

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: P196673

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-7030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196673  
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-SL4-7030  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 3000K, 1050mA 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: 27744.2 lumens  
Efficiency: N/A  
Efficacy: 99.4 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 - G5

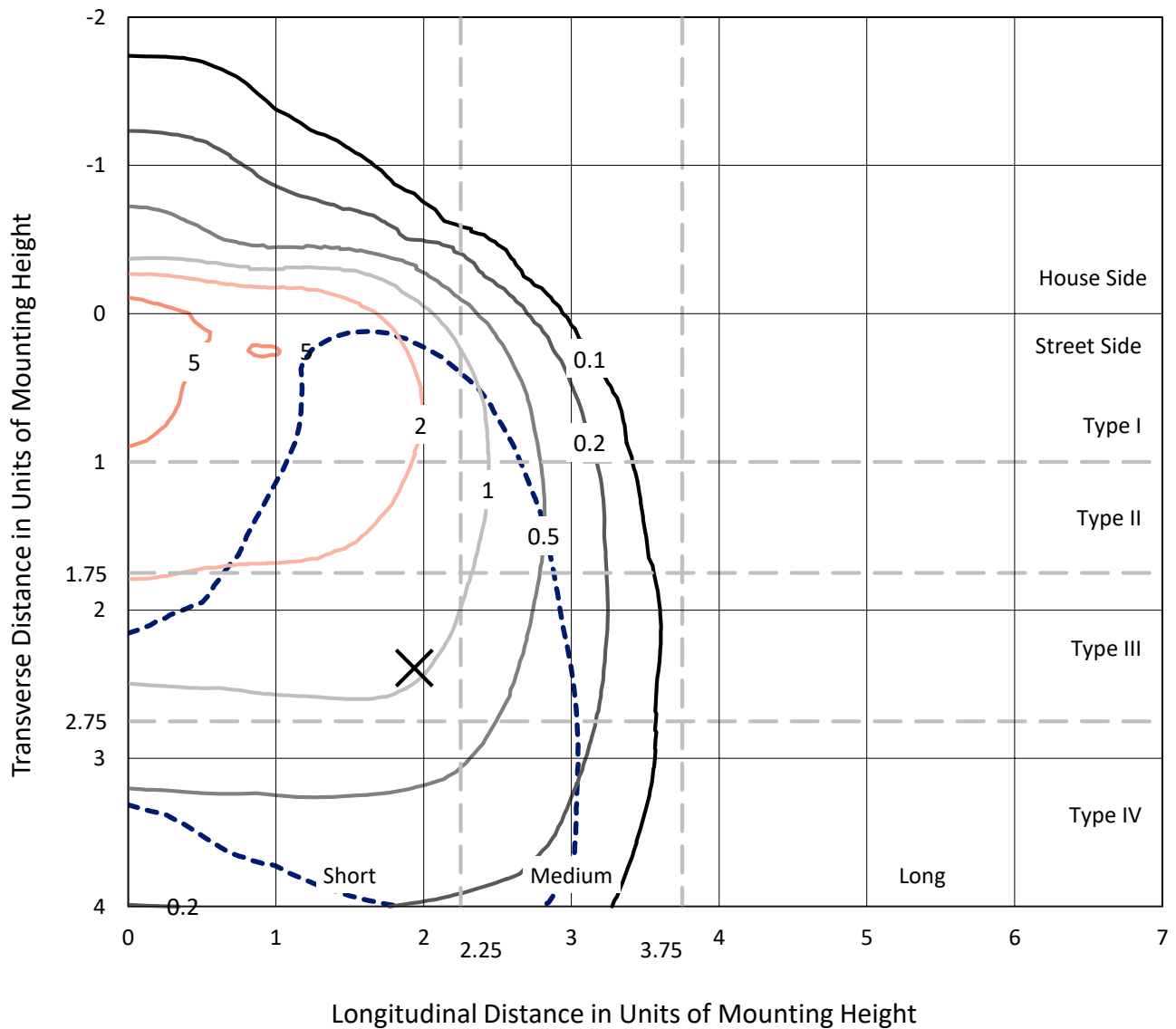
Input Watts (W): 279  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

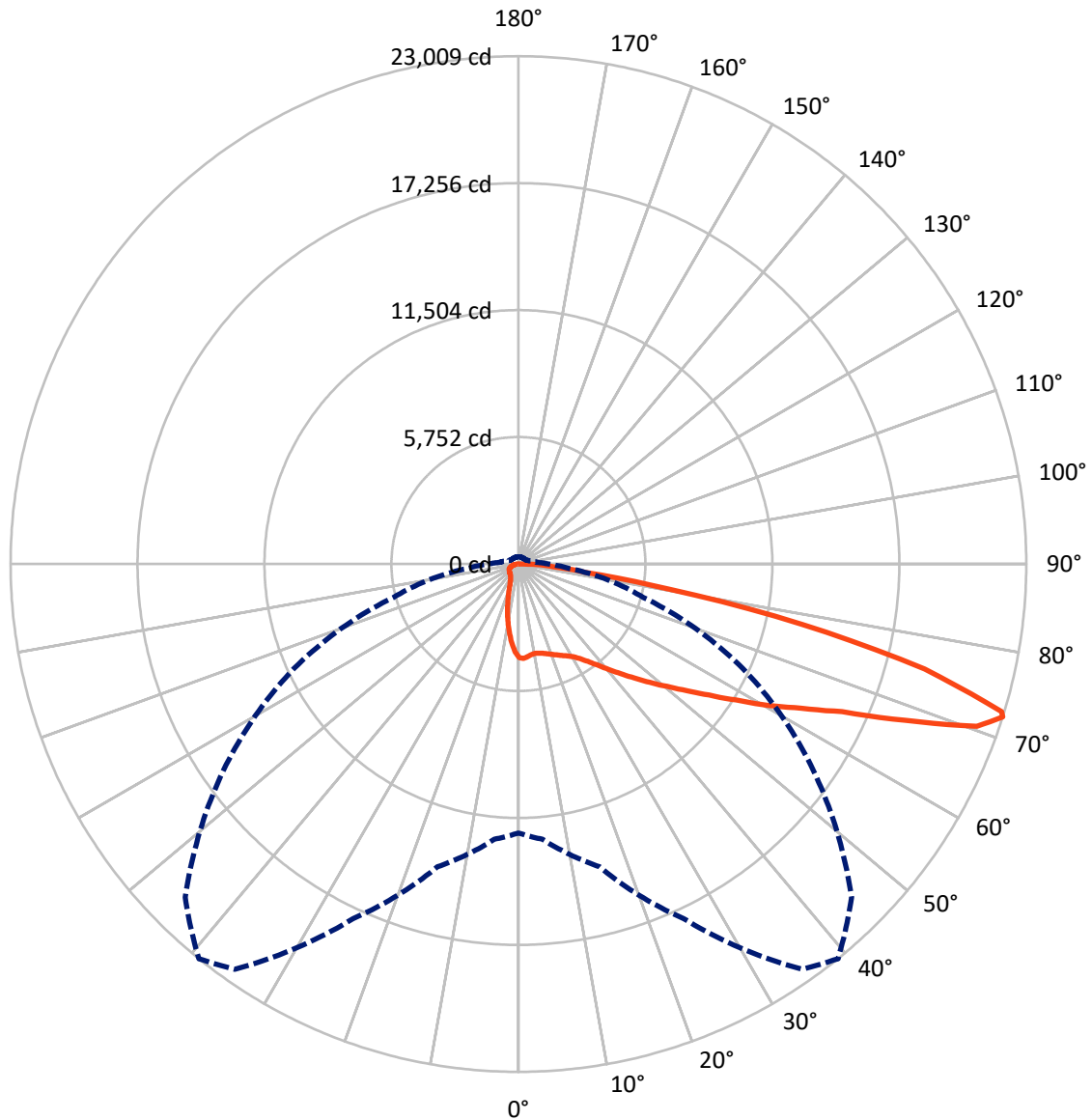
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.8 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



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

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3181.2	0.0	3181.2
	% Fixture	11.5	0.0	11.5
<b>Street Side</b>	Lumens	24563.0	0.0	24563.0
	% Fixture	88.5	0.0	88.5
<b>Total</b>	Lumens	27744.2	0.0	27744.2
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	364.1	1.3
10°-20°	914.9	3.3
20°-30°	1425.8	5.1
30°-40°	2195.3	7.9
40°-50°	3578.9	12.9
50°-60°	5561.2	20.0
60°-70°	7443.5	26.8
70°-80°	5353.0	19.3
80°-90°	907.4	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°	27744.2	100.0
0°-180°	27744.2	100.0

**Coefficient of Utilization**



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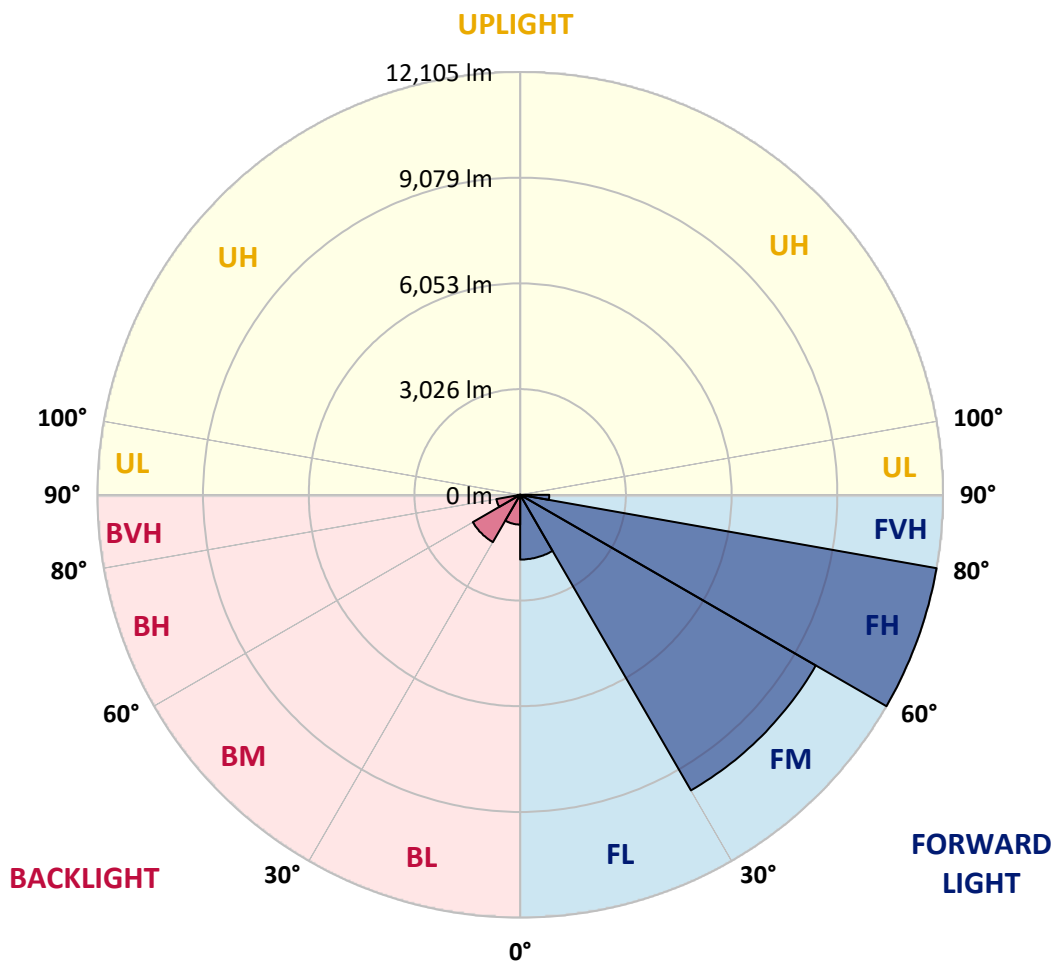
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1853.3	6.7			
FM (30°-60°)	9772.0	35.2			
FH (60°-80°)	12105.2	43.6			G5
FVH (80°-90°)	832.4	3.0			G5
BL (0°-30°)	851.6	3.1	B2/1000		
BM (30°-60°)	1563.4	5.6	B2/2500		
BH (60°-80°)	691.2	2.5	B2/1000		G2/1000
BVH (80°-90°)	75.0	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-G5**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	4237.1	4237.1	4237.1	4237.1	4237.1	4237.1	4237.1	4237.1	4237.1	4237.1	4237.1
2.5°	4328.3	4330.2	4324.6	4307.8	4292.9	4285.4	4272.5	4250.0	4220.2	4199.8	4183.0
5°	4287.4	4292.9	4289.2	4261.2	4235.2	4220.2	4199.8	4168.1	4129.0	4112.3	4073.1
7.5°	4255.6	4259.4	4248.2	4216.6	4166.3	4147.6	4110.5	4069.5	4034.1	4009.9	3963.3
10°	4233.4	4237.1	4227.7	4196.1	4140.2	4117.9	4073.1	4028.5	3981.9	3952.1	3899.9
12.5°	4201.7	4209.1	4209.1	4194.3	4157.0	4142.0	4097.3	4048.9	4006.1	3974.5	3909.3
15°	4196.1	4205.4	4222.1	4220.2	4209.1	4198.0	4162.6	4114.1	4076.9	4039.7	3959.5
17.5°	4242.6	4263.1	4296.6	4307.8	4300.3	4276.2	4235.2	4190.5	4149.5	4114.1	4015.4
20°	4360.0	4371.1	4421.4	4443.8	4406.5	4371.1	4317.2	4259.4	4222.1	4194.3	4067.5
22.5°	4536.9	4551.7	4592.7	4594.7	4516.4	4473.6	4404.7	4333.9	4298.5	4287.4	4138.3
25°	4820.0	4816.2	4827.4	4780.8	4639.3	4589.0	4505.2	4423.3	4399.1	4421.4	4242.6
27.5°	5158.9	5149.6	5114.2	4993.1	4779.0	4713.8	4613.3	4540.6	4540.6	4592.7	4384.1
30°	5550.1	5540.7	5425.3	5222.3	4944.7	4870.2	4764.1	4687.8	4726.9	4827.4	4576.0
32.5°	5963.5	5929.9	5767.9	5496.1	5181.3	5099.3	4996.9	4918.8	4993.1	5164.5	4851.6
35°	6352.8	6334.1	6134.9	5812.7	5486.8	5417.8	5347.0	5250.2	5369.4	5635.7	5240.8
37.5°	6755.1	6740.2	6496.1	6153.5	5859.2	5812.7	5753.0	5686.0	5877.8	6228.0	5767.9
40°	7203.9	7174.1	6866.8	6524.1	6293.2	6270.8	6239.1	6220.5	6529.7	7051.1	6434.8
42.5°	7712.4	7654.6	7257.9	6932.0	6766.2	6784.9	6768.1	6842.6	7315.7	8001.0	7228.1
45°	8293.5	8177.9	7647.2	7365.9	7289.6	7364.1	7399.5	7589.3	8245.0	9098.0	8114.5
47.5°	8837.2	8688.3	8073.6	7837.1	7880.0	8008.4	8109.0	8444.3	9263.8	10182.0	9019.8
50°	9338.3	9170.6	8530.0	8325.1	8533.7	8716.1	8924.8	9397.8	10347.7	11297.5	9850.4
52.5°	9708.9	9587.8	8986.2	8857.7	9284.2	9526.4	9859.8	10457.5	11442.8	12360.9	10591.7
55°	9995.7	9930.5	9431.4	9468.6	10133.5	10479.9	10884.1	11571.3	12601.2	13314.6	11187.6
57.5°	10327.1	10278.8	9939.9	10206.1	11187.6	11623.4	12100.3	12863.8	13703.9	14154.5	11655.1
60°	10677.4	10677.4	10506.1	11094.5	12506.3	13005.3	13480.3	14074.4	14802.7	14910.6	11845.2
62.5°	10941.8	11010.7	11072.3	12040.6	13757.8	14378.0	14899.4	15469.4	15940.6	15283.1	11398.2
65°	11325.5	11472.6	11819.0	13133.8	15307.3	16119.3	16823.4	17302.0	16862.5	14987.0	9939.9
67.5°	11984.7	12202.6	12940.2	14761.7	17680.2	18896.3	19579.8	18752.8	16681.8	13122.7	7613.6
70°	12578.9	12886.1	14147.0	16827.1	20764.2	22027.0	21712.2	18415.7	14528.9	9619.5	4684.1
72°	12184.0	12519.3	14202.9	17726.7	22412.6	23008.5	21349.0	16320.5	11226.7	5870.4	2309.4
72.5°	11925.2	12273.4	14022.3	17704.3	22457.2	22883.7	20844.4	15488.0	10191.2	5136.6	1868.0
75°	9962.1	10260.1	12057.5	15691.0	19790.2	19008.1	16266.5	10023.7	4684.1	1659.4	961.1
77.5°	6505.6	6732.7	8313.9	10871.1	13862.0	13109.7	9900.7	4693.3	1756.3	1007.6	722.6
80°	3268.6	3430.6	4449.4	5715.8	7481.4	6883.6	4570.5	2270.3	1175.2	728.2	568.0
82.5°	2274.0	2423.1	3063.7	2918.5	3127.0	3026.5	2149.2	1894.1	879.1	460.0	297.9
85°	1907.1	2061.7	2534.9	2080.3	1702.3	1551.4	1540.2	1789.7	581.0	227.3	251.4
87.5°	1663.2	1897.9	2091.5	1519.8	1167.8	1029.9	1134.2	1640.8	184.4	124.8	76.4
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°	4237.1	4237.1	4237.1	4237.1	4237.1	4237.1	4237.1	4237.1	4237.1	4237.1	4237.1
2.5°	4155.1	4149.5	4121.6	4078.7	4047.1	4026.5	3987.5	3985.6	3989.4	3955.8	3968.9
5°	4037.7	4015.4	3942.7	3844.1	3764.0	3687.6	3603.8	3575.8	3551.7	3501.3	3507.0
7.5°	3914.9	3875.8	3749.1	3587.1	3432.5	3290.9	3151.2	3082.3	3030.2	2965.0	2965.0
10°	3842.2	3780.7	3587.1	3350.6	3104.7	2898.0	2689.3	2564.6	2473.3	2389.5	2383.9
12.5°	3838.5	3745.4	3475.3	3149.4	2812.3	2521.7	2236.7	2045.0	1909.0	1810.3	1800.9
15°	3868.4	3737.9	3382.2	2961.3	2536.7	2158.5	1806.6	1562.6	1389.3	1279.5	1268.3
17.5°	3894.3	3728.6	3281.6	2763.8	2268.4	1808.5	1417.3	1164.0	1000.2	910.6	901.4
20°	3918.6	3708.2	3153.1	2555.2	1972.3	1480.7	1108.1	903.2	795.3	744.9	739.3
22.5°	3954.0	3689.4	3019.1	2320.5	1681.8	1205.0	914.5	767.3	709.6	685.4	681.7
25°	4011.7	3691.4	2888.6	2080.3	1415.5	1003.9	791.6	700.3	668.6	651.8	651.8
27.5°	4095.5	3713.7	2760.1	1836.3	1190.1	866.0	718.9	664.9	644.4	631.4	627.7
30°	4218.4	3754.7	2624.2	1605.4	1011.3	771.1	676.1	642.6	625.7	614.6	612.7
32.5°	4397.2	3827.4	2480.7	1394.9	875.3	703.9	644.4	623.9	610.9	601.6	599.8
35°	4663.5	3955.8	2341.1	1216.2	778.5	655.5	618.3	601.6	594.2	590.4	588.6
37.5°	5054.7	4162.6	2208.9	1076.5	715.2	623.9	592.3	582.9	579.2	579.2	579.2
40°	5546.3	4434.5	2089.7	977.8	679.8	599.8	573.6	566.2	566.2	568.0	568.0
42.5°	6144.2	4775.2	1987.2	910.6	659.3	582.9	560.6	556.9	555.0	555.0	556.9
45°	6838.9	5177.6	1923.9	858.6	644.4	573.6	551.3	549.5	541.9	538.2	538.2
47.5°	7537.2	5607.8	1920.1	828.7	625.7	562.4	541.9	541.9	527.0	519.6	521.5
50°	8189.1	5993.3	1961.1	821.3	614.6	545.6	532.6	534.5	514.1	504.7	502.8
52.5°	8714.3	6287.6	2011.5	830.7	614.6	530.8	515.9	525.2	502.8	491.6	489.8
55°	9120.3	6492.4	2030.0	851.1	622.0	517.8	501.0	515.9	499.1	484.2	484.2
57.5°	9410.8	6557.6	1950.0	860.4	633.2	515.9	486.1	514.1	504.7	486.1	486.1
60°	9304.7	6179.6	1652.0	825.0	631.4	512.2	474.9	517.8	523.4	502.8	502.8
62.5°	8475.9	5170.1	1326.1	744.9	599.8	499.1	461.8	514.1	536.4	529.0	525.2
65°	6900.3	3792.0	1028.0	650.0	545.6	471.2	434.0	480.5	506.6	514.1	515.9
67.5°	4862.8	2400.7	799.0	553.2	478.7	430.3	402.3	424.6	434.0	437.7	445.1
70°	2659.6	1299.9	635.2	465.7	409.7	389.3	368.8	370.6	366.9	363.2	366.9
72°	1335.3	849.3	536.4	404.2	363.2	350.1	340.8	335.2	335.2	329.6	331.5
72.5°	1149.1	789.7	517.8	389.3	352.1	340.8	333.3	327.8	325.9	322.2	324.1
75°	765.5	625.7	432.1	325.9	299.8	292.4	296.1	290.5	292.4	288.7	290.5
77.5°	618.3	538.2	366.9	275.7	257.0	245.9	253.3	255.1	258.8	255.1	253.3
80°	517.8	458.2	307.3	227.3	214.1	204.9	208.5	221.6	223.6	212.3	210.5
82.5°	335.2	368.8	242.1	176.9	163.9	160.2	169.5	182.6	186.3	171.3	167.6
85°	281.3	296.1	175.1	121.1	108.0	104.4	122.9	135.9	145.4	130.3	126.6
87.5°	78.2	145.4	85.7	57.7	48.4	48.4	59.5	70.8	83.8	85.7	85.7
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)