

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: P195143

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195143
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-05-D-UNV-SL2-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 1200mA 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: 32338 lumens
Efficiency: N/A
Efficacy: 101.1 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 - G4

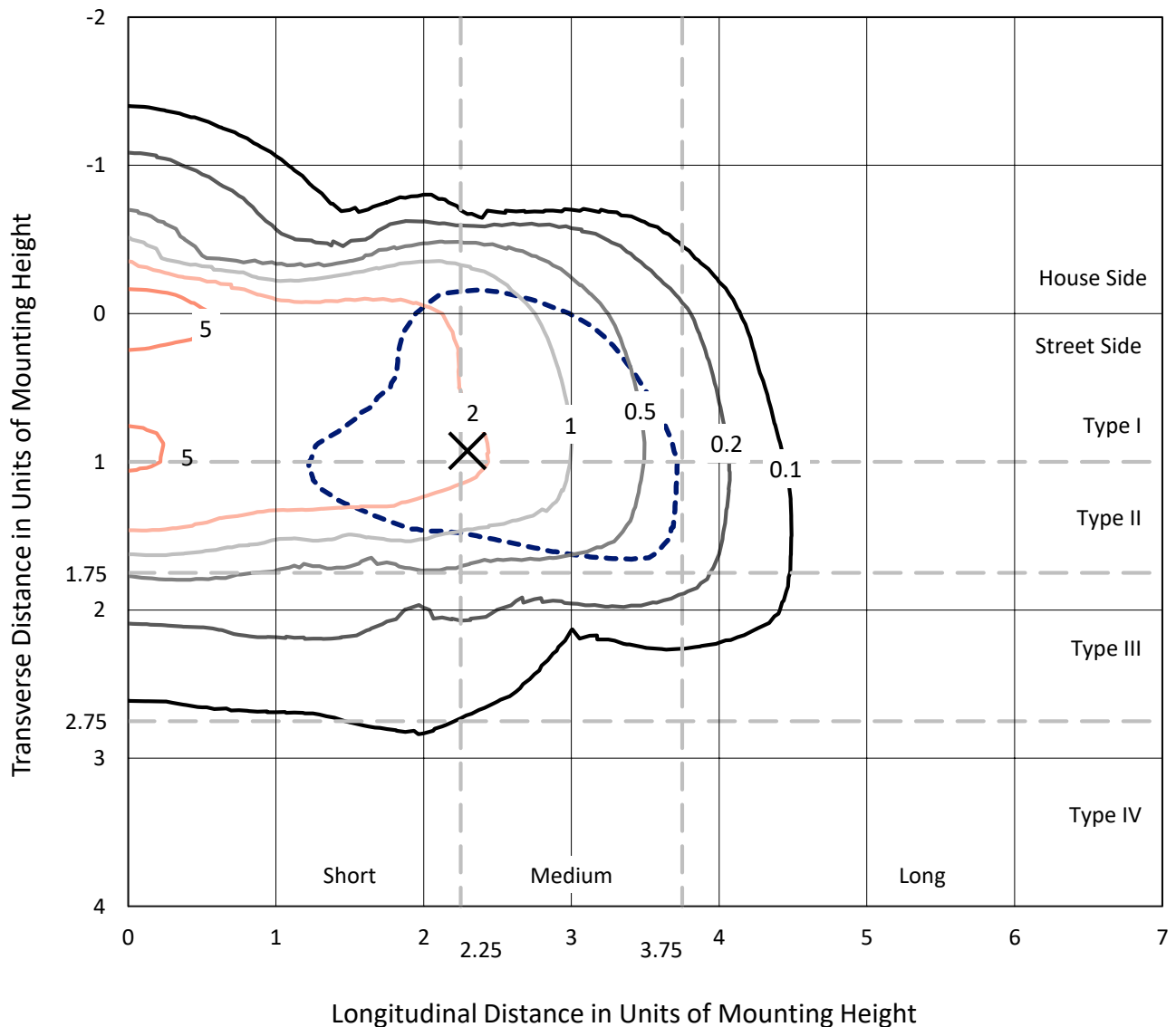
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

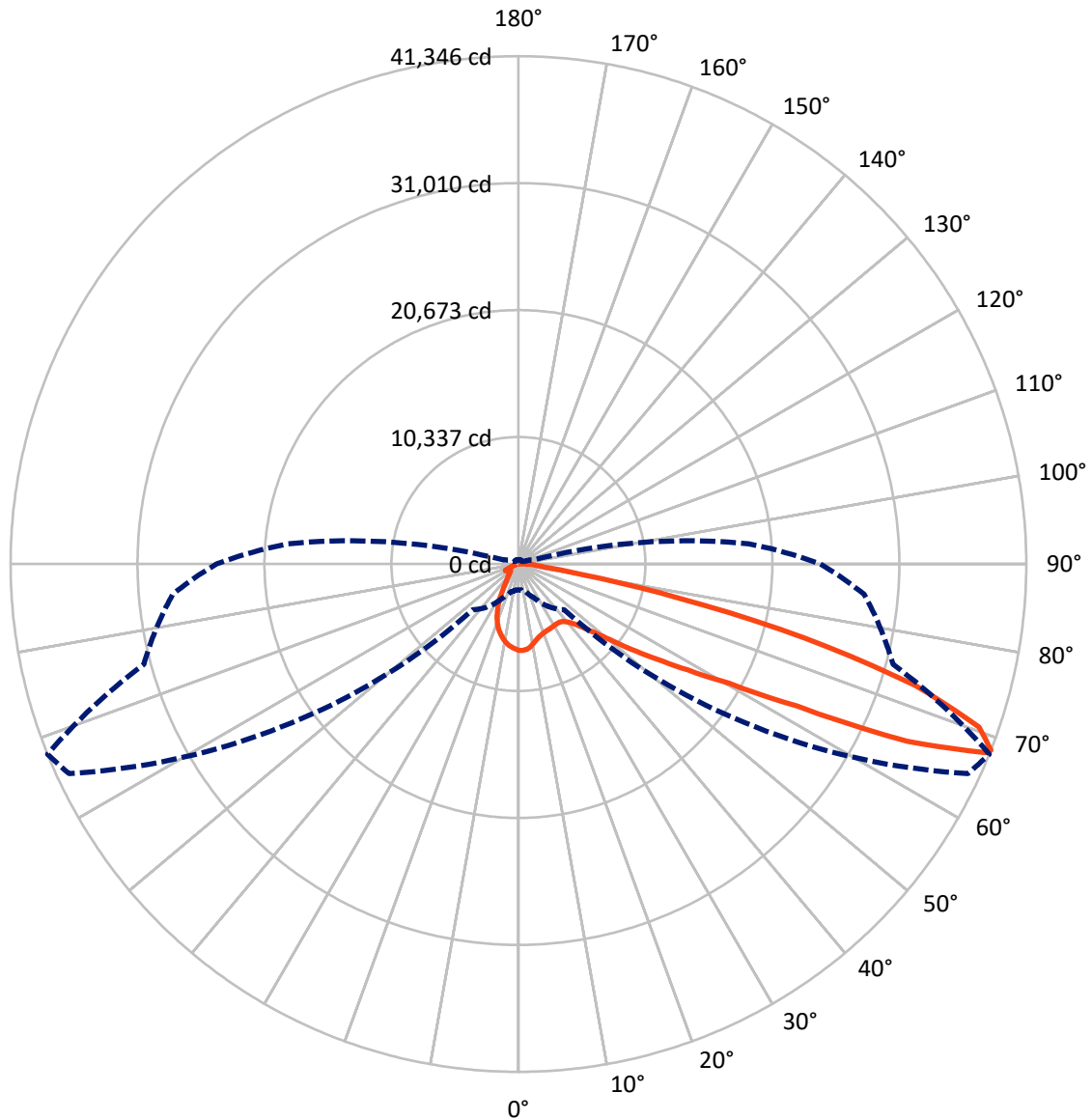
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 7.8 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5290.6	0.0	5290.6
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	27047.4	0.0	27047.4
	% Fixture	83.6	0.0	83.6
Total	Lumens	32338.0	0.0	32338.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	602.9	1.9
10°-20°	1398.4	4.3
20°-30°	1891.2	5.8
30°-40°	2666.5	8.2
40°-50°	4384.8	13.6
50°-60°	6796.8	21.0
60°-70°	8812.6	27.3
70°-80°	5057.1	15.6
80°-90°	727.6	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°	32338.0	100.0
0°-180°	32338.0	100.0



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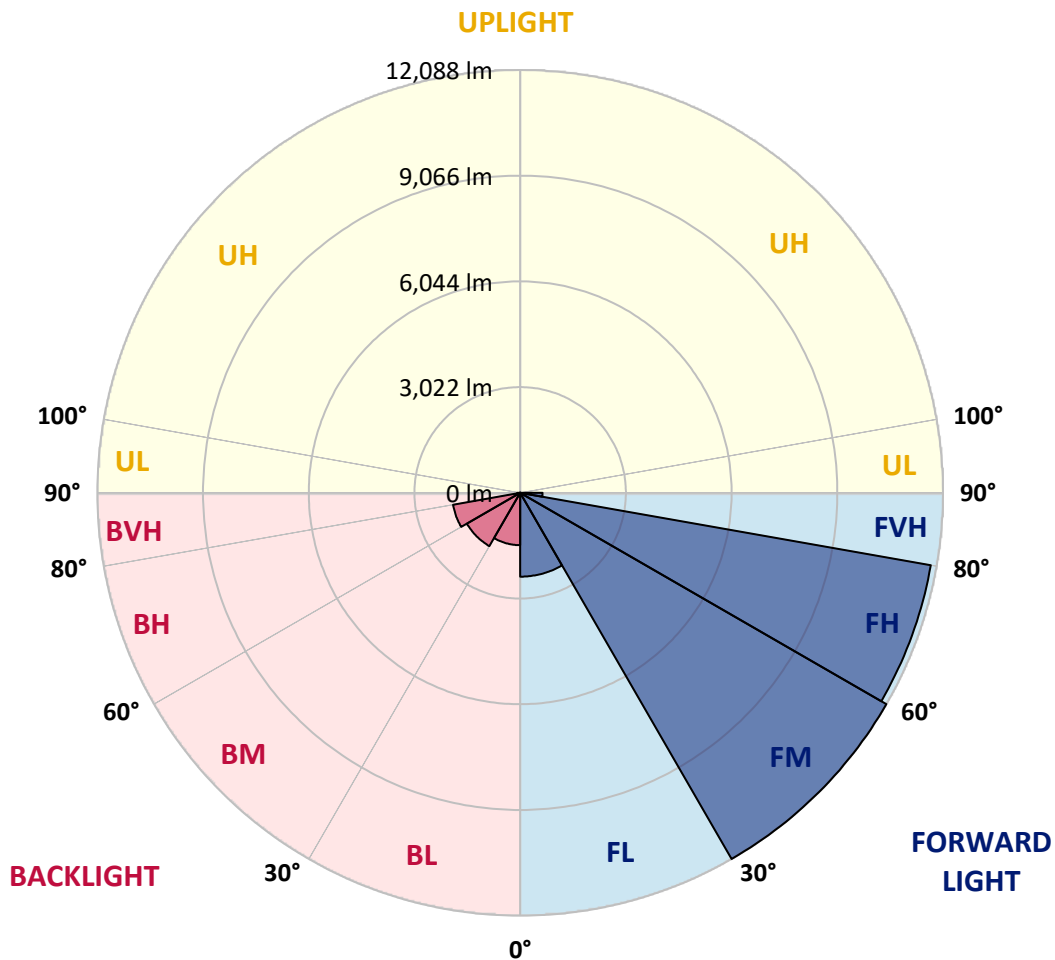
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2396.8	7.4			
FM (30°-60°)	12088.5	37.4			
FH (60°-80°)	11921.3	36.9			G4/12000
FVH (80°-90°)	640.9	2.0			G4/750
BL (0°-30°)	1495.7	4.6	B3/2500		
BM (30°-60°)	1759.7	5.4	B2/2500		
BH (60°-80°)	1948.5	6.0	B3/2500		G3/2500
BVH (80°-90°)	86.7	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-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	7036.5	7036.5	7036.5	7036.5	7036.5	7036.5	7036.5	7036.5	7036.5	7036.5	7036.5
2.5°	6848.5	6903.4	6903.4	6943.5	6979.4	7009.0	7034.3	7034.3	7034.3	7017.4	7002.7
5°	6128.1	6202.1	6212.6	6314.0	6447.1	6609.8	6791.4	6952.0	6983.6	7042.8	7066.0
7.5°	5627.5	5650.7	5690.9	5760.6	5895.8	6096.4	6381.6	6740.7	6827.3	7013.2	7110.4
10°	5272.6	5291.6	5325.4	5395.1	5517.6	5699.3	5980.3	6447.1	6590.7	6920.3	7112.5
12.5°	5012.8	5027.6	5059.2	5122.6	5247.2	5409.9	5697.2	6183.0	6360.5	6827.3	7142.1
15°	4810.0	4835.3	4860.7	4921.9	5048.7	5205.0	5496.5	5990.8	6183.0	6753.4	7197.0
17.5°	4729.7	4742.4	4746.6	4778.3	4892.4	5050.8	5342.3	5855.6	6054.2	6694.2	7239.3
20°	4780.4	4782.5	4740.3	4719.1	4784.6	4930.4	5213.4	5754.2	5957.0	6641.4	7256.2
22.5°	5002.2	5002.2	4892.4	4799.4	4755.1	4845.9	5126.8	5684.5	5904.2	6601.3	7256.2
25°	5424.7	5405.7	5234.6	5050.8	4854.3	4816.3	5071.9	5640.2	5864.1	6580.2	7228.7
27.5°	5980.3	5963.4	5745.8	5473.3	5118.4	4879.7	5052.9	5604.2	5823.9	6548.5	7169.5
30°	6656.2	6641.4	6394.3	6037.3	5513.4	5080.4	5097.3	5578.9	5792.2	6495.7	7070.3
32.5°	7330.1	7321.6	7125.2	6759.7	6058.4	5420.5	5213.4	5574.7	5775.3	6432.3	6949.9
35°	8008.2	8008.2	7887.8	7579.4	6791.4	5931.7	5456.4	5652.8	5807.0	6398.5	6846.3
37.5°	9009.5	8969.3	8745.4	8426.4	7714.5	6595.0	5849.3	5817.6	5929.6	6455.5	6812.5
40°	10560.0	10443.8	9884.0	9347.4	8722.2	7444.2	6423.9	6136.6	6204.2	6649.9	6892.8
42.5°	12182.3	11998.5	11257.1	10399.4	9763.6	8491.9	7178.0	6654.1	6652.0	7025.9	7148.4
45°	13574.4	13479.3	12676.6	11588.7	10952.9	9670.6	8130.7	7423.0	7347.0	7608.9	7640.6
47.5°	14383.4	14320.1	13836.3	12847.7	12364.0	11062.7	9339.0	8489.8	8346.2	8502.5	8453.9
50°	14159.5	14220.8	14081.4	13576.5	13880.7	13018.8	10878.9	9951.6	9679.1	9835.4	9717.1
52.5°	12980.8	13145.6	13270.2	13367.4	14753.1	15636.1	12813.9	11776.7	11550.7	11523.2	11409.2
55°	10857.8	11119.8	11512.7	12226.7	14518.6	17738.0	16193.8	13984.2	13654.7	13481.4	13525.8
57.5°	7389.2	7786.4	8633.4	9991.7	13299.8	18633.6	21191.8	16836.0	16278.3	15661.5	15805.1
60°	4070.6	4402.3	5409.9	6778.7	10517.7	18500.5	25621.5	21470.6	19715.2	18080.2	18375.9
62.5°	2634.2	2706.0	3455.9	4630.4	6455.5	16333.2	28082.5	29216.8	25496.9	21269.9	21686.1
65°	2116.6	2167.3	2534.9	3734.8	4497.3	10507.2	28192.3	37252.5	34800.0	25604.6	25617.3
67.5°	2068.1	2091.3	2304.6	3141.2	4218.5	5720.4	24368.8	40421.1	40989.3	30720.9	28247.2
68°	2097.6	2125.1	2340.6	3044.0	4216.4	5272.6	22522.6	40372.5	41346.3	31576.4	28247.2
70°	1850.5	1884.3	2387.0	3149.6	4036.8	4533.2	15422.8	38228.4	39795.8	33543.1	26802.3
72.5°	967.5	940.0	1180.8	2486.3	4543.8	4723.4	8147.6	31937.6	33767.0	31065.2	23156.3
75°	754.1	686.5	661.2	982.3	3996.7	4898.7	4731.8	22700.0	24081.6	22393.7	15477.7
77.5°	709.8	627.4	578.8	580.9	1759.6	5097.3	3827.7	13358.9	13358.9	10682.5	4938.8
80°	570.4	494.3	462.6	528.1	849.2	4698.0	3994.6	6088.0	5192.3	2760.9	1360.4
82.5°	376.0	335.9	338.0	428.8	644.3	3136.9	4626.2	3006.0	2258.2	1223.1	800.6
85°	238.7	204.9	228.1	300.0	481.6	1398.4	4579.7	2089.2	1495.6	686.5	399.2
87.5°	120.4	92.9	114.1	156.3	293.6	401.4	3770.7	1865.3	1109.0	285.2	217.6
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°	7036.5	7036.5	7036.5	7036.5	7036.5	7036.5	7036.5	7036.5	7036.5	7036.5	7036.5
2.5°	7002.7	6956.2	6933.0	6894.9	6848.5	6802.0	6770.3	6755.5	6747.1	6751.3	6749.2
5°	7053.4	6992.1	6892.8	6751.3	6605.5	6451.3	6333.0	6242.2	6185.2	6168.3	6164.0
7.5°	7091.4	7002.7	6816.8	6559.1	6309.8	6039.4	5809.1	5625.4	5500.7	5443.7	5441.6
10°	7085.0	6971.0	6677.3	6297.1	5931.7	5534.5	5173.3	4864.9	4641.0	4533.2	4529.0
12.5°	7091.4	6935.1	6506.2	5990.8	5466.9	4898.7	4362.1	3882.6	3548.9	3390.4	3384.1
15°	7116.7	6897.0	6330.9	5648.6	4924.0	4121.3	3354.5	2752.5	2448.3	2344.8	2344.8
17.5°	7114.6	6833.7	6128.1	5251.5	4279.8	3204.5	2289.9	1918.1	1888.5	1983.6	1998.3
20°	7072.4	6732.3	5866.2	4780.4	3523.5	2218.0	1552.6	1499.8	1736.4	1998.3	2027.9
22.5°	7006.9	6601.3	5564.1	4233.3	2642.6	1444.9	1197.7	1278.0	1599.1	1924.4	1970.9
25°	6916.1	6442.9	5217.7	3597.4	1757.5	1039.3	999.2	1098.5	1324.5	1542.1	1575.9
27.5°	6783.0	6242.2	4839.5	2908.8	1121.7	855.5	870.3	940.0	1037.2	1130.1	1149.2
30°	6616.1	6007.7	4427.6	2146.2	851.3	764.7	790.0	832.3	874.5	933.7	946.4
32.5°	6447.1	5769.0	3998.8	1474.5	743.6	716.1	741.5	764.7	800.6	840.7	849.2
35°	6295.0	5547.2	3557.3	1028.7	697.1	684.4	697.1	711.9	747.8	787.9	792.2
37.5°	6185.2	5365.5	3096.8	813.3	669.6	657.0	663.3	669.6	711.9	771.0	777.4
40°	6170.4	5245.1	2630.0	730.9	648.5	631.6	627.4	631.6	686.5	754.1	760.5
42.5°	6314.0	5251.5	2173.7	697.1	631.6	612.6	595.7	604.2	652.7	705.5	709.8
45°	6654.1	5399.3	1778.7	682.3	616.8	602.0	576.7	580.9	604.2	631.6	635.8
47.5°	7254.0	5722.5	1476.6	673.9	604.2	591.5	559.8	547.1	549.2	564.0	564.0
50°	8213.1	6263.3	1292.8	665.4	593.6	570.4	534.4	509.1	502.8	511.2	513.3
52.5°	9643.2	7190.7	1204.1	648.5	574.6	542.9	502.8	477.4	466.8	475.3	475.3
55°	11576.0	8671.5	1161.8	625.3	551.3	509.1	473.2	452.1	443.6	449.9	449.9
57.5°	13779.3	10595.9	1233.7	593.6	521.8	473.2	447.8	433.0	426.7	433.0	435.2
60°	16396.6	13113.9	1728.0	553.5	490.1	441.5	426.7	418.3	414.0	420.4	420.4
62.5°	19875.7	16464.2	2674.3	521.8	456.3	411.9	407.7	403.5	399.2	405.6	405.6
65°	23631.6	19512.4	2752.5	502.8	426.7	386.6	388.7	388.7	384.5	390.8	390.8
67.5°	24827.2	19248.3	1537.8	479.5	390.8	361.2	369.7	369.7	367.6	373.9	371.8
68°	24573.7	18830.1	1339.3	473.2	384.5	354.9	363.3	365.4	363.3	369.7	367.6
70°	22685.2	16531.8	880.9	437.3	357.0	333.8	346.4	348.5	346.4	354.9	352.8
72.5°	18726.6	12399.9	650.6	382.3	323.2	306.3	319.0	321.1	323.2	331.6	329.5
75°	11892.9	6848.5	513.3	325.3	289.4	274.6	287.3	293.6	297.9	310.5	304.2
77.5°	3257.3	2078.6	416.1	276.7	249.3	242.9	251.4	259.8	264.1	278.8	268.3
80°	1140.7	918.9	346.4	234.5	207.0	204.9	213.4	221.8	226.0	238.7	226.0
82.5°	692.9	599.9	276.7	183.8	162.7	160.5	171.1	179.6	183.8	183.8	175.3
85°	361.2	316.9	202.8	128.9	112.0	105.6	124.6	135.2	137.3	135.2	128.9
87.5°	202.8	179.6	107.7	61.3	50.7	52.8	65.5	80.3	86.6	84.5	80.3
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)