

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: P195610

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7050-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195610  
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-04-D-UNV-SL2-7050-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 5000K, 800mA 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: 19324 lumens  
Efficiency: N/A  
Efficacy: 113.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium - Semi-Cutoff  
BUG Rating: B3 - U0 - G3

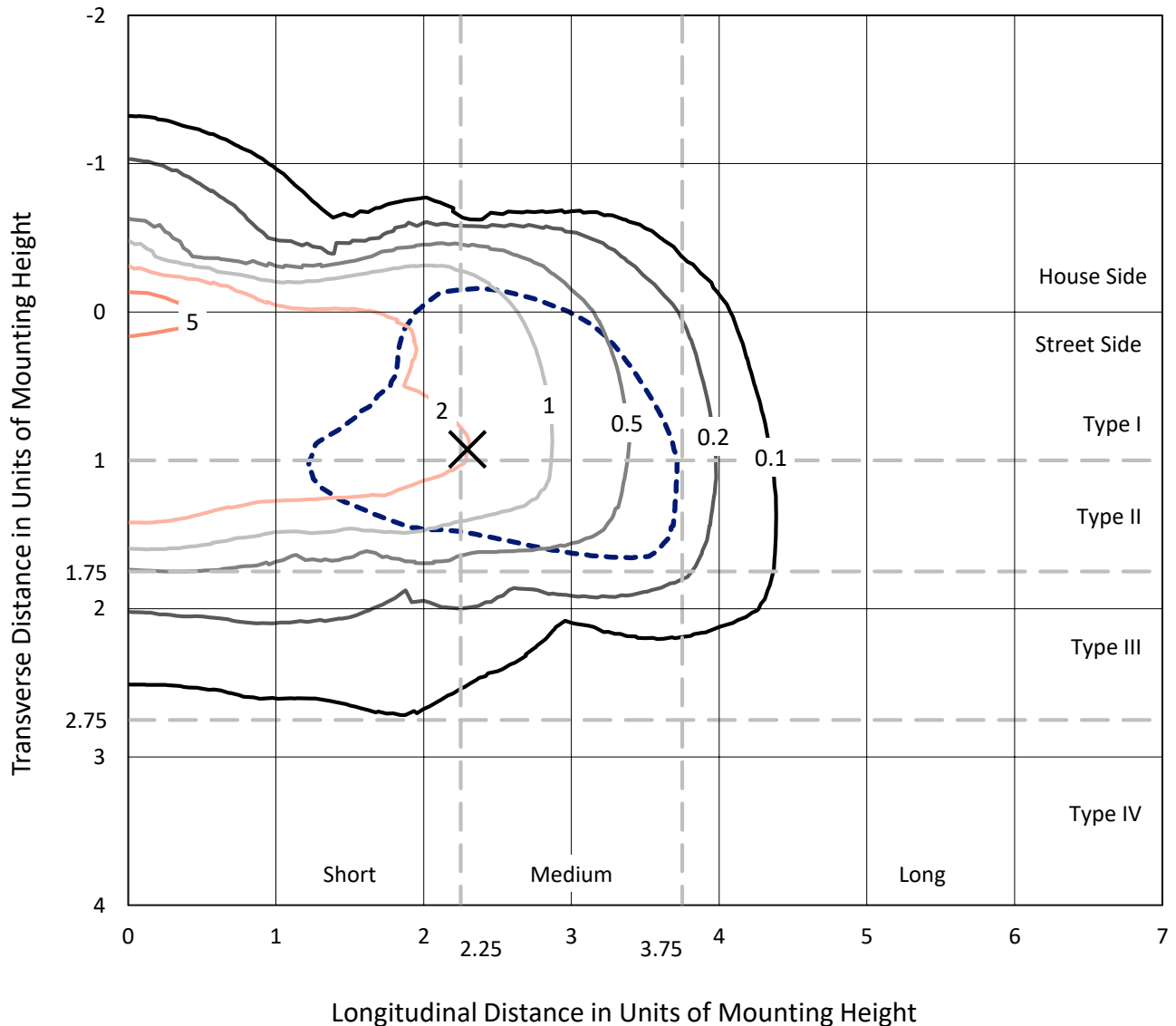
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

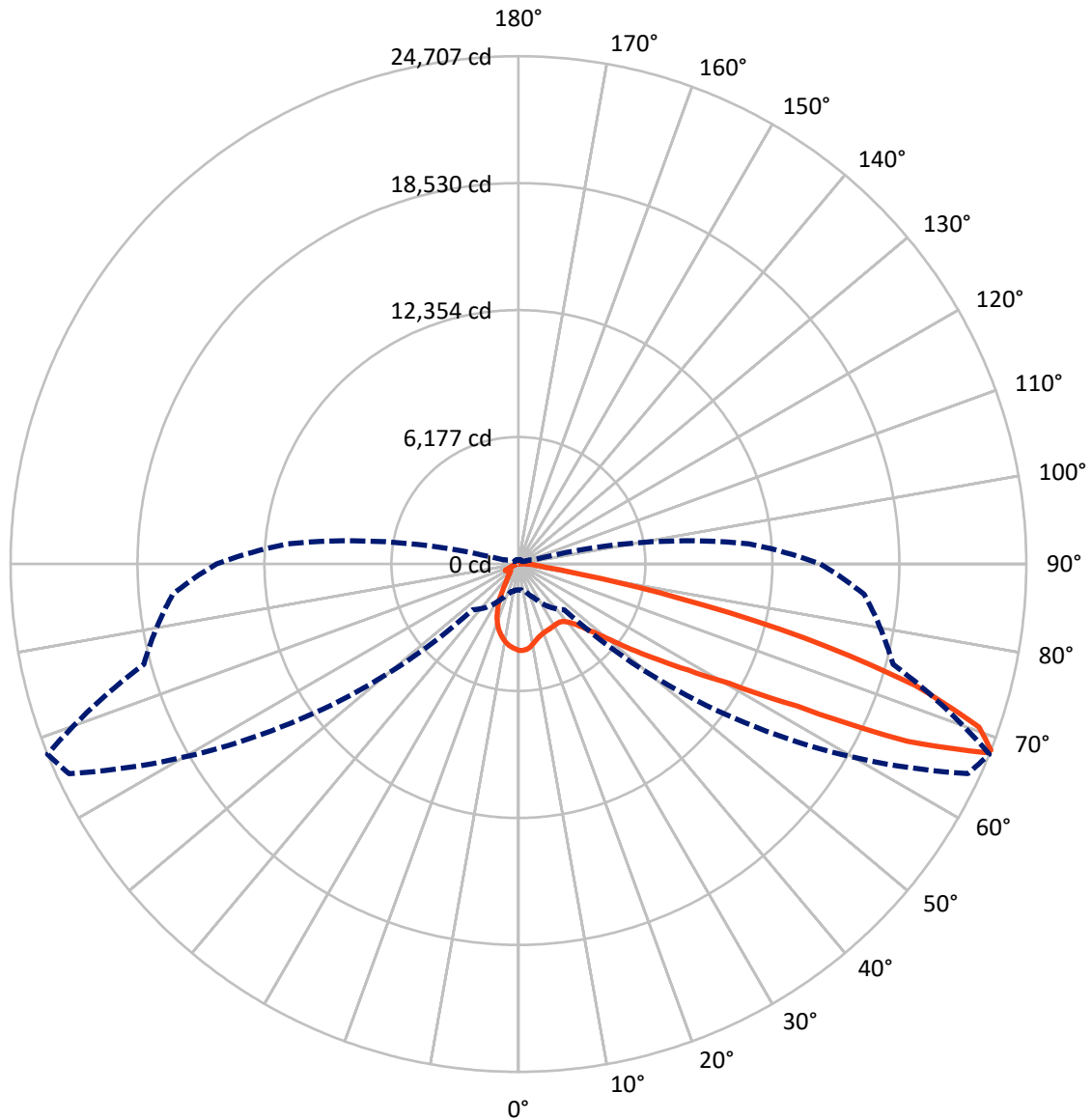
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.7 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
<b>House Side</b>	Lumens	3161.5	0.0	3161.5
	% Fixture	16.4	0.0	16.4
<b>Street Side</b>	Lumens	16162.5	0.0	16162.5
	% Fixture	83.6	0.0	83.6
<b>Total</b>	Lumens	19324.0	0.0	19324.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	360.3	1.9
10°-20°	835.6	4.3
20°-30°	1130.1	5.8
30°-40°	1593.4	8.2
40°-50°	2620.2	13.6
50°-60°	4061.5	21.0
60°-70°	5266.1	27.3
70°-80°	3022.0	15.6
80°-90°	434.8	2.2
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°	19324.0	100.0
0°-180°	19324.0	100.0



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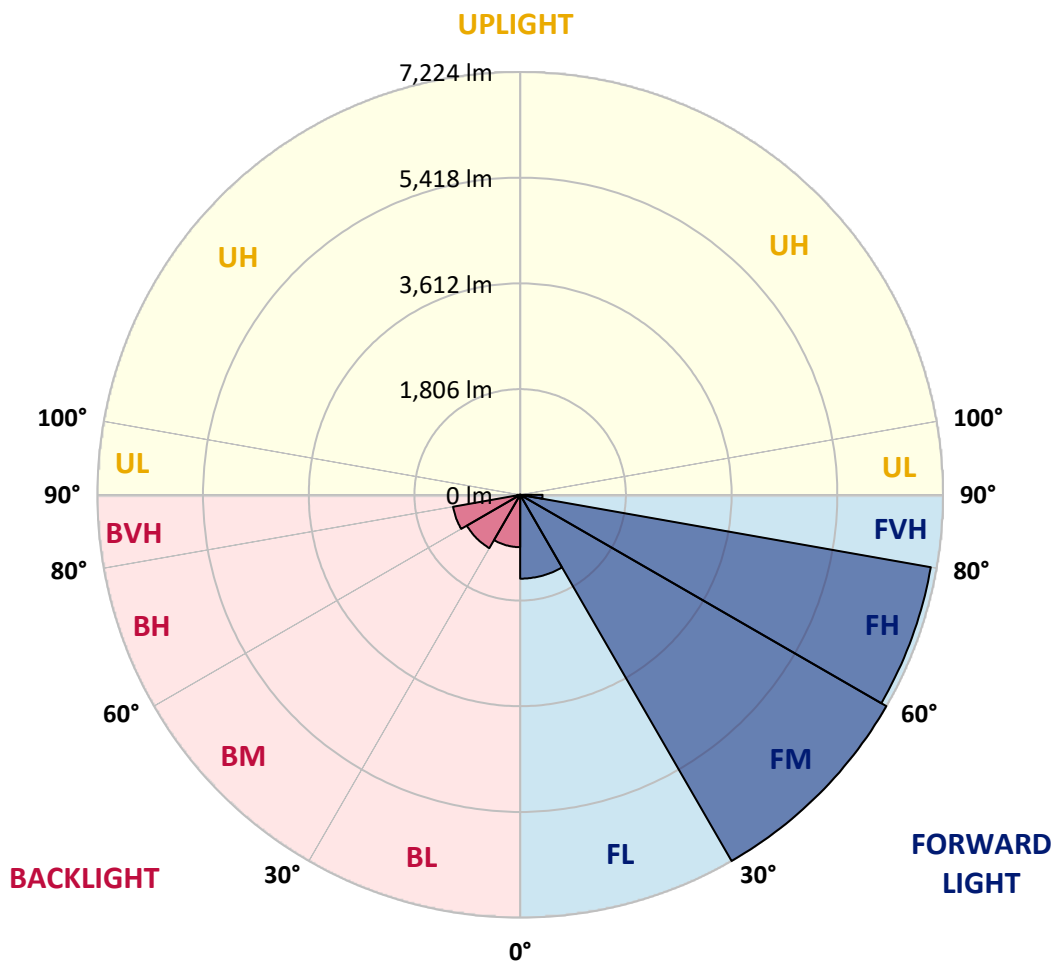
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1432.2	7.4			
FM (30°-60°)	7223.6	37.4			
FH (60°-80°)	7123.7	36.9			G3/7500
FVH (80°-90°)	383.0	2.0			G3/500
BL (0°-30°)	893.8	4.6	B2/1000		
BM (30°-60°)	1051.5	5.4	B2/2500		
BH (60°-80°)	1164.3	6.0	B3/2500		G3/2500
BVH (80°-90°)	51.8	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-G3**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	4204.7	4204.7	4204.7	4204.7	4204.7	4204.7	4204.7	4204.7	4204.7	4204.7	4204.7
2.5°	4092.4	4125.2	4125.2	4149.2	4170.6	4188.3	4203.5	4203.5	4203.5	4193.4	4184.5
5°	3661.9	3706.1	3712.4	3773.0	3852.5	3949.7	4058.3	4154.2	4173.2	4208.5	4222.4
7.5°	3362.8	3376.7	3400.6	3442.3	3523.1	3643.0	3813.4	4028.0	4079.8	4190.8	4248.9
10°	3150.7	3162.1	3182.3	3223.9	3297.1	3405.7	3573.6	3852.5	3938.4	4135.3	4250.2
12.5°	2995.4	3004.3	3023.2	3061.1	3135.6	3232.8	3404.4	3694.8	3800.8	4079.8	4267.8
15°	2874.3	2889.4	2904.6	2941.2	3016.9	3110.3	3284.5	3579.9	3694.8	4035.6	4300.7
17.5°	2826.3	2833.9	2836.4	2855.3	2923.5	3018.2	3192.4	3499.1	3617.8	4000.2	4325.9
20°	2856.6	2857.9	2832.6	2820.0	2859.1	2946.2	3115.4	3438.5	3559.7	3968.7	4336.0
22.5°	2989.1	2989.1	2923.5	2868.0	2841.4	2895.7	3063.6	3396.9	3528.1	3944.7	4336.0
25°	3241.6	3230.2	3128.0	3018.2	2900.8	2878.0	3030.8	3370.3	3504.2	3932.1	4319.6
27.5°	3573.6	3563.5	3433.5	3270.6	3058.6	2915.9	3019.4	3348.9	3480.2	3913.1	4284.3
30°	3977.5	3968.7	3821.0	3607.7	3294.6	3035.8	3045.9	3333.7	3461.2	3881.6	4224.9
32.5°	4380.2	4375.1	4257.7	4039.4	3620.3	3239.1	3115.4	3331.2	3451.1	3843.7	4153.0
35°	4785.4	4785.4	4713.4	4529.1	4058.3	3544.5	3260.5	3377.9	3470.1	3823.5	4091.1
37.5°	5383.7	5359.7	5225.9	5035.3	4609.9	3940.9	3495.3	3476.4	3543.3	3857.6	4070.9
40°	6310.3	6240.8	5906.3	5585.7	5212.0	4448.4	3838.7	3667.0	3707.4	3973.7	4118.9
42.5°	7279.7	7169.9	6726.8	6214.3	5834.4	5074.5	4289.3	3976.3	3975.0	4198.4	4271.6
45°	8111.6	8054.8	7575.1	6925.0	6545.0	5778.8	4858.6	4435.7	4390.3	4546.8	4565.7
47.5°	8595.0	8557.1	8268.1	7677.3	7388.3	6610.7	5580.6	5073.2	4987.4	5080.8	5051.7
50°	8461.2	8497.8	8414.5	8112.8	8294.6	7779.6	6500.9	5946.7	5783.9	5877.3	5806.6
52.5°	7756.8	7855.3	7929.8	7987.9	8815.9	9343.6	7657.1	7037.3	6902.3	6885.9	6817.7
55°	6488.2	6644.8	6879.5	7306.2	8675.8	10599.6	9676.8	8356.4	8159.5	8056.0	8082.5
57.5°	4415.5	4652.8	5159.0	5970.7	7947.5	11134.8	12663.4	10060.6	9727.3	9358.7	9444.5
60°	2432.5	2630.6	3232.8	4050.7	6285.0	11055.2	15310.5	12830.0	11781.1	10804.0	10980.8
62.5°	1574.1	1617.0	2065.1	2767.0	3857.6	9760.1	16781.1	17458.9	15236.0	12710.1	12958.8
65°	1264.8	1295.1	1514.8	2231.8	2687.4	6278.7	16846.7	22260.7	20795.2	15300.4	15307.9
67.5°	1235.8	1249.7	1377.2	1877.0	2520.8	3418.3	14561.9	24154.2	24493.7	18357.7	16879.5
68°	1253.5	1269.9	1398.6	1819.0	2519.6	3150.7	13458.7	24125.1	24707.0	18868.9	16879.5
70°	1105.8	1126.0	1426.4	1882.1	2412.3	2708.9	9216.1	22843.9	23780.5	20044.1	16016.1
72.5°	578.1	561.7	705.6	1485.7	2715.2	2822.5	4868.7	19084.8	20177.9	18563.4	13837.4
75°	450.6	410.2	395.1	587.0	2388.3	2927.3	2827.6	13564.7	14390.2	13381.7	9248.9
77.5°	424.1	374.9	345.9	347.1	1051.5	3045.9	2287.3	7982.8	7982.8	6383.5	2951.3
80°	340.8	295.4	276.4	315.6	507.4	2807.4	2387.0	3638.0	3102.7	1649.8	812.9
82.5°	224.7	200.7	202.0	256.2	385.0	1874.5	2764.4	1796.3	1349.4	730.9	478.4
85°	142.6	122.4	136.3	179.2	287.8	835.6	2736.7	1248.4	893.7	410.2	238.6
87.5°	72.0	55.5	68.2	93.4	175.5	239.8	2253.2	1114.6	662.7	170.4	130.0
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°	4204.7	4204.7	4204.7	4204.7	4204.7	4204.7	4204.7	4204.7	4204.7	4204.7	4204.7
2.5°	4184.5	4156.8	4142.9	4120.2	4092.4	4064.6	4045.7	4036.8	4031.8	4034.3	4033.1
5°	4214.8	4178.2	4118.9	4034.3	3947.2	3855.1	3784.4	3730.1	3696.0	3685.9	3683.4
7.5°	4237.5	4184.5	4073.5	3919.4	3770.5	3608.9	3471.3	3361.5	3287.0	3253.0	3251.7
10°	4233.8	4165.6	3990.1	3762.9	3544.5	3307.2	3091.4	2907.1	2773.3	2708.9	2706.4
12.5°	4237.5	4144.1	3887.9	3579.9	3266.8	2927.3	2606.7	2320.1	2120.7	2026.0	2022.2
15°	4252.7	4121.4	3783.1	3375.4	2942.4	2462.8	2004.5	1644.8	1463.0	1401.2	1401.2
17.5°	4251.4	4083.5	3661.9	3138.1	2557.4	1914.9	1368.3	1146.2	1128.5	1185.3	1194.1
20°	4226.2	4023.0	3505.4	2856.6	2105.5	1325.4	927.8	896.2	1037.6	1194.1	1211.8
22.5°	4187.1	3944.7	3324.9	2529.7	1579.1	863.4	715.7	763.7	955.6	1150.0	1177.7
25°	4132.8	3850.0	3117.9	2149.7	1050.2	621.1	597.1	656.4	791.5	921.5	941.7
27.5°	4053.3	3730.1	2891.9	1738.2	670.3	511.2	520.1	561.7	619.8	675.3	686.7
30°	3953.5	3590.0	2645.8	1282.5	508.7	457.0	472.1	497.3	522.6	557.9	565.5
32.5°	3852.5	3447.3	2389.5	881.1	444.3	427.9	443.1	457.0	478.4	502.4	507.4
35°	3761.7	3314.8	2125.7	614.7	416.6	409.0	416.6	425.4	446.9	470.8	473.4
37.5°	3696.0	3206.2	1850.5	486.0	400.1	392.6	396.4	400.1	425.4	460.7	464.5
40°	3687.2	3134.3	1571.6	436.8	387.5	377.4	374.9	377.4	410.2	450.6	454.4
42.5°	3773.0	3138.1	1298.9	416.6	377.4	366.1	356.0	361.0	390.1	421.6	424.1
45°	3976.3	3226.4	1062.9	407.7	368.6	359.8	344.6	347.1	361.0	377.4	380.0
47.5°	4334.7	3419.6	882.3	402.7	361.0	353.4	334.5	326.9	328.2	337.0	337.0
50°	4907.8	3742.7	772.5	397.6	354.7	340.8	319.4	304.2	300.4	305.5	306.7
52.5°	5762.4	4296.9	719.5	387.5	343.3	324.4	300.4	285.3	279.0	284.0	284.0
55°	6917.4	5181.8	694.3	373.6	329.5	304.2	282.8	270.1	265.1	268.9	268.9
57.5°	8234.0	6331.7	737.2	354.7	311.8	282.8	267.6	258.8	255.0	258.8	260.0
60°	9798.0	7836.4	1032.6	330.7	292.9	263.8	255.0	249.9	247.4	251.2	251.2
62.5°	11877.0	9838.4	1598.1	311.8	272.7	246.1	243.6	241.1	238.6	242.4	242.4
65°	14121.4	11659.9	1644.8	300.4	255.0	231.0	232.3	232.3	229.7	233.5	233.5
67.5°	14835.8	11502.1	919.0	286.5	233.5	215.9	220.9	220.9	219.6	223.4	222.2
68°	14684.4	11252.2	800.3	282.8	229.7	212.1	217.1	218.4	217.1	220.9	219.6
70°	13555.9	9878.8	526.4	261.3	213.3	199.4	207.0	208.3	207.0	212.1	210.8
72.5°	11190.3	7409.7	388.8	228.5	193.1	183.0	190.6	191.9	193.1	198.2	196.9
75°	7106.8	4092.4	306.7	194.4	172.9	164.1	171.7	175.5	178.0	185.6	181.8
77.5°	1946.5	1242.1	248.7	165.4	149.0	145.2	150.2	155.3	157.8	166.6	160.3
80°	681.6	549.1	207.0	140.1	123.7	122.4	127.5	132.5	135.1	142.6	135.1
82.5°	414.0	358.5	165.4	109.8	97.2	95.9	102.2	107.3	109.8	109.8	104.8
85°	215.9	189.3	121.2	77.0	66.9	63.1	74.5	80.8	82.0	80.8	77.0
87.5°	121.2	107.3	64.4	36.6	30.3	31.6	39.1	48.0	51.8	50.5	48.0
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)