

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: P195850

Luminaire Tested: **NAV-AF-04-D-UNV-T3R-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195850
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20049 lumens
Efficiency: N/A
Efficacy: 117.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B2 - U0 - G3

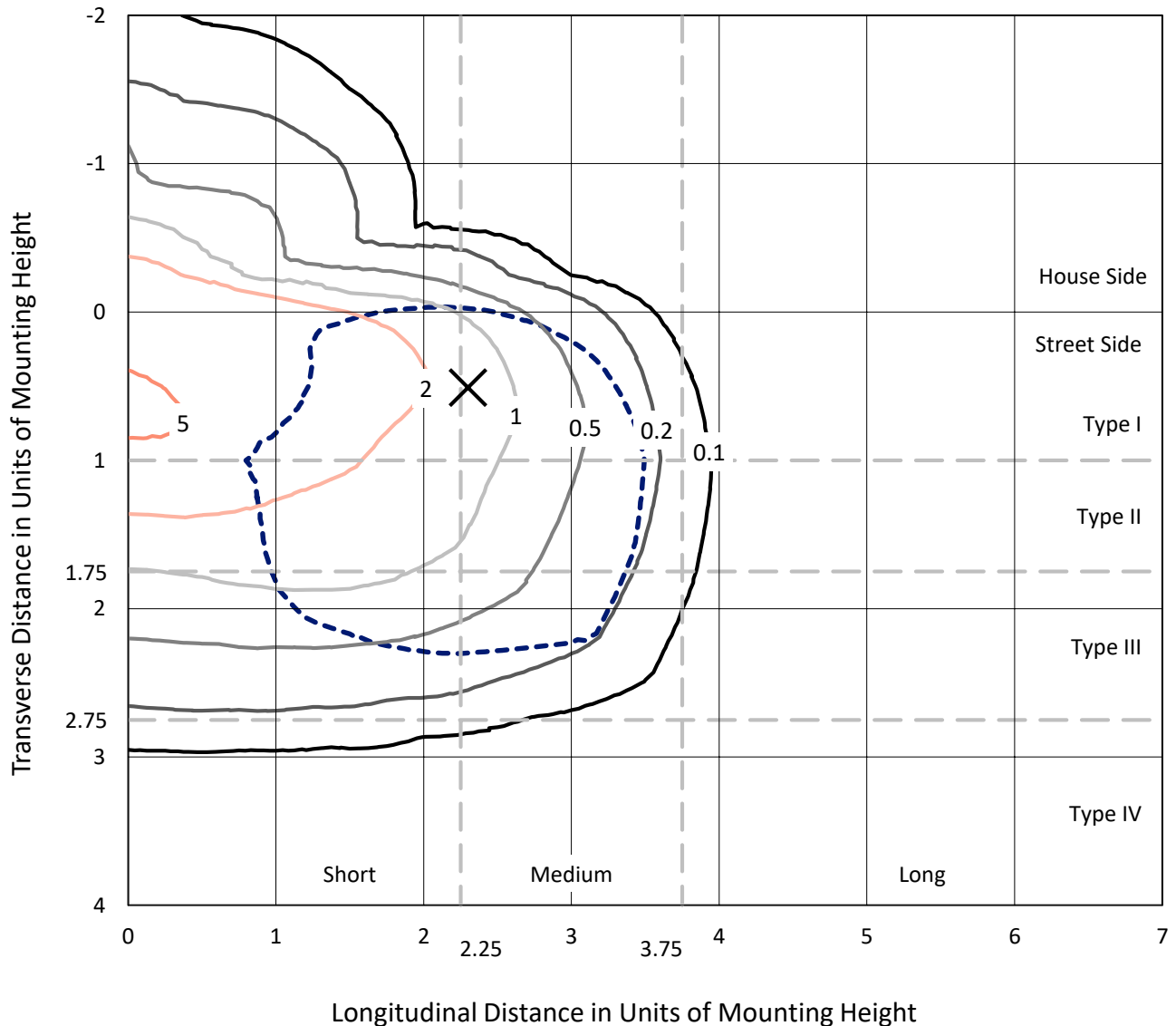
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

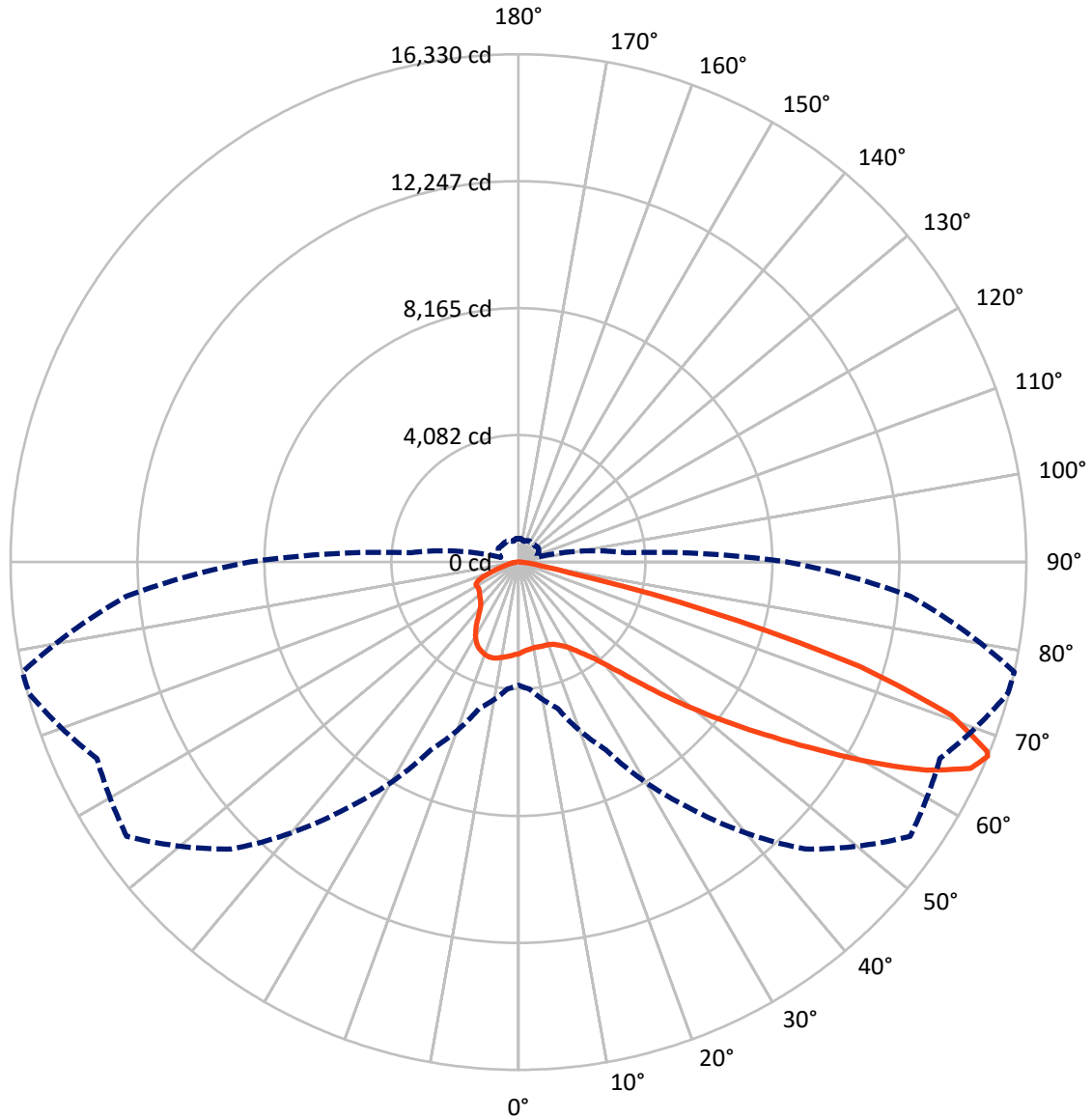
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.7 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3445.4	0.0	3445.4
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	16603.6	0.0	16603.6
	% Fixture	82.8	0.0	82.8
Total	Lumens	20049.0	0.0	20049.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	262.8	1.3
10°-20°	727.8	3.6
20°-30°	1236.6	6.2
30°-40°	1978.3	9.9
40°-50°	3045.5	15.2
50°-60°	4225.4	21.1
60°-70°	5636.4	28.1
70°-80°	2682.3	13.4
80°-90°	254.0	1.3
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°	20049.0	100.0
0°-180°	20049.0	100.0



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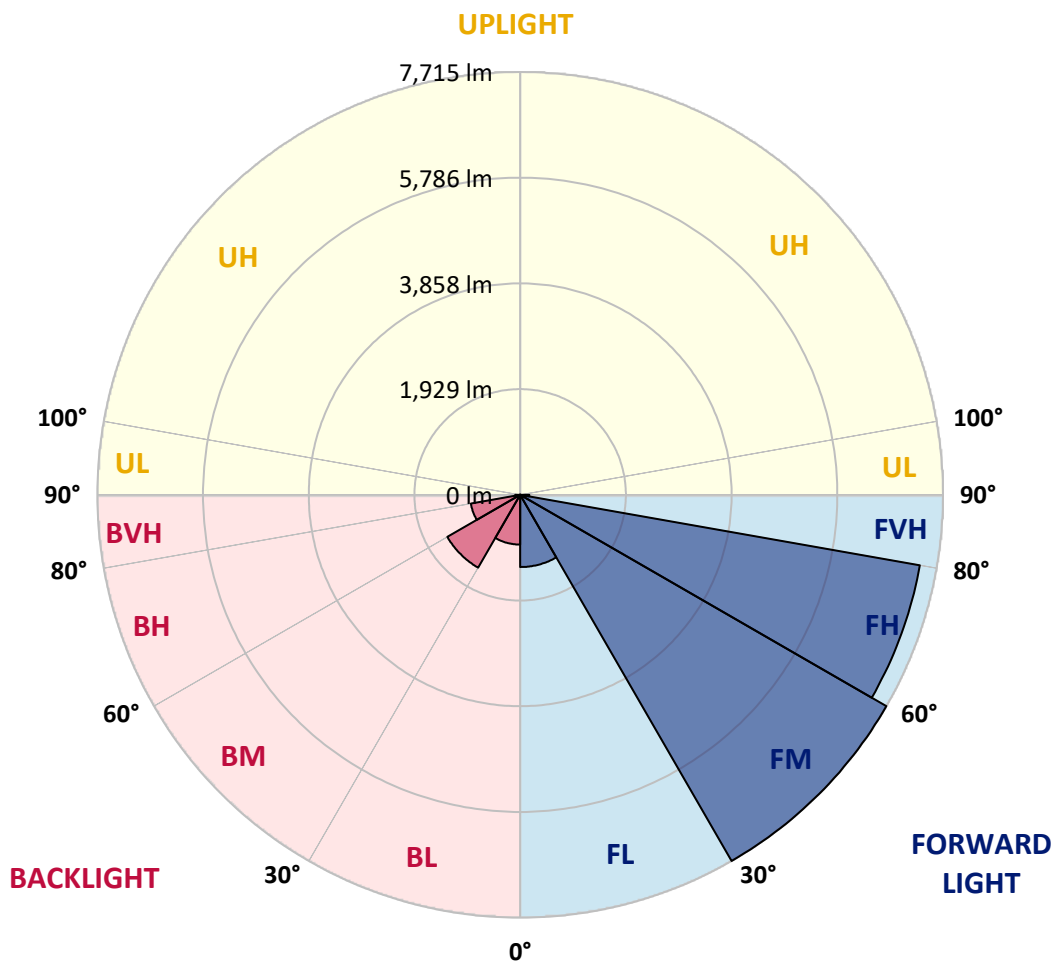
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1318.4	6.6			
FM	(30°-60°)	7715.1	38.5			
FH	(60°-80°)	7405.2	36.9			G3/7500
FVH	(80°-90°)	165.0	0.8			G2/225
BL	(0°-30°)	908.8	4.5	B2/1000		
BM	(30°-60°)	1534.1	7.7	B2/2500		
BH	(60°-80°)	913.5	4.6	B2/1000		G2/1000
BVH	(80°-90°)	89.0	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	2950.7	2950.7	2950.7	2950.7	2950.7	2950.7	2950.7	2950.7	2950.7	2950.7	2950.7
2.5°	2645.8	2658.2	2659.5	2695.4	2711.5	2752.4	2797.0	2836.7	2871.4	2883.8	2906.1
5°	2380.6	2380.6	2384.3	2407.9	2453.7	2519.4	2612.4	2714.0	2820.6	2846.6	2912.3
7.5°	2241.8	2244.3	2246.8	2270.3	2306.3	2364.5	2457.5	2596.3	2773.5	2816.8	2932.1
10°	2254.2	2250.5	2238.1	2233.2	2248.0	2285.2	2365.8	2508.3	2733.8	2800.7	2968.0
12.5°	2448.8	2441.3	2400.5	2341.0	2286.4	2272.8	2328.6	2463.7	2715.2	2800.7	3028.8
15°	2782.1	2787.1	2706.6	2582.6	2440.1	2343.4	2336.0	2447.5	2709.0	2808.2	3099.4
17.5°	3215.9	3218.4	3106.8	2927.1	2690.4	2490.9	2386.8	2447.5	2709.0	2815.6	3167.6
20°	3676.9	3659.5	3533.1	3307.6	3000.3	2695.4	2479.8	2462.4	2716.5	2826.8	3232.0
22.5°	4072.2	4056.1	3923.5	3686.8	3334.9	2937.1	2604.9	2512.0	2757.4	2872.6	3322.5
25°	4418.0	4427.9	4299.0	4032.6	3668.2	3209.7	2792.1	2626.0	2842.9	2955.6	3434.0
27.5°	4838.1	4819.5	4670.8	4416.7	4011.5	3492.2	3026.3	2769.8	2944.5	3056.0	3570.3
30°	5323.9	5315.2	5114.4	4853.0	4389.5	3808.3	3258.0	2924.7	3077.1	3193.6	3741.3
32.5°	5913.8	5912.5	5696.9	5375.9	4814.5	4165.2	3531.9	3136.6	3270.4	3388.1	3968.1
35°	6581.7	6580.5	6357.4	5933.6	5304.0	4560.5	3854.1	3394.3	3509.6	3633.5	4238.3
37.5°	7045.2	7037.8	6921.3	6509.9	5845.6	5020.3	4256.9	3741.3	3781.0	3919.8	4564.2
40°	7134.4	7179.1	7279.4	7036.5	6436.7	5530.8	4660.9	4114.4	4151.5	4330.0	4974.4
42.5°	7037.8	7096.0	7429.4	7497.5	7027.9	6149.2	5166.5	4631.1	4678.2	4900.0	5456.5
45°	6953.5	7004.3	7421.9	7752.8	7611.6	6823.4	5797.3	5261.9	5351.1	5626.3	6006.7
47.5°	6809.8	6856.8	7275.7	7798.7	7944.9	7472.8	6556.9	6020.3	6174.0	6507.4	6633.8
50°	6802.3	6823.4	7076.2	7645.0	8060.2	7966.0	7398.4	6907.7	7143.1	7527.3	7327.8
52.5°	6613.9	6761.4	6990.7	7399.6	8062.6	8253.5	8227.5	7880.5	8243.6	8668.6	8088.7
55°	5461.4	5631.2	6705.7	7279.4	8047.8	8500.1	8984.7	8915.3	9482.8	9930.2	8941.3
57.5°	5099.6	5171.4	5882.8	7315.4	8171.7	8907.8	9741.8	10026.9	10900.6	11388.8	9963.7
60°	5000.4	5076.0	5718.0	7332.7	8507.5	9650.1	10769.2	11282.3	12567.4	13085.4	11124.9
62.5°	4890.1	4988.0	5730.4	7348.8	9097.4	10748.1	12132.4	12644.2	14278.8	14741.0	12212.9
65°	4567.9	4698.0	5501.1	7247.2	9743.1	12126.2	13934.3	14064.4	15692.8	15986.5	12869.7
67°	3957.0	4099.5	4871.5	6659.8	9683.6	13054.4	15375.5	14953.0	16293.8	16329.8	12656.6
67.5°	3763.6	3911.1	4658.4	6415.7	9513.8	13175.8	15630.8	15075.6	16288.9	16249.2	12458.3
70°	2534.3	2700.4	3298.9	4710.4	7631.4	12262.5	15568.9	14697.7	15220.6	14765.8	10703.5
72.5°	1257.9	1262.8	1645.7	2580.1	4623.7	8795.1	12987.5	12573.6	12338.1	11479.3	7854.5
75°	606.0	617.2	777.0	1140.1	1949.4	4540.7	8857.0	8484.0	7223.7	6254.6	3930.9
77.5°	462.2	473.4	603.5	742.3	813.0	1480.9	4387.0	3545.5	2093.1	1671.8	1107.9
80°	356.9	378.0	509.3	570.1	537.8	593.6	1379.3	1085.6	814.2	747.3	549.0
82.5°	278.8	291.2	432.5	432.5	371.8	397.8	641.9	627.1	505.6	456.0	294.9
85°	197.0	221.8	348.2	322.2	244.1	246.6	384.2	368.1	260.2	209.4	115.3
87.5°	88.0	112.8	247.9	210.7	130.1	100.4	157.4	135.1	102.9	79.3	53.3
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°	2950.7	2950.7	2950.7	2950.7	2950.7	2950.7	2950.7	2950.7	2950.7	2950.7	2950.7
2.5°	2930.9	2950.7	2981.7	3000.3	3025.0	3035.0	3044.9	3062.2	3075.9	3072.1	3065.9
5°	2958.1	2991.6	3030.0	3042.4	3042.4	3030.0	3022.6	3023.8	3020.1	3017.6	3010.2
7.5°	2997.8	3043.6	3070.9	3058.5	3020.1	2971.8	2925.9	2898.6	2872.6	2856.5	2861.5
10°	3053.5	3104.4	3105.6	3051.1	2959.4	2854.0	2763.6	2705.3	2649.5	2624.8	2632.2
12.5°	3134.1	3184.9	3141.5	3023.8	2862.7	2697.9	2531.8	2411.6	2303.8	2277.8	2270.3
15°	3220.8	3260.5	3163.8	2965.6	2723.9	2452.5	2173.7	1994.0	1873.8	1852.7	1845.3
17.5°	3296.4	3318.7	3152.7	2861.5	2504.6	2077.0	1752.3	1630.9	1606.1	1618.5	1618.5
20°	3363.4	3355.9	3104.4	2700.4	2158.8	1660.6	1472.2	1471.0	1504.5	1535.4	1537.9
22.5°	3447.6	3389.4	3027.5	2461.2	1746.1	1385.5	1353.3	1385.5	1422.7	1457.4	1461.1
25°	3548.0	3426.6	2924.7	2120.4	1404.1	1257.9	1271.5	1298.7	1322.3	1349.6	1350.8
27.5°	3648.4	3455.1	2779.7	1720.1	1218.2	1176.1	1190.9	1202.1	1208.3	1225.6	1225.6
30°	3764.9	3477.4	2570.2	1378.1	1132.7	1104.2	1095.5	1090.6	1095.5	1119.1	1120.3
32.5°	3911.1	3517.0	2284.0	1182.3	1093.0	1053.4	1008.8	984.0	1001.3	1043.5	1050.9
35°	4077.2	3564.1	1940.7	1104.2	1079.4	1028.6	946.8	908.4	914.6	953.0	959.2
37.5°	4285.4	3624.8	1602.4	1085.6	1093.0	1026.1	918.3	863.8	836.5	837.7	836.5
40°	4551.8	3685.6	1334.7	1090.6	1122.8	1032.3	904.7	819.2	762.1	764.6	769.6
42.5°	4830.6	3725.2	1164.9	1105.4	1158.7	1041.0	899.7	775.8	726.2	768.3	806.8
45°	5156.6	3714.1	1076.9	1119.1	1186.0	1044.7	881.1	770.8	729.9	856.3	928.2
47.5°	5530.8	3665.7	1027.3	1125.3	1193.4	1043.5	867.5	786.9	760.9	980.3	1062.0
50°	5937.3	3590.1	987.7	1115.3	1189.7	1038.5	882.4	806.8	773.3	1007.5	1070.7
52.5°	6382.2	3520.7	946.8	1093.0	1171.1	1023.6	900.9	798.1	738.6	928.2	976.5
55°	6908.9	3504.6	900.9	1054.6	1140.1	1007.5	891.0	770.8	700.2	822.9	852.6
57.5°	7511.2	3605.0	841.5	1007.5	1098.0	975.3	867.5	756.0	686.6	748.5	764.6
60°	8275.8	3826.8	778.3	958.0	1045.9	927.0	846.4	759.7	690.3	737.4	741.1
62.5°	8873.1	4026.4	721.3	897.2	976.5	868.7	824.1	763.4	701.4	752.2	746.0
65°	9090.0	3928.5	650.6	806.8	878.6	804.3	793.1	765.9	701.4	760.9	747.3
67°	8645.1	3461.3	583.7	716.3	785.7	747.3	763.4	756.0	689.0	759.7	736.1
67.5°	8433.2	3296.4	566.3	701.4	760.9	729.9	756.0	751.0	685.3	757.2	729.9
70°	6954.7	2364.5	478.4	588.7	637.0	643.2	710.1	718.8	655.6	711.3	661.8
72.5°	4948.4	1479.7	412.7	456.0	514.3	550.2	648.1	675.4	615.9	618.4	577.5
75°	2448.8	794.4	368.1	352.0	400.3	458.5	565.1	615.9	557.7	515.5	501.9
77.5°	826.6	449.9	311.1	283.8	311.1	368.1	468.4	537.8	492.0	436.2	427.5
80°	427.5	327.2	242.9	228.0	245.4	285.0	366.8	447.4	420.1	422.6	348.2
82.5°	266.4	199.5	174.7	173.5	185.9	218.1	270.2	363.1	360.6	308.6	224.3
85°	123.9	115.3	111.5	115.3	119.0	123.9	176.0	259.0	273.9	166.1	147.5
87.5°	52.0	50.8	44.6	48.3	53.3	52.0	70.6	110.3	153.7	104.1	95.4
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)