

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: P196187

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196187
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-SL4-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23707.9 lumens
Efficiency: N/A
Efficacy: 112.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

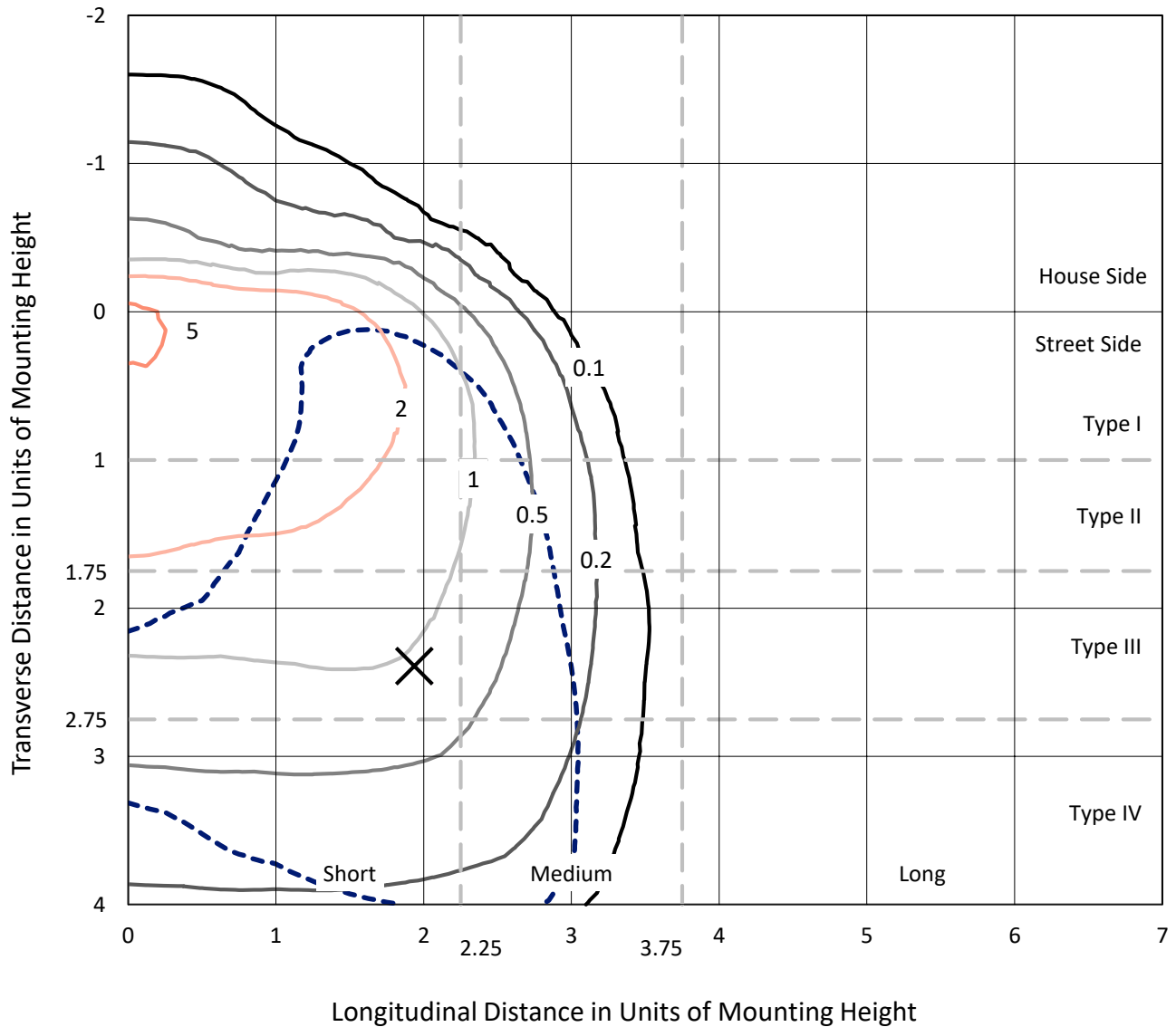
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196187
 CATALOG NUMBER: NAV-AF-05-D-UNV-SL4-800

Iso-Footcandle Lines of Horizontal Illumination

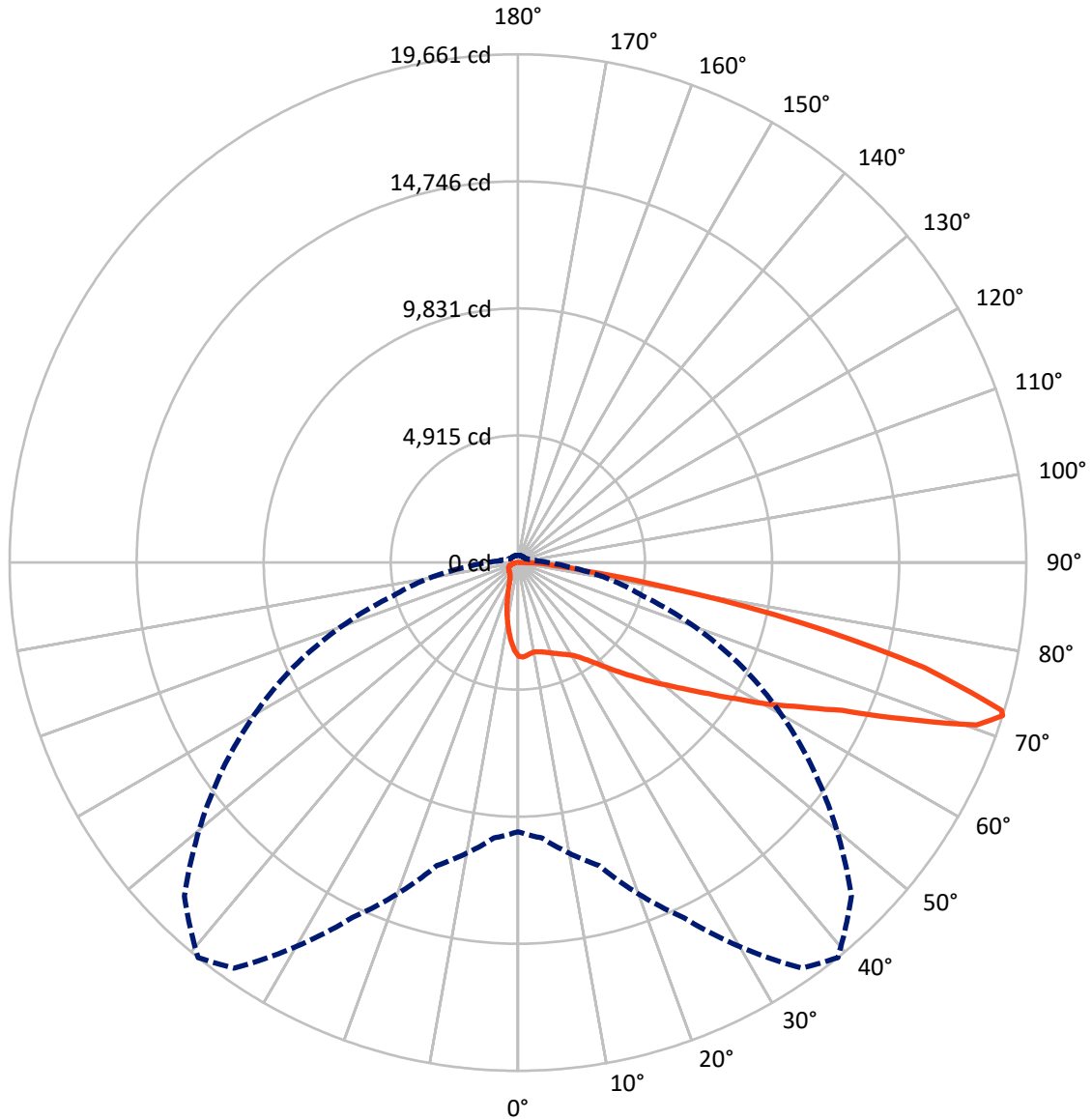
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.8 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196187
CATALOG NUMBER: NAV-AF-05-D-UNV-SL4-800

Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

REPORT NUMBER: P196187

CATALOG NUMBER: NAV-AF-05-D-UNV-SL4-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2718.4	0.0	2718.4
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	20989.5	0.0	20989.5
	% Fixture	88.5	0.0	88.5
Total	Lumens	23707.9	0.0	23707.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	311.1	1.3
10°-20°	781.8	3.3
20°-30°	1218.4	5.1
30°-40°	1876.0	7.9
40°-50°	3058.2	12.9
50°-60°	4752.2	20.0
60°-70°	6360.6	26.8
70°-80°	4574.2	19.3
80°-90°	775.4	3.3
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°	23707.9	100.0
0°-180°	23707.9	100.0



REPORT NUMBER: P196187

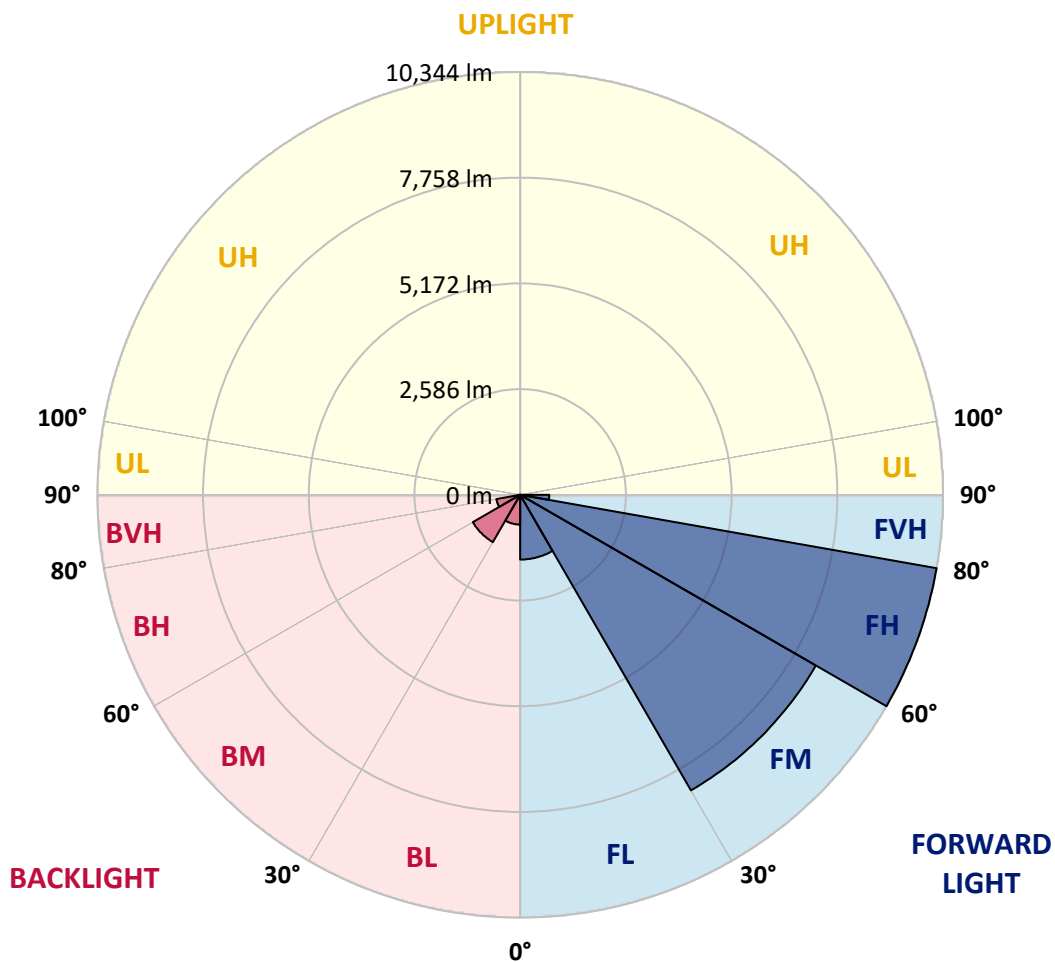
CATALOG NUMBER: NAV-AF-05-D-UNV-SL4-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1583.6	6.7			
FM	(30°-60°)	8350.4	35.2			
FH	(60°-80°)	10344.1	43.6			G4/12000
FVH	(80°-90°)	711.3	3.0			G4/750
BL	(0°-30°)	727.7	3.1	B2/1000		
BM	(30°-60°)	1336.0	5.6	B2/2500		
BH	(60°-80°)	590.6	2.5	B2/1000		G2/1000
BVH	(80°-90°)	64.1	0.3			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 IV Short





REPORT NUMBER: P196187

CATALOG NUMBER: NAV-AF-05-D-UNV-SL4-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	3620.6	3620.6	3620.6	3620.6	3620.6	3620.6	3620.6	3620.6	3620.6	3620.6	3620.6
2.5°	3698.6	3700.2	3695.4	3681.1	3668.4	3662.0	3650.9	3631.8	3606.3	3588.8	3574.5
5°	3663.6	3668.4	3665.2	3641.3	3619.0	3606.3	3588.8	3561.7	3528.4	3514.0	3480.6
7.5°	3636.5	3639.8	3630.1	3603.1	3560.2	3544.2	3512.4	3477.4	3447.1	3426.5	3386.7
10°	3617.5	3620.6	3612.7	3585.6	3537.9	3518.7	3480.6	3442.3	3402.5	3377.2	3332.6
12.5°	3590.4	3596.8	3596.8	3584.0	3552.2	3539.4	3501.3	3459.9	3423.3	3396.2	3340.5
15°	3585.6	3593.5	3607.8	3606.3	3596.8	3587.2	3557.0	3515.6	3483.8	3451.9	3383.5
17.5°	3625.4	3642.9	3671.6	3681.1	3674.7	3654.1	3619.0	3580.8	3545.9	3515.6	3431.3
20°	3725.7	3735.2	3778.2	3797.3	3765.5	3735.2	3689.1	3639.8	3607.8	3584.0	3475.8
22.5°	3876.9	3889.6	3924.6	3926.2	3859.4	3822.8	3763.8	3703.4	3673.1	3663.6	3536.2
25°	4118.7	4115.5	4125.2	4085.4	3964.3	3921.4	3849.8	3779.8	3759.0	3778.2	3625.4
27.5°	4408.4	4400.4	4370.3	4266.7	4083.7	4028.1	3942.1	3880.1	3880.1	3924.6	3746.4
30°	4742.6	4734.6	4636.0	4462.5	4225.4	4161.8	4071.0	4005.8	4039.2	4125.2	3910.2
32.5°	5095.9	5067.3	4928.8	4696.5	4427.5	4357.5	4269.9	4203.1	4266.7	4413.2	4145.8
35°	5428.6	5412.6	5242.3	4967.0	4688.5	4629.7	4569.1	4486.4	4588.2	4815.8	4478.5
37.5°	5772.3	5759.6	5551.0	5258.3	5006.8	4967.0	4916.1	4858.8	5022.7	5321.9	4928.8
40°	6155.8	6130.4	5867.7	5575.0	5377.7	5358.5	5331.5	5315.6	5579.8	6025.4	5498.6
42.5°	6590.4	6541.0	6202.0	5923.5	5781.8	5797.8	5783.5	5847.1	6251.4	6837.0	6176.6
45°	7086.9	6988.2	6534.6	6294.3	6229.1	6292.7	6323.0	6485.3	7045.5	7774.4	6934.1
47.5°	7551.6	7424.3	6899.1	6697.0	6733.6	6843.3	6929.4	7215.8	7916.0	8700.6	7707.5
50°	7979.7	7836.4	7289.0	7113.9	7292.2	7448.1	7626.4	8030.6	8842.3	9653.9	8417.4
52.5°	8296.4	8192.9	7678.9	7569.1	7933.5	8140.4	8425.3	8936.2	9778.1	10562.7	9050.8
55°	8541.5	8485.8	8059.3	8091.1	8659.3	8955.3	9300.7	9887.8	10768.0	11377.5	9560.0
57.5°	8824.8	8783.4	8493.8	8721.4	9560.0	9932.4	10339.9	10992.3	11710.1	12095.3	9959.4
60°	9124.0	9124.0	8977.5	9480.5	10686.8	11113.3	11519.1	12026.8	12649.1	12741.4	10121.8
62.5°	9350.0	9408.9	9461.4	10288.9	11756.3	12286.3	12731.9	13218.9	13621.5	13059.7	9739.9
65°	9677.8	9803.6	10099.6	11223.1	13080.4	13774.2	14375.8	14784.9	14409.3	12806.6	8493.8
67.5°	10241.2	10427.3	11057.6	12614.1	15108.0	16147.2	16731.3	16024.6	14254.9	11213.6	6506.0
70°	10748.9	11011.5	12088.9	14379.0	17743.5	18822.5	18553.5	15736.6	12415.1	8220.0	4002.6
72°	10411.5	10697.9	12136.7	15147.8	19151.9	19661.2	18243.2	13946.2	9593.4	5016.3	1973.5
72.5°	10190.2	10487.9	11982.2	15128.6	19190.1	19554.5	17811.8	13234.7	8708.6	4389.3	1596.2
75°	8512.8	8767.5	10303.3	13408.2	16911.1	16242.7	13900.1	8565.4	4002.6	1418.0	821.2
77.5°	5559.0	5753.2	7104.4	9289.5	11845.4	11202.4	8460.3	4010.6	1500.8	861.0	617.5
80°	2793.1	2931.5	3802.0	4884.3	6393.0	5882.1	3905.5	1940.0	1004.2	622.3	485.4
82.5°	1943.2	2070.6	2618.0	2493.9	2672.0	2586.1	1836.6	1618.5	751.2	393.1	254.6
85°	1629.7	1761.7	2166.0	1777.7	1454.6	1325.7	1316.1	1529.4	496.5	194.2	214.8
87.5°	1421.2	1621.7	1787.2	1298.6	997.9	880.0	969.2	1402.1	157.5	106.6	65.3
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: P196187

CATALOG NUMBER: NAV-AF-05-D-UNV-SL4-800

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3620.6	3620.6	3620.6	3620.6	3620.6	3620.6	3620.6	3620.6	3620.6	3620.6	3620.6
2.5°	3550.6	3545.9	3521.9	3485.4	3458.3	3440.8	3407.3	3405.8	3409.0	3380.3	3391.5
5°	3450.3	3431.3	3369.2	3284.8	3216.4	3151.1	3079.5	3055.7	3035.0	2992.0	2996.7
7.5°	3345.3	3311.9	3203.7	3065.2	2933.1	2812.2	2692.8	2633.9	2589.3	2533.6	2533.6
10°	3283.3	3230.7	3065.2	2863.0	2653.0	2476.4	2298.1	2191.5	2113.5	2041.9	2037.1
12.5°	3280.1	3200.5	2969.7	2691.2	2403.1	2154.8	1911.4	1747.4	1631.3	1546.9	1538.9
15°	3305.5	3194.1	2890.1	2530.5	2167.6	1844.5	1543.7	1335.3	1187.2	1093.3	1083.8
17.5°	3327.8	3186.2	2804.2	2361.8	1938.4	1545.4	1211.1	994.7	854.7	778.3	770.3
20°	3348.5	3168.7	2694.4	2183.5	1685.4	1265.2	946.9	771.9	679.5	636.6	631.8
22.5°	3378.7	3152.7	2579.8	1983.0	1437.1	1029.7	781.4	655.7	606.4	585.6	582.5
25°	3428.0	3154.3	2468.4	1777.7	1209.5	857.8	676.4	598.4	571.3	557.0	557.0
27.5°	3499.7	3173.4	2358.6	1569.2	1016.9	740.0	614.3	568.1	550.7	539.5	536.3
30°	3604.7	3208.4	2242.4	1371.9	864.2	658.9	577.7	549.0	534.7	525.2	523.6
32.5°	3757.5	3270.5	2119.9	1192.0	748.0	601.6	550.7	533.2	522.0	514.0	512.5
35°	3985.1	3380.3	2000.5	1039.2	665.2	560.2	528.4	514.0	507.7	504.5	502.9
37.5°	4319.3	3557.0	1887.5	919.8	611.1	533.2	506.1	498.2	494.9	494.9	494.9
40°	4739.4	3789.3	1785.7	835.5	580.9	512.5	490.2	483.9	483.9	485.4	485.4
42.5°	5250.3	4080.6	1698.1	778.3	563.3	498.2	479.0	475.9	474.2	474.2	475.9
45°	5843.9	4424.4	1644.0	733.7	550.7	490.2	471.1	469.5	463.1	459.9	459.9
47.5°	6440.7	4791.9	1640.8	708.2	534.7	480.6	463.1	463.1	450.4	444.1	445.6
50°	6997.7	5121.4	1675.8	701.8	525.2	466.3	455.2	456.7	439.3	431.3	429.7
52.5°	7446.6	5372.8	1718.8	709.8	525.2	453.6	440.9	448.8	429.7	420.1	418.6
55°	7793.5	5547.9	1734.7	727.3	531.5	442.4	428.1	440.9	426.5	413.8	413.8
57.5°	8041.7	5603.6	1666.3	735.3	541.1	440.9	415.4	439.3	431.3	415.4	415.4
60°	7951.1	5280.6	1411.7	705.0	539.5	437.6	405.8	442.4	447.2	429.7	429.7
62.5°	7242.8	4417.9	1133.1	636.6	512.5	426.5	394.7	439.3	458.4	451.9	448.8
65°	5896.5	3240.3	878.5	555.5	466.3	402.6	370.8	410.6	432.9	439.3	440.9
67.5°	4155.3	2051.4	682.7	472.7	409.0	367.6	343.7	362.8	370.8	374.0	380.3
70°	2272.6	1110.8	542.7	397.8	350.2	332.7	315.1	316.7	313.5	310.4	313.5
72°	1141.1	725.7	458.4	345.3	310.4	299.2	291.2	286.4	286.4	281.7	283.3
72.5°	981.9	674.7	442.4	332.7	300.7	291.2	284.9	280.1	278.5	275.3	276.9
75°	654.1	534.7	369.2	278.5	256.2	249.9	253.1	248.3	249.9	246.6	248.3
77.5°	528.4	459.9	313.5	235.6	219.6	210.1	216.5	218.0	221.3	218.0	216.5
80°	442.4	391.5	262.6	194.2	183.0	175.0	178.2	189.3	191.0	181.5	179.8
82.5°	286.4	315.1	206.9	151.2	140.0	136.9	144.8	156.0	159.2	146.4	143.2
85°	240.3	253.1	149.6	103.4	92.3	89.1	105.1	116.2	124.2	111.4	108.2
87.5°	66.8	124.2	73.2	49.3	41.4	41.4	50.9	60.5	71.6	73.2	73.2
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)