643.8	714.0	733.1
32.5°	3580.0	2991.0	1458.5	623.4	501.0	475.5	492.1	530.4	600.5	670.6	693.6
35°	3603.0	2919.6	1134.7	517.6	438.6	419.5	438.6	478.1	524.0	558.4	572.4
37.5°	3685.8	2894.1	854.2	459.0	397.8	378.7	394.0	420.7	441.1	453.9	460.3
40°	3860.5	2920.9	669.3	428.4	374.8	353.2	357.0	369.7	383.8	394.0	395.2
42.5°	4138.4	3008.8	595.4	416.9	360.8	332.8	326.4	335.3	350.6	364.6	367.2
45°	4508.2	3155.5	587.7	420.7	354.4	316.2	303.4	312.4	332.8	355.7	359.5
47.5°	4986.3	3387.5	623.4	441.1	358.3	307.3	288.1	297.1	323.8	354.4	359.5
50°	5552.3	3708.8	689.7	471.7	376.1	307.3	281.8	289.4	317.5	351.9	357.0
52.5°	6219.1	4156.3	758.6	502.3	401.6	318.7	284.3	283.0	308.5	340.4	346.8
55°	6954.8	4712.1	824.9	529.1	415.6	334.0	290.7	275.4	295.8	321.3	326.4
57.5°	7820.4	5473.3	940.9	554.6	423.3	345.5	298.3	267.7	279.2	297.1	300.9
60°	8994.6	6591.4	1166.6	597.9	437.3	350.6	299.6	260.1	258.8	271.6	272.8
62.5°	10525.8	7900.8	1382.0	648.9	465.4	351.9	294.5	255.0	242.2	246.1	246.1
65°	11614.6	8382.7	1319.6	692.3	490.8	350.6	289.4	251.2	229.5	223.1	223.1
67.5°	10995.0	7404.8	1120.7	703.8	493.4	336.6	277.9	242.2	218.0	202.7	202.7
69°	10084.7	6490.7	1028.9	683.4	473.0	320.0	265.2	233.3	210.4	192.5	192.5
70°	9342.7	5798.4	972.8	659.1	448.8	306.0	253.7	224.4	202.7	187.4	186.1
72.5°	6975.2	3869.4	831.3	568.6	368.5	258.8	221.8	200.2	182.3	172.1	172.1
75°	3680.7	1939.2	680.8	464.1	284.3	206.5	182.3	168.3	158.1	156.8	155.5
77.5°	1206.1	877.2	489.6	349.3	209.1	160.6	145.3	136.4	135.1	140.2	140.2
80°	651.5	524.0	314.9	235.9	145.3	119.8	112.2	110.9	114.7	122.4	122.4
82.5°	316.2	258.8	187.4	145.3	99.4	88.0	88.0	89.2	94.3	103.3	103.3
85°	136.4	122.4	108.4	81.6	61.2	54.8	62.5	68.8	72.7	79.0	81.6
87.5°	65.0	57.4	49.7	31.9	26.8	28.0	33.1	40.8	48.4	53.5	54.8
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)