

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: P196098

Luminaire Tested: **NAV-AF-06-D-UNV-SL2**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196098
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-SL2
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 36125.5 lumens
Efficiency: N/A
Efficacy: 108.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B3 - U0 - G5

Input Watts (W): 333
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

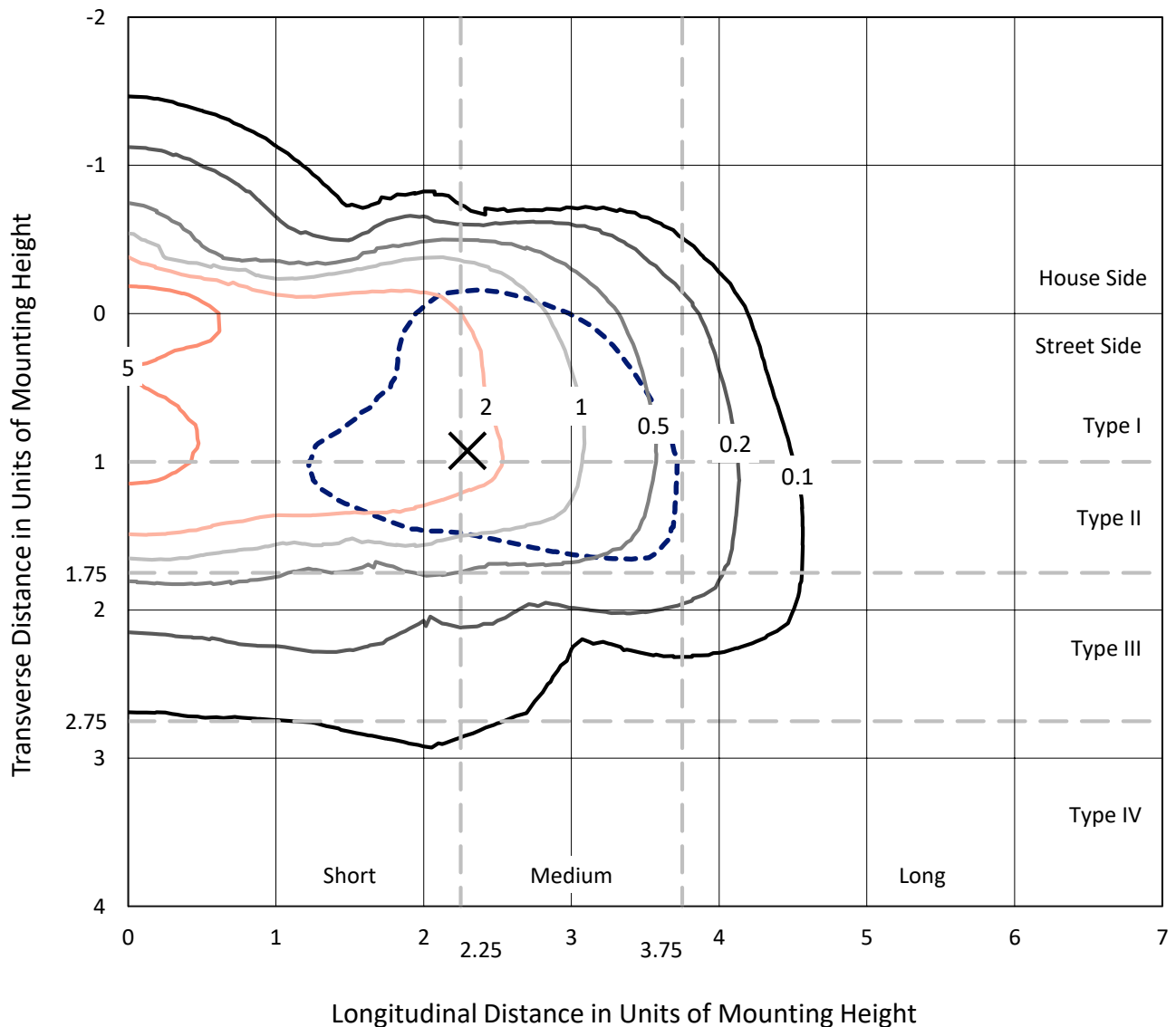


REPORT NUMBER: P196098

CATALOG NUMBER: NAV-AF-06-D-UNV-SL2

Iso-Footcandle Lines of Horizontal Illumination

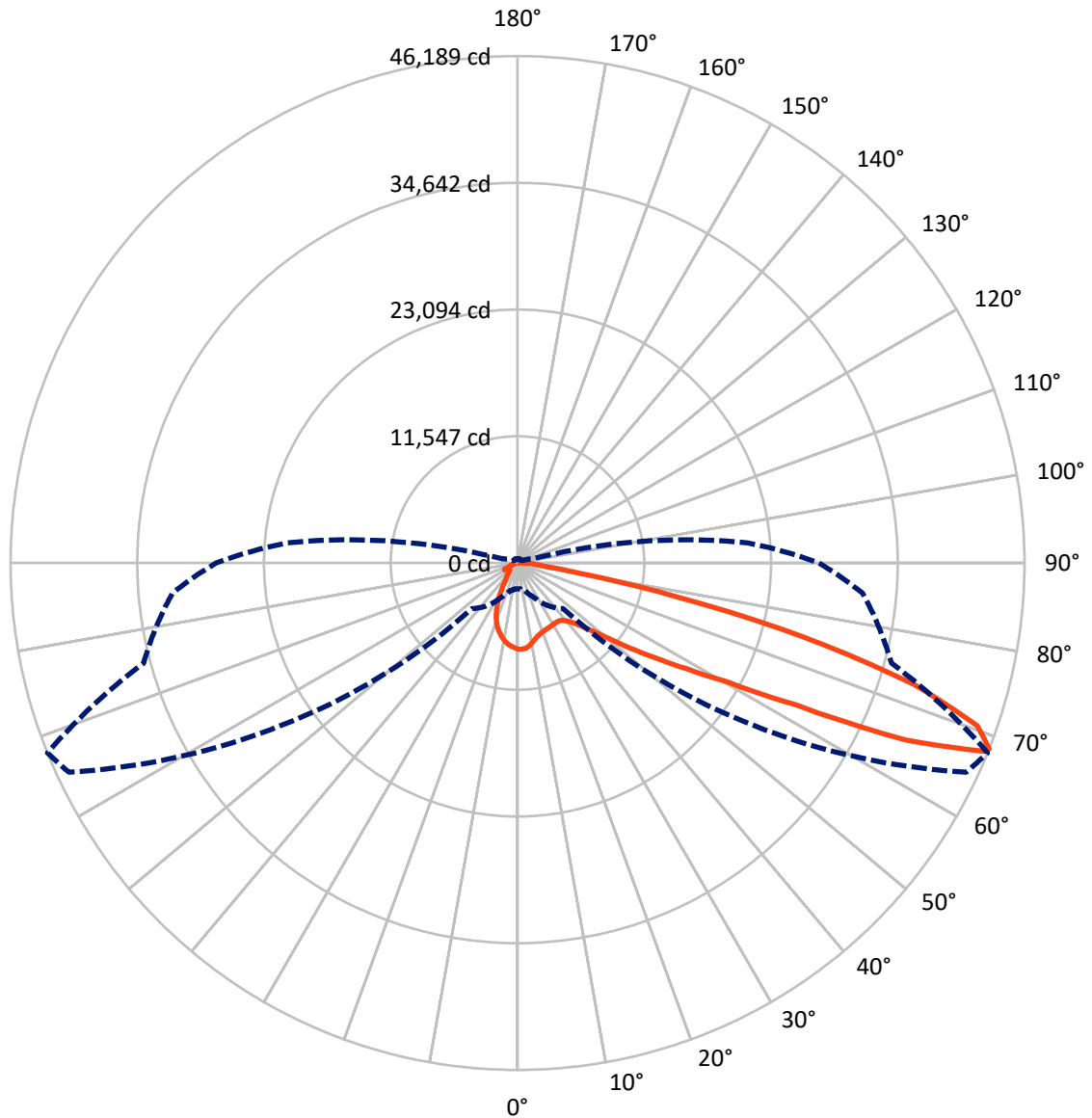
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 8.7 fc
 Type II - Medium - Semi-Cutoff

REPORT NUMBER: P196098
CATALOG NUMBER: NAV-AF-06-D-UNV-SL2

Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

REPORT NUMBER: P196098

CATALOG NUMBER: NAV-AF-06-D-UNV-SL2

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5910.2	0.0	5910.2
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	30215.3	0.0	30215.3
	% Fixture	83.6	0.0	83.6
Total	Lumens	36125.5	0.0	36125.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	673.5	1.9
10°-20°	1562.1	4.3
20°-30°	2112.7	5.8
30°-40°	2978.9	8.2
40°-50°	4898.4	13.6
50°-60°	7592.9	21.0
60°-70°	9844.8	27.3
70°-80°	5649.4	15.6
80°-90°	812.8	2.3
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°	36125.5	100.0
0°-180°	36125.5	100.0



REPORT NUMBER: P196098

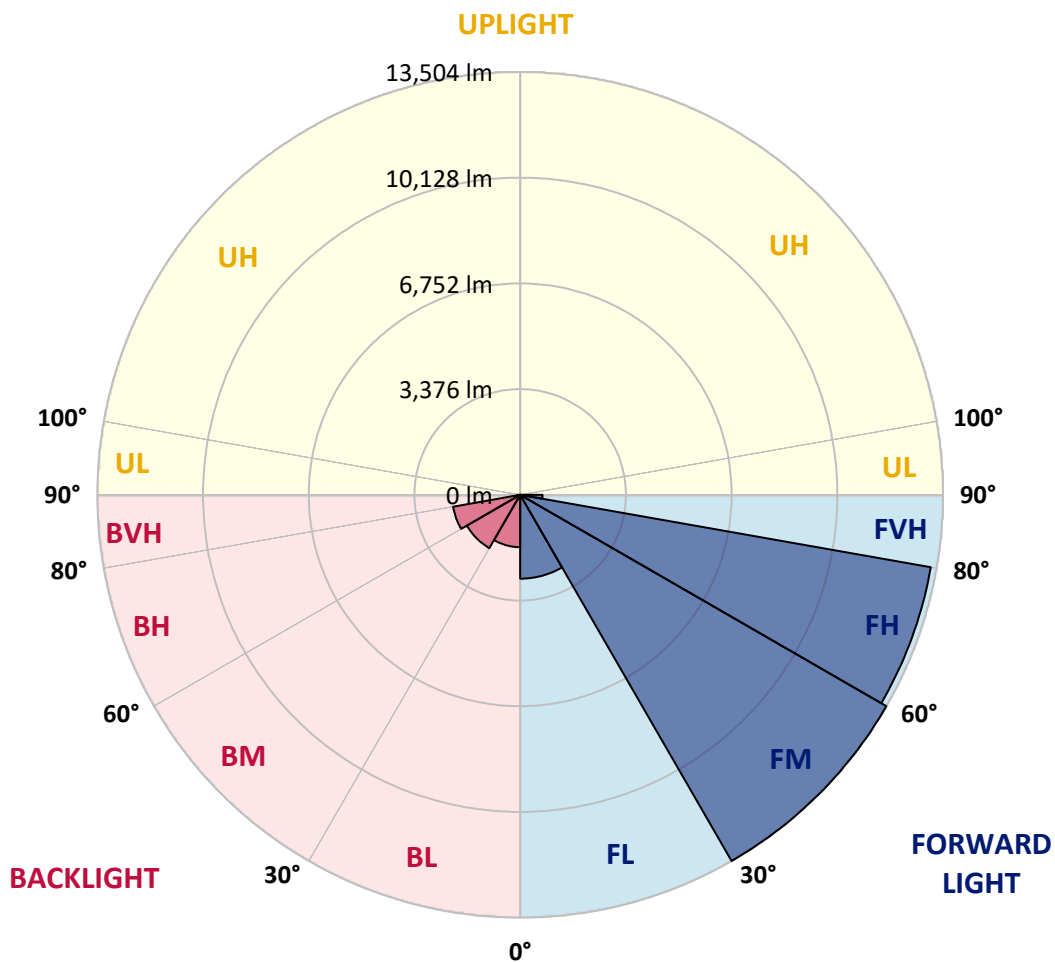
CATALOG NUMBER: NAV-AF-06-D-UNV-SL2

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2677.5	7.4			
FM (30°-60°)	13504.3	37.4			
FH (60°-80°)	13317.5	36.9			G5
FVH (80°-90°)	715.9	2.0			G4/750
BL (0°-30°)	1670.9	4.6	B3/2500		
BM (30°-60°)	1965.8	5.4	B2/2500		
BH (60°-80°)	2176.7	6.0	B3/2500		G3/2500
BVH (80°-90°)	96.9	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type II Medium





REPORT NUMBER: P196098

CATALOG NUMBER: NAV-AF-06-D-UNV-SL2

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	7860.6	7860.6	7860.6	7860.6	7860.6	7860.6	7860.6	7860.6	7860.6	7860.6	7860.6
2.5°	7650.5	7711.9	7711.9	7756.7	7796.8	7829.9	7858.2	7858.2	7858.2	7839.4	7822.8
5°	6845.9	6928.4	6940.2	7053.6	7202.2	7383.9	7586.8	7766.2	7801.6	7867.6	7893.6
7.5°	6286.5	6312.5	6357.3	6435.3	6586.3	6810.5	7129.0	7530.2	7626.9	7834.7	7943.2
10°	5890.2	5911.3	5949.2	6027.0	6163.9	6366.8	6680.7	7202.2	7362.7	7730.8	7945.6
12.5°	5599.8	5616.4	5651.8	5722.6	5861.8	6043.5	6364.5	6907.2	7105.4	7626.9	7978.6
15°	5373.4	5401.7	5429.9	5498.4	5640.0	5814.7	6140.3	6692.5	6907.2	7544.4	8040.0
17.5°	5283.6	5297.9	5302.6	5338.0	5465.3	5642.4	5968.0	6541.5	6763.2	7478.3	8087.1
20°	5340.3	5342.7	5295.4	5271.9	5345.0	5507.9	5824.1	6428.2	6654.7	7419.3	8106.0
22.5°	5588.1	5588.1	5465.3	5361.5	5312.0	5413.5	5727.3	6350.3	6595.7	7374.5	8106.0
25°	6060.1	6038.8	5847.7	5642.4	5422.9	5380.4	5665.9	6300.8	6550.9	7350.8	8075.4
27.5°	6680.7	6661.8	6418.7	6114.3	5717.9	5451.2	5644.7	6260.7	6506.1	7315.4	8009.3
30°	7435.8	7419.3	7143.2	6744.4	6159.2	5675.4	5694.3	6232.3	6470.7	7256.5	7898.3
32.5°	8188.6	8179.2	7959.7	7551.4	6767.9	6055.4	5824.1	6227.6	6451.8	7185.7	7763.8
35°	8946.1	8946.1	8811.6	8467.1	7586.8	6626.4	6095.5	6314.9	6487.1	7148.0	7648.2
37.5°	10064.7	10019.8	9769.7	9413.4	8618.1	7367.4	6534.4	6499.0	6624.0	7211.6	7610.4
40°	11796.8	11667.0	11041.6	10442.3	9743.7	8316.1	7176.2	6855.3	6930.8	7428.8	7700.2
42.5°	13609.1	13403.8	12575.5	11617.4	10907.1	9486.5	8018.7	7433.5	7431.1	7848.8	7985.7
45°	15164.2	15058.0	14161.3	12946.1	12235.7	10803.3	9083.0	8292.4	8207.4	8500.1	8535.5
47.5°	16068.1	15997.3	15456.9	14352.5	13812.1	12358.4	10432.8	9484.2	9323.7	9498.3	9444.0
50°	15817.9	15886.3	15730.6	15166.6	15506.4	14543.6	12153.2	11117.1	10812.7	10987.3	10855.2
52.5°	14501.1	14685.2	14824.4	14933.0	16481.1	17467.5	14314.8	13156.1	12903.5	12872.8	12745.5
55°	12129.5	12422.1	12861.0	13658.6	16219.1	19815.5	18090.5	15622.1	15253.9	15060.4	15110.0
57.5°	8254.7	8698.4	9644.6	11162.0	14857.4	20816.0	23673.8	18807.9	18184.8	17495.7	17656.2
60°	4547.4	4917.8	6043.5	7572.7	11749.6	20667.4	28622.4	23985.3	22024.2	20197.8	20528.2
62.5°	2942.7	3022.9	3860.7	5172.8	7211.6	18246.2	31371.5	32638.8	28483.1	23761.1	24226.0
65°	2364.6	2421.2	2831.8	4172.2	5024.1	11737.7	31494.3	41615.6	38875.8	28603.4	28617.7
67.5°	2310.2	2336.2	2574.6	3509.0	4712.5	6390.4	27223.0	45155.3	45790.1	34319.0	31555.6
68°	2343.3	2374.0	2614.7	3400.5	4710.2	5890.2	25160.5	45101.1	46188.9	35274.7	31555.6
70°	2067.2	2104.9	2666.6	3518.5	4509.7	5064.2	17229.2	42705.8	44456.8	37471.7	29941.5
72.5°	1080.8	1050.2	1319.1	2777.5	5076.0	5276.6	9101.8	35678.3	37721.8	34703.6	25868.5
75°	842.5	766.9	738.7	1097.3	4464.8	5472.5	5286.0	25358.7	26902.1	25016.6	17290.4
77.5°	792.9	700.8	646.6	649.0	1965.7	5694.3	4276.0	14923.5	14923.5	11933.6	5517.3
80°	637.2	552.2	516.8	589.9	948.7	5248.2	4462.4	6801.0	5800.4	3084.3	1519.7
82.5°	420.0	375.2	377.6	479.0	719.7	3504.3	5168.0	3358.0	2522.7	1366.4	894.4
85°	266.7	228.9	254.8	335.1	538.1	1562.3	5116.1	2333.9	1670.8	766.9	446.0
87.5°	134.5	103.8	127.5	174.6	328.1	448.4	4212.3	2083.8	1238.9	318.5	243.1
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: P196098

CATALOG NUMBER: NAV-AF-06-D-UNV-SL2

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	7860.6	7860.6	7860.6	7860.6	7860.6	7860.6	7860.6	7860.6	7860.6	7860.6	7860.6
2.5°	7822.8	7770.9	7745.0	7702.5	7650.5	7598.7	7563.3	7546.7	7537.3	7542.0	7539.7
5°	7879.5	7811.0	7700.2	7542.0	7379.2	7206.9	7074.7	6973.3	6909.6	6890.7	6886.0
7.5°	7921.9	7822.8	7615.2	7327.3	7048.8	6746.8	6489.5	6284.2	6145.0	6081.2	6078.9
10°	7914.9	7787.4	7459.5	7034.6	6626.4	6182.7	5779.3	5434.7	5184.5	5064.2	5059.5
12.5°	7921.9	7747.3	7268.3	6692.5	6107.2	5472.5	4873.0	4337.4	3964.5	3787.5	3780.4
15°	7950.3	7704.9	7072.4	6310.2	5500.7	4604.0	3747.4	3074.9	2735.1	2619.4	2619.4
17.5°	7947.9	7634.1	6845.9	5866.5	4781.0	3579.8	2558.1	2142.8	2109.7	2215.9	2232.4
20°	7900.7	7520.7	6553.2	5340.3	3936.2	2477.8	1734.5	1675.5	1939.8	2232.4	2265.4
22.5°	7827.5	7374.5	6215.8	4729.1	2952.1	1614.1	1338.0	1427.7	1786.4	2149.8	2201.7
25°	7726.0	7197.5	5828.8	4018.8	1963.3	1161.0	1116.2	1227.1	1479.6	1722.6	1760.4
27.5°	7577.4	6973.3	5406.4	3249.5	1253.1	955.7	972.2	1050.2	1158.7	1262.5	1283.7
30°	7391.0	6711.4	4946.2	2397.6	951.0	854.3	882.6	929.8	976.9	1043.0	1057.2
32.5°	7202.2	6444.7	4467.1	1647.2	830.6	799.9	828.3	854.3	894.4	939.2	948.7
35°	7032.3	6196.9	3974.0	1149.3	778.8	764.6	778.8	795.2	835.3	880.2	885.0
37.5°	6909.6	5994.0	3459.5	908.6	748.1	733.9	741.0	748.1	795.2	861.3	868.4
40°	6893.1	5859.5	2938.0	816.5	724.5	705.6	700.8	705.6	766.9	842.5	849.6
42.5°	7053.6	5866.5	2428.3	778.8	705.6	684.4	665.4	674.9	729.2	788.2	792.9
45°	7433.5	6031.7	1987.0	762.2	689.1	672.6	644.3	649.0	674.9	705.6	710.3
47.5°	8103.6	6392.7	1649.5	752.8	674.9	660.7	625.3	611.2	613.6	630.0	630.0
50°	9175.1	6996.9	1444.2	743.4	663.1	637.2	597.0	568.8	561.6	571.1	573.5
52.5°	10772.6	8032.8	1345.1	724.5	641.9	606.5	561.6	533.4	521.5	530.9	530.9
55°	12931.8	9687.1	1297.9	698.5	615.9	568.8	528.6	505.0	495.5	502.7	502.7
57.5°	15393.2	11836.9	1378.1	663.1	582.9	528.6	500.3	483.8	476.7	483.8	486.1
60°	18317.0	14649.8	1930.3	618.3	547.5	493.2	476.7	467.3	462.5	469.6	469.6
62.5°	22203.7	18392.6	2987.5	582.9	509.7	460.1	455.4	450.7	446.0	453.1	453.1
65°	26399.4	21797.8	3074.9	561.6	476.7	431.9	434.2	434.2	429.5	436.6	436.6
67.5°	27735.1	21502.7	1717.9	535.7	436.6	403.6	413.0	413.0	410.6	417.7	415.3
68°	27451.9	21035.6	1496.2	528.6	429.5	396.5	405.9	408.3	405.9	413.0	410.6
70°	25342.2	18468.0	984.1	488.5	398.8	372.9	387.0	389.3	387.0	396.5	394.0
72.5°	20919.9	13852.2	726.8	427.1	361.1	342.2	356.3	358.6	361.1	370.5	368.2
75°	13285.9	7650.5	573.5	363.5	323.3	306.8	320.9	328.1	332.8	346.9	339.8
77.5°	3638.8	2322.1	464.9	309.1	278.4	271.4	280.8	290.2	295.0	311.5	299.7
80°	1274.3	1026.5	387.0	262.0	231.3	228.9	238.3	247.8	252.5	266.7	252.5
82.5°	774.1	670.2	309.1	205.3	181.7	179.3	191.2	200.6	205.3	205.3	195.9
85°	403.6	353.9	226.6	143.9	125.1	117.9	139.2	151.0	153.3	151.0	143.9
87.5°	226.6	200.6	120.4	68.4	56.7	59.0	73.1	89.7	96.8	94.4	89.7
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)