

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: P196138

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196138
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-SL3-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 800mA 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: 20136.8 lumens
Efficiency: N/A
Efficacy: 117.8 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

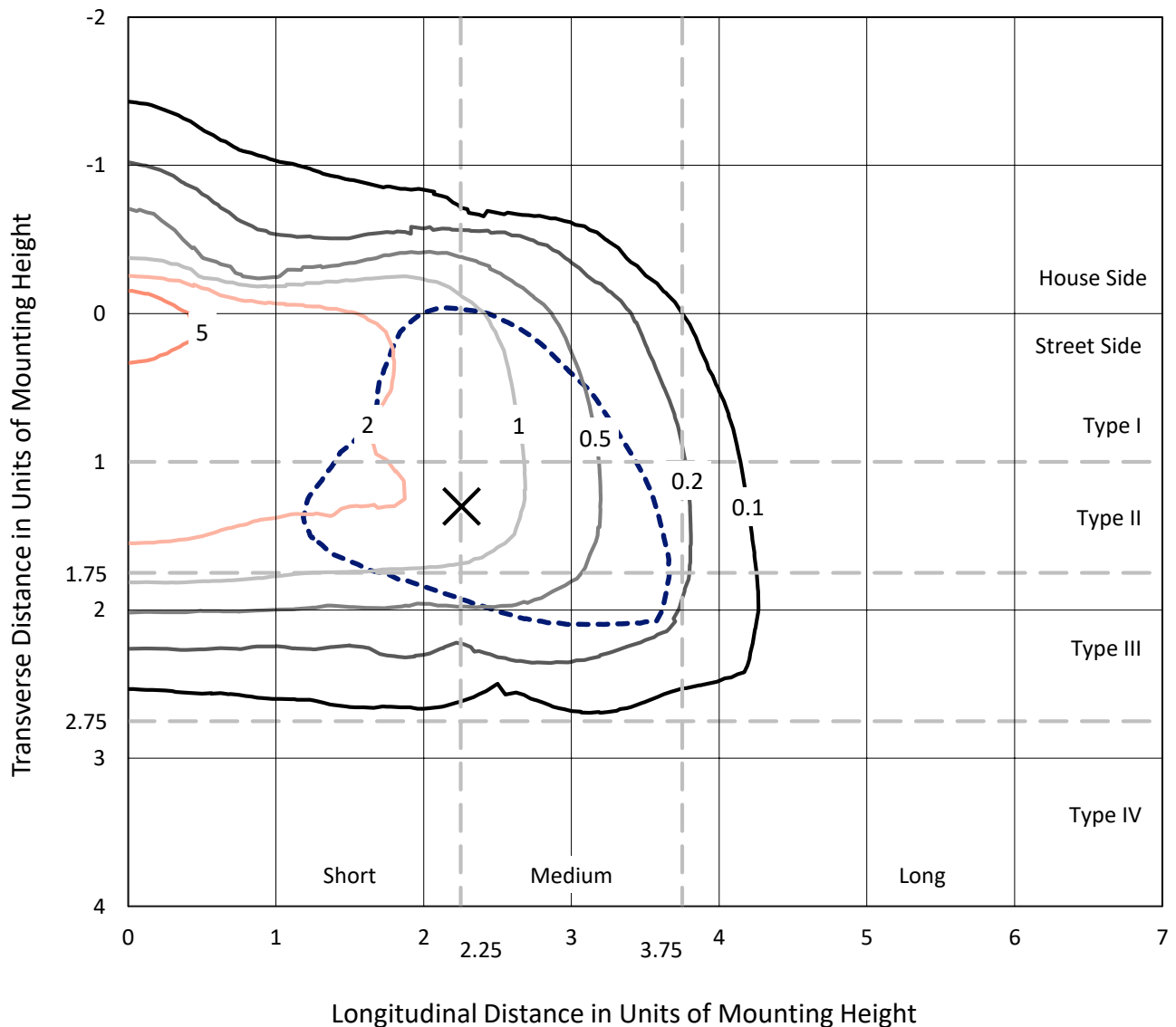
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196138
 CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-800

Iso-Footcandle Lines of Horizontal Illumination

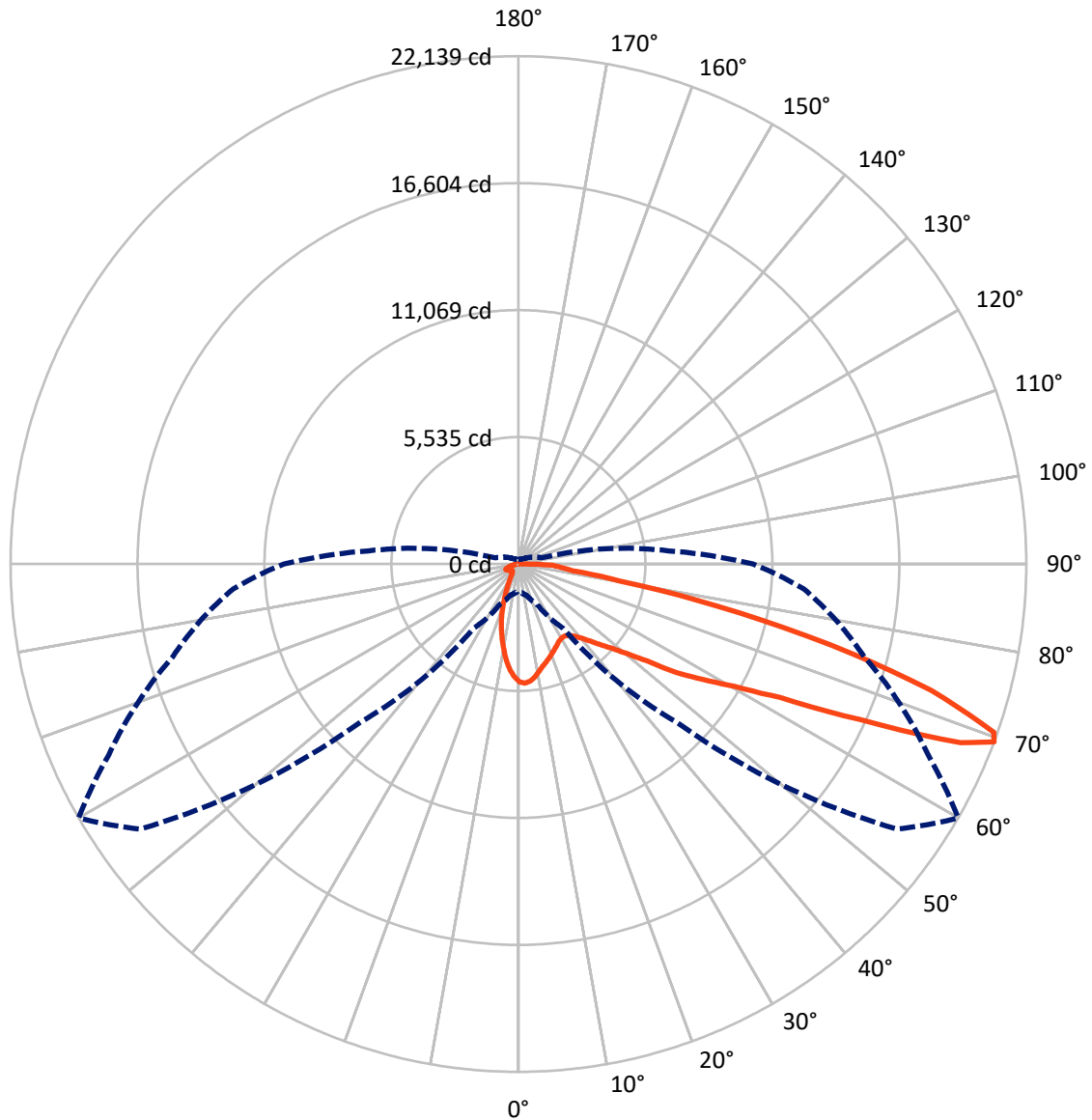
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.2 fc
 Type III - Medium - Non-Cutoff

REPORT NUMBER: P196138
CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-800

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196138

CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2872.2	0.0	2872.2
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	17264.6	0.0	17264.6
	% Fixture	85.7	0.0	85.7
Total	Lumens	20136.8	0.0	20136.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	435.9	2.2
10°-20°	933.3	4.6
20°-30°	1190.5	5.9
30°-40°	1638.3	8.1
40°-50°	2653.7	13.2
50°-60°	4164.9	20.7
60°-70°	5552.6	27.6
70°-80°	3088.5	15.3
80°-90°	479.0	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°	20136.8	100.0
0°-180°	20136.8	100.0

Coefficient of Utilization



REPORT NUMBER: P196138

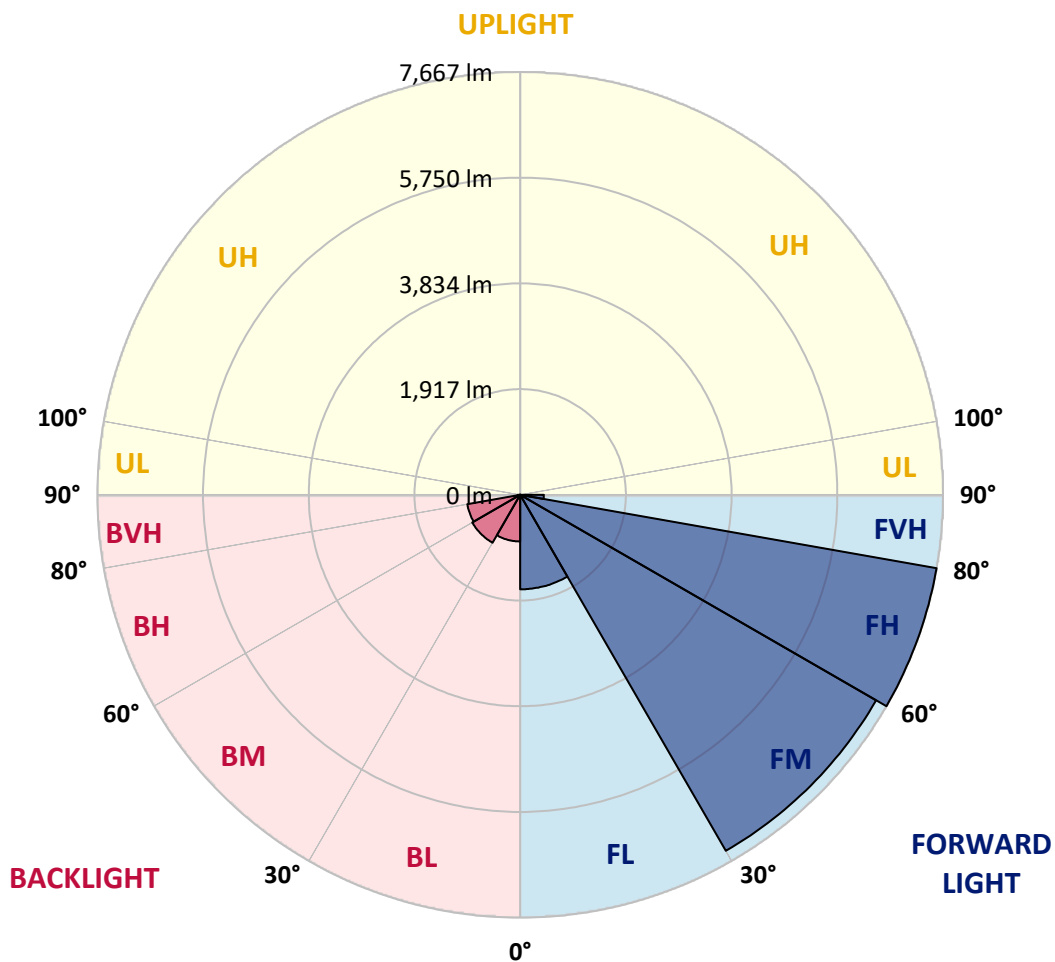
CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1713.2	8.5			
FM	(30°-60°)	7453.6	37.0			
FH	(60°-80°)	7667.3	38.1			G4/12000
FVH	(80°-90°)	430.5	2.1			G3/500
BL	(0°-30°)	846.4	4.2	B2/1000		
BM	(30°-60°)	1003.4	5.0	B2/2500		
BH	(60°-80°)	973.8	4.8	B2/1000		G2/1000
BVH	(80°-90°)	48.6	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-G4

Type III Medium





REPORT NUMBER: P196138

CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	5138.0	5138.0	5138.0	5138.0	5138.0	5138.0	5138.0	5138.0	5138.0	5138.0	5138.0
2.5°	5274.8	5289.1	5289.1	5277.4	5271.0	5233.5	5211.5	5196.1	5169.0	5118.6	5073.4
5°	5086.3	5113.4	5125.1	5130.2	5163.8	5152.2	5153.4	5143.1	5119.9	5065.7	4992.1
7.5°	4740.3	4745.5	4766.0	4800.9	4882.3	4939.1	4985.6	4994.7	4989.4	4949.4	4846.1
10°	4399.4	4408.4	4433.0	4492.3	4569.8	4651.2	4751.9	4793.2	4824.2	4811.2	4680.8
12.5°	4116.6	4117.9	4145.0	4213.4	4300.0	4402.0	4538.8	4603.4	4676.9	4706.7	4560.7
15°	3844.1	3862.2	3888.0	3970.7	4077.8	4207.0	4364.5	4453.6	4550.4	4635.7	4467.8
17.5°	3637.5	3651.7	3667.2	3735.6	3859.6	4021.0	4216.0	4311.5	4439.4	4569.8	4372.2
20°	3523.9	3529.1	3517.4	3551.0	3655.6	3829.9	4055.9	4170.8	4323.2	4506.5	4274.1
22.5°	3500.6	3500.6	3458.0	3451.5	3498.1	3645.3	3890.6	4031.3	4217.3	4462.6	4186.3
25°	3609.1	3601.4	3521.3	3447.7	3430.9	3505.8	3733.1	3906.1	4126.9	4461.3	4120.4
27.5°	3814.4	3804.0	3704.6	3580.7	3473.5	3441.2	3611.7	3788.6	4055.9	4505.3	4086.9
30°	4070.1	4066.2	3965.5	3810.5	3633.6	3467.1	3563.9	3727.9	4008.1	4586.6	4085.6
32.5°	4350.3	4332.2	4270.2	4115.2	3885.5	3610.4	3592.3	3730.5	3995.2	4705.4	4115.2
35°	4648.6	4635.7	4620.2	4464.0	4205.7	3863.5	3717.6	3819.6	4058.5	4870.7	4199.2
37.5°	5028.2	5014.0	5039.9	4869.3	4586.6	4195.3	3929.4	3997.8	4187.6	5110.9	4355.4
40°	5703.6	5662.2	5589.9	5327.7	5030.8	4602.1	4235.3	4245.7	4408.4	5432.4	4605.9
42.5°	6812.8	6679.8	6322.0	5840.4	5499.5	5074.7	4634.4	4585.3	4713.1	5857.2	4970.1
45°	7924.5	7774.7	7170.4	6399.6	5985.1	5582.1	5127.6	5010.1	5092.8	6351.8	5438.8
47.5°	8642.5	8568.8	7887.1	6958.6	6493.8	6134.8	5691.9	5498.3	5557.6	6912.2	6017.3
50°	8852.9	8789.7	8253.8	7396.4	6974.2	6802.4	6390.5	6133.5	6143.8	7566.9	6710.8
52.5°	8695.4	8669.6	8314.4	7667.5	7415.8	7506.1	7357.7	7000.0	6914.7	8284.8	7462.2
55°	8485.0	8494.0	8357.1	7940.0	7865.2	8162.1	8623.1	8335.1	7973.6	9032.5	8244.8
57.5°	7822.5	7828.9	8187.9	8459.1	8722.5	9081.6	9608.4	9486.9	9066.0	9839.5	9121.6
60°	6298.8	6349.1	7148.5	8352.0	9702.6	10893.2	11022.3	10813.1	10228.2	10769.2	10261.7
62.5°	4500.1	4545.3	5471.2	7250.5	9587.7	12943.7	13633.3	12801.6	11804.8	12159.9	11865.5
65°	2364.3	2356.6	3073.3	5010.1	8075.6	13418.9	17747.2	16332.0	14460.9	14072.2	13415.0
67.5°	1320.9	1363.6	1641.2	2527.0	5263.2	11810.0	20374.9	20792.0	18154.0	15589.5	13347.9
69°	1221.5	1235.7	1421.7	1953.7	3430.9	9743.9	20149.0	22138.8	19711.2	15596.0	12487.9
70°	1186.7	1202.2	1371.4	1800.0	2882.2	7983.9	19326.4	21981.3	20089.6	15249.9	11705.3
72.5°	1064.0	1084.6	1248.6	1618.0	2428.9	4115.2	15567.6	18813.8	18197.9	13328.5	9076.3
75°	907.8	942.6	1190.5	1606.3	2301.0	2616.1	10381.8	14016.8	13544.2	9532.2	5149.6
77.5°	375.7	379.6	520.4	1176.4	2414.7	2503.8	5579.6	8878.8	7859.9	4179.9	1550.8
80°	262.1	257.0	259.5	343.5	1948.5	2520.6	2862.7	4515.6	3509.6	1102.7	725.7
82.5°	220.9	218.2	228.5	215.6	659.8	2860.2	2394.0	2354.0	1652.8	594.0	346.1
85°	145.9	142.1	187.2	196.3	313.7	2271.4	2574.8	1850.4	1231.8	317.6	147.2
87.5°	71.0	72.3	107.2	133.0	166.5	719.2	2466.3	1463.0	951.7	138.2	59.4
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: P196138

CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-800

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5138.0	5138.0	5138.0	5138.0	5138.0	5138.0	5138.0	5138.0	5138.0	5138.0	5138.0
2.5°	5055.3	5016.6	4981.8	4937.8	4904.2	4875.8	4837.1	4835.8	4829.4	4838.4	4841.0
5°	4943.0	4878.5	4780.2	4670.5	4593.0	4491.1	4391.6	4358.1	4320.6	4316.8	4328.3
7.5°	4773.8	4673.1	4505.3	4337.4	4169.5	3997.8	3835.0	3752.4	3672.4	3647.8	3659.5
10°	4585.3	4457.5	4200.5	3926.8	3690.5	3434.8	3186.9	3026.7	2880.8	2818.8	2834.3
12.5°	4438.1	4275.4	3913.8	3558.7	3204.9	2838.2	2511.5	2195.2	1956.3	1849.1	1855.5
15°	4311.5	4103.7	3645.3	3172.7	2729.7	2227.5	1774.2	1407.5	1198.3	1120.8	1118.3
17.5°	4174.7	3922.9	3365.1	2813.7	2239.0	1618.0	1188.0	971.0	888.4	862.6	862.6
20°	4028.8	3736.9	3071.9	2422.4	1722.5	1129.8	893.5	809.7	778.7	770.9	769.6
22.5°	3893.1	3554.9	2777.5	2005.4	1246.1	857.4	760.6	728.2	723.1	729.6	729.6
25°	3786.0	3394.8	2479.2	1566.3	906.4	717.9	676.6	672.8	692.1	715.3	719.2
27.5°	3705.9	3251.4	2184.8	1144.1	712.8	625.0	610.8	627.6	672.8	719.2	728.2
30°	3650.4	3128.8	1832.3	822.6	594.0	547.5	553.9	583.7	652.1	723.1	742.5
32.5°	3625.8	3029.4	1477.2	631.5	507.5	481.6	498.4	537.2	608.1	679.2	702.5
35°	3649.2	2957.0	1149.2	524.3	444.2	424.8	444.2	484.3	530.7	565.6	579.8
37.5°	3733.1	2931.2	865.1	464.8	402.8	383.5	399.1	426.2	446.8	459.7	466.2
40°	3909.9	2958.3	677.9	433.8	379.6	357.7	361.5	374.5	388.7	399.1	400.3
42.5°	4191.4	3047.4	603.0	422.3	365.4	337.1	330.5	339.6	355.1	369.3	371.8
45°	4565.9	3195.9	595.3	426.2	359.0	320.3	307.3	316.4	337.1	360.3	364.2
47.5°	5050.2	3430.9	631.5	446.8	362.8	311.2	291.8	300.8	328.0	359.0	364.2
50°	5623.5	3756.3	698.6	477.8	380.9	311.2	285.4	293.1	321.5	356.4	361.5
52.5°	6298.8	4209.5	768.3	508.7	406.7	322.8	288.0	286.6	312.5	344.7	351.2
55°	7043.8	4772.6	835.4	535.9	420.9	338.3	294.4	279.0	299.6	325.4	330.5
57.5°	7920.6	5543.5	953.0	561.7	428.7	350.0	302.2	271.2	282.7	300.8	304.7
60°	9109.9	6675.9	1181.5	605.6	442.9	355.1	303.4	263.4	262.1	275.1	276.3
62.5°	10660.7	8002.0	1399.7	657.2	471.3	356.4	298.3	258.3	245.3	249.2	249.2
65°	11763.4	8490.1	1336.5	701.1	497.2	355.1	293.1	254.4	232.4	226.0	226.0
67.5°	11135.9	7499.7	1135.1	712.8	499.7	340.8	281.5	245.3	220.9	205.3	205.3
69°	10214.0	6573.9	1042.1	692.1	479.0	324.1	268.6	236.3	213.1	195.0	195.0
70°	9462.4	5872.7	985.2	667.6	454.5	310.0	257.0	227.3	205.3	189.9	188.5
72.5°	7064.5	3919.0	841.9	575.9	373.2	262.1	224.6	202.7	184.6	174.3	174.3
75°	3727.9	1964.1	689.6	470.0	288.0	209.2	184.6	170.4	160.1	158.9	157.5
77.5°	1221.5	888.4	495.8	353.8	211.8	162.6	147.2	138.2	136.9	142.1	142.1
80°	659.8	530.7	319.0	238.9	147.2	121.4	113.6	112.3	116.2	124.0	124.0
82.5°	320.3	262.1	189.9	147.2	100.8	89.1	89.1	90.4	95.5	104.5	104.5
85°	138.2	124.0	109.8	82.7	62.0	55.5	63.3	69.8	73.7	80.1	82.7
87.5°	65.9	58.1	50.3	32.3	27.1	28.4	33.6	41.3	49.1	54.2	55.5
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)