

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: P196331

Luminaire Tested: **NAV-AF-05-D-UNV-T3R-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196331  
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-05-D-UNV-T3R-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 4000K, 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: 25278.1 lumens  
Efficiency: N/A  
Efficacy: 120.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type III - Medium - Full Cutoff  
BUG Rating: B3 - U0 - G4

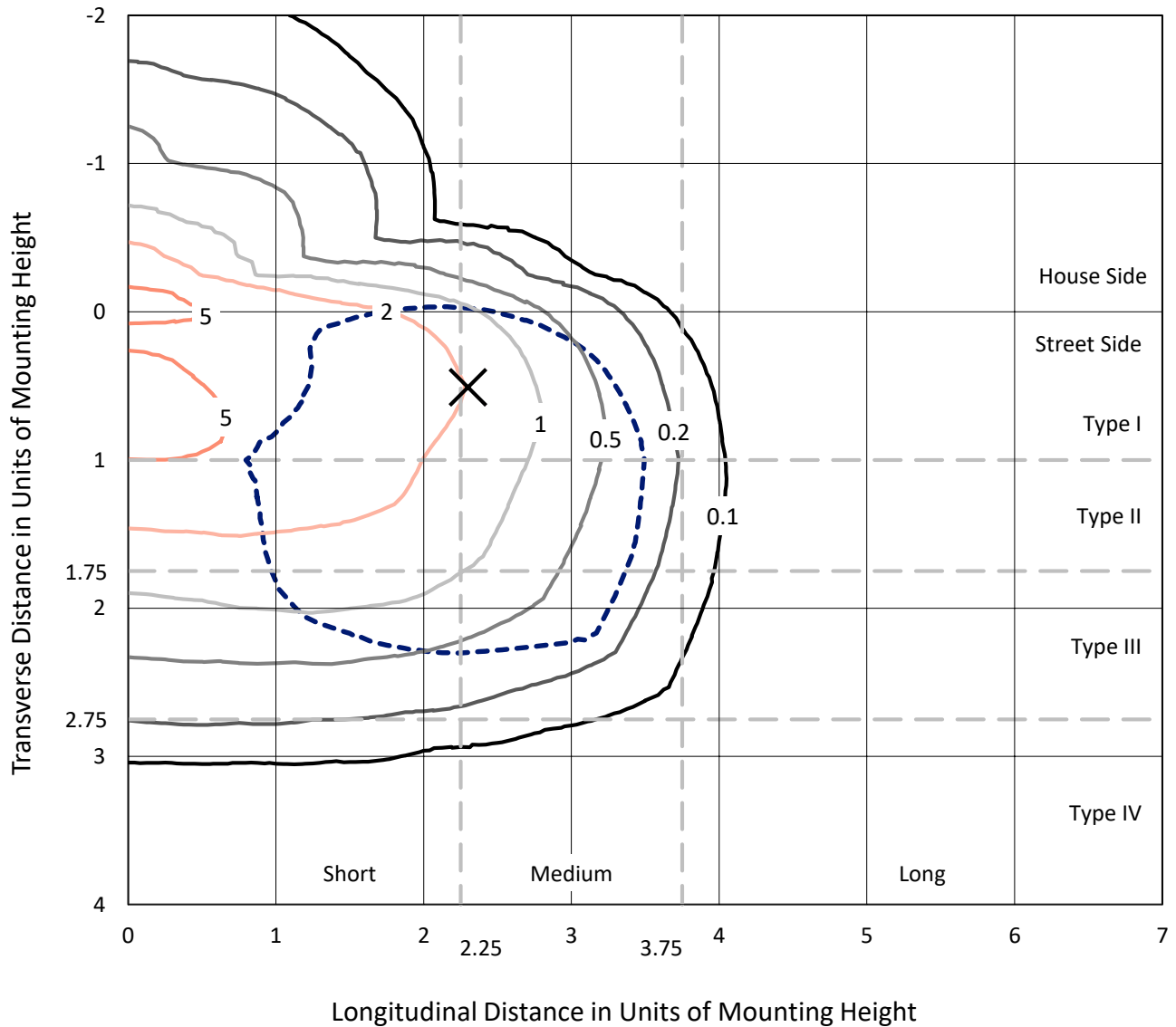
Input Watts (W): 210  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

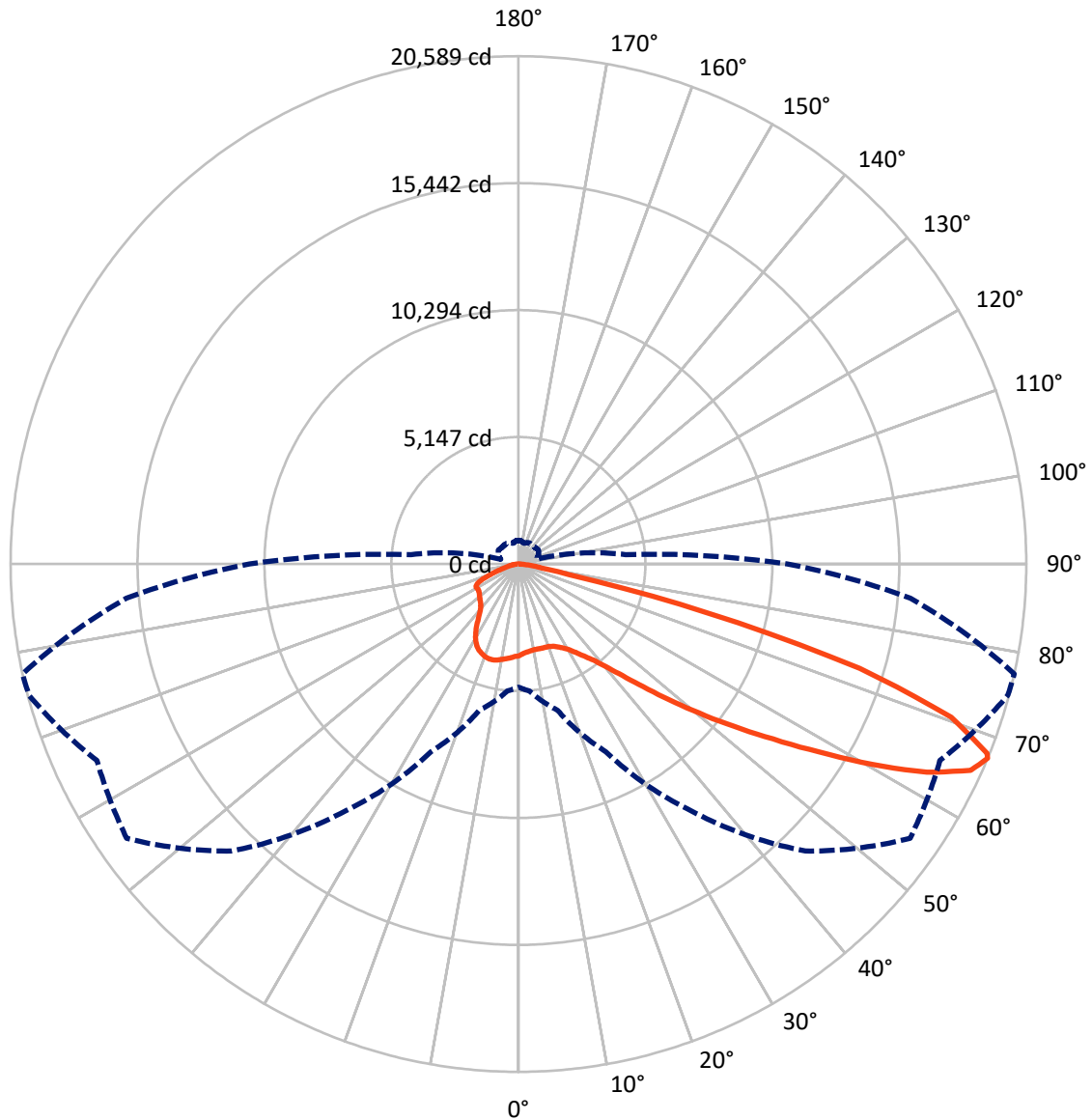
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.2 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
<b>House Side</b>	Lumens	4344.0	0.0	4344.0
	% Fixture	17.2	0.0	17.2
<b>Street Side</b>	Lumens	20934.1	0.0	20934.1
	% Fixture	82.8	0.0	82.8
<b>Total</b>	Lumens	25278.1	0.0	25278.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	331.3	1.3
10°-20°	917.6	3.6
20°-30°	1559.1	6.2
30°-40°	2494.2	9.9
40°-50°	3839.9	15.2
50°-60°	5327.4	21.1
60°-70°	7106.4	28.1
70°-80°	3381.9	13.4
80°-90°	320.2	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°	25278.1	100.0
0°-180°	25278.1	100.0



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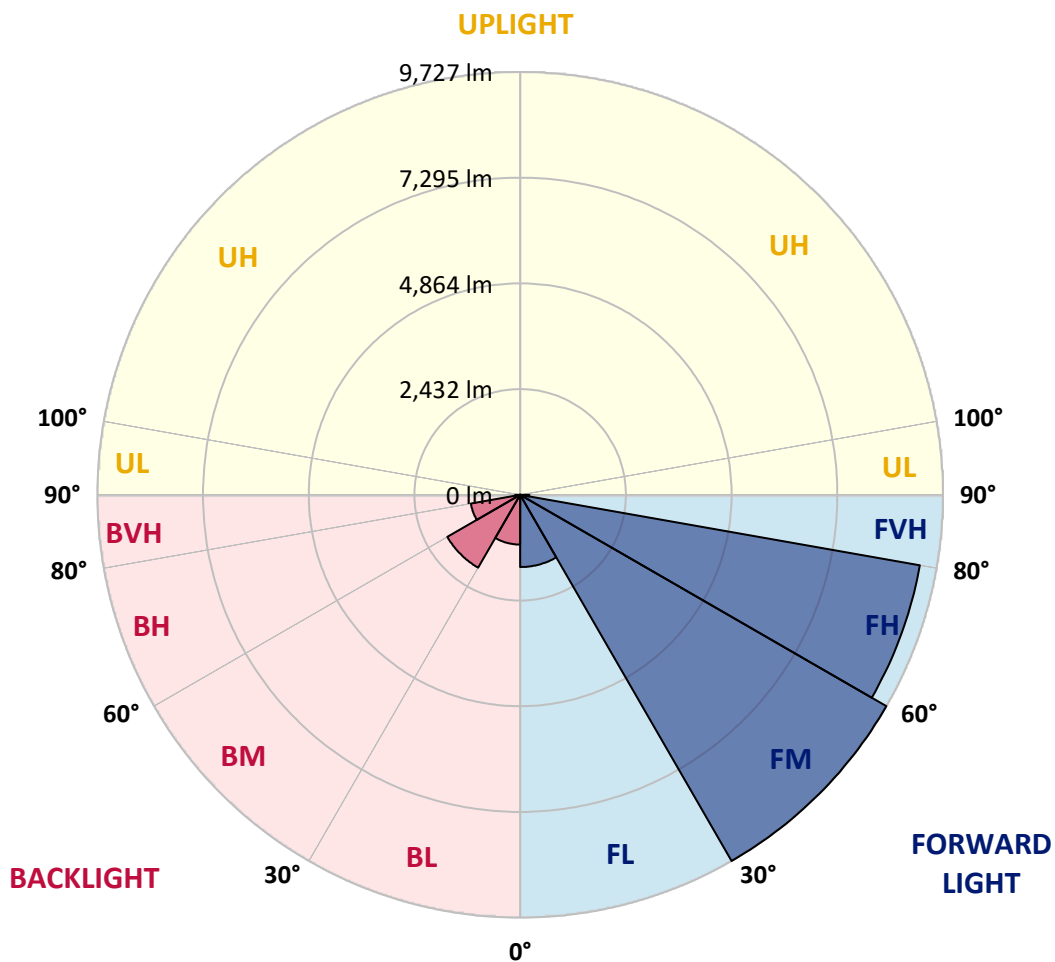
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1662.3	6.6			
FM	(30°-60°)	9727.3	38.5			
FH	(60°-80°)	9336.6	36.9			G4/12000
FVH	(80°-90°)	208.0	0.8			G2/225
BL	(0°-30°)	1145.8	4.5	B3/2500		
BM	(30°-60°)	1934.2	7.7	B2/2500		
BH	(60°-80°)	1151.8	4.6	B3/2500		G3/2500
BVH	(80°-90°)	112.2	0.4			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G4**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	3720.3	3720.3	3720.3	3720.3	3720.3	3720.3	3720.3	3720.3	3720.3	3720.3	3720.3
2.5°	3335.9	3351.5	3353.1	3398.4	3418.7	3470.3	3526.5	3576.5	3620.3	3635.9	3664.0
5°	3001.5	3001.5	3006.2	3035.9	3093.7	3176.6	3293.7	3421.9	3556.2	3589.0	3671.9
7.5°	2826.5	2829.7	2832.8	2862.5	2907.7	2981.2	3098.4	3273.4	3496.9	3551.5	3696.8
10°	2842.2	2837.5	2821.8	2815.6	2834.4	2881.2	2982.8	3162.5	3446.8	3531.2	3742.2
12.5°	3087.5	3078.1	3026.5	2951.5	2882.8	2865.6	2935.9	3106.2	3423.4	3531.2	3818.7
15°	3507.8	3514.0	3412.5	3256.3	3076.5	2954.7	2945.3	3085.9	3415.6	3540.6	3907.8
17.5°	4054.7	4057.7	3917.2	3690.6	3392.1	3140.6	3009.3	3085.9	3415.6	3549.9	3993.7
20°	4635.9	4614.0	4454.6	4170.3	3782.8	3398.4	3126.5	3104.7	3424.9	3564.1	4074.9
22.5°	5134.3	5114.0	4946.8	4648.4	4204.6	3703.1	3284.4	3167.2	3476.5	3621.9	4189.0
25°	5570.3	5582.8	5420.3	5084.4	4625.0	4046.8	3520.3	3310.9	3584.3	3726.5	4329.6
27.5°	6100.0	6076.5	5889.0	5568.7	5057.8	4403.1	3815.6	3492.1	3712.5	3853.0	4501.5
30°	6712.4	6701.5	6448.4	6118.7	5534.4	4801.5	4107.8	3687.4	3879.6	4026.5	4717.1
32.5°	7456.2	7454.7	7182.8	6778.1	6070.3	5251.5	4453.1	3954.6	4123.4	4271.8	5003.0
35°	8298.4	8296.8	8015.5	7481.1	6687.4	5749.9	4859.3	4279.6	4425.0	4581.2	5343.7
37.5°	8882.7	8873.4	8726.5	8207.7	7370.3	6329.6	5367.1	4717.1	4767.2	4942.2	5754.6
40°	8995.2	9051.5	9178.0	8871.7	8115.6	6973.4	5876.5	5187.5	5234.3	5459.3	6271.8
42.5°	8873.4	8946.8	9367.1	9453.0	8860.9	7753.0	6514.0	5839.0	5898.3	6178.1	6879.7
45°	8767.1	8831.1	9357.7	9774.9	9596.8	8603.0	7309.3	6634.3	6746.8	7093.7	7573.4
47.5°	8585.8	8645.3	9173.3	9832.7	10017.1	9421.8	8267.1	7590.6	7784.3	8204.6	8364.0
50°	8576.5	8603.0	8921.8	9639.0	10162.4	10043.6	9328.1	8709.3	9006.2	9490.5	9239.0
52.5°	8339.0	8525.0	8813.9	9329.6	10165.6	10406.2	10373.3	9935.8	10393.7	10929.6	10198.3
55°	6885.9	7099.9	8454.6	9178.0	10146.8	10717.0	11328.1	11240.5	11956.1	12520.2	11273.3
57.5°	6429.7	6520.3	7417.1	9223.3	10303.1	11231.2	12282.7	12642.0	13743.7	14359.3	12562.3
60°	6304.7	6400.0	7209.3	9245.2	10726.5	12167.1	13578.0	14224.8	15845.2	16498.3	14026.4
62.5°	6165.5	6289.0	7224.9	9265.6	11470.2	13551.4	15296.7	15942.1	18002.9	18585.8	15398.3
65°	5759.3	5923.4	6935.9	9137.4	12284.3	15288.9	17568.6	17732.6	19785.7	20156.0	16226.5
67°	4989.0	5168.7	6142.1	8396.8	12209.2	16459.2	19385.7	18853.0	20543.5	20588.8	15957.6
67.5°	4745.3	4931.2	5873.4	8089.0	11995.2	16612.3	19707.7	19007.7	20537.3	20487.4	15707.7
70°	3195.3	3404.7	4159.3	5939.0	9621.8	15460.8	19629.5	18531.1	19190.5	18617.0	13495.2
72.5°	1585.9	1592.2	2075.0	3253.1	5829.6	11089.0	16374.9	15853.0	15556.1	14473.3	9903.0
75°	764.0	778.2	979.7	1437.5	2457.7	5724.9	11167.0	10696.8	9107.7	7885.8	4956.2
77.5°	582.8	596.9	761.0	935.9	1025.0	1867.2	5531.2	4470.3	2639.0	2107.8	1396.8
80°	450.0	476.6	642.2	718.7	678.1	748.4	1739.0	1368.7	1026.5	942.1	692.2
82.5°	351.6	367.1	545.3	545.3	468.7	501.6	809.4	790.6	637.5	575.0	371.8
85°	248.5	279.7	439.1	406.2	307.8	311.0	484.4	464.0	328.2	264.0	145.4
87.5°	110.9	142.2	312.5	265.7	164.1	126.5	198.5	170.3	129.7	100.0	67.2
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°	3720.3	3720.3	3720.3	3720.3	3720.3	3720.3	3720.3	3720.3	3720.3	3720.3	3720.3
2.5°	3695.3	3720.3	3759.3	3782.8	3814.1	3826.6	3839.0	3860.9	3878.1	3873.4	3865.6
5°	3729.7	3771.8	3820.3	3835.9	3835.9	3820.3	3810.9	3812.4	3807.7	3804.7	3795.2
7.5°	3779.7	3837.5	3871.9	3856.2	3807.7	3746.9	3689.1	3654.7	3621.9	3601.5	3607.7
10°	3850.0	3914.0	3915.5	3846.8	3731.2	3598.4	3484.4	3410.9	3340.5	3309.3	3318.8
12.5°	3951.6	4015.6	3960.9	3812.4	3609.4	3401.5	3192.1	3040.6	2904.7	2871.8	2862.5
15°	4060.9	4110.9	3989.0	3739.0	3434.4	3092.2	2740.6	2514.0	2362.5	2335.9	2326.5
17.5°	4156.2	4184.4	3975.0	3607.7	3157.7	2618.8	2209.4	2056.2	2024.9	2040.6	2040.6
20°	4240.5	4231.2	3914.0	3404.7	2721.9	2093.8	1856.2	1854.7	1896.9	1935.9	1939.0
22.5°	4346.8	4273.4	3817.1	3103.1	2201.5	1746.9	1706.3	1746.9	1793.7	1837.5	1842.1
25°	4473.4	4320.2	3687.4	2673.4	1770.3	1585.9	1603.1	1637.4	1667.2	1701.6	1703.1
27.5°	4600.0	4356.2	3504.6	2168.8	1536.0	1482.8	1501.6	1515.6	1523.4	1545.3	1545.3
30°	4746.8	4384.4	3240.6	1737.5	1428.1	1392.1	1381.2	1374.9	1381.2	1411.0	1412.5
32.5°	4931.2	4434.3	2879.7	1490.6	1378.1	1328.1	1271.8	1240.6	1262.5	1315.6	1325.0
35°	5140.5	4493.7	2446.9	1392.1	1360.9	1296.9	1193.8	1145.3	1153.1	1201.6	1209.3
37.5°	5403.1	4570.2	2020.3	1368.7	1378.1	1293.7	1157.8	1089.0	1054.7	1056.2	1054.7
40°	5739.0	4646.9	1682.8	1374.9	1415.7	1301.5	1140.6	1032.8	961.0	964.0	970.3
42.5°	6090.5	4696.9	1468.8	1393.8	1460.9	1312.4	1134.4	978.1	915.6	968.7	1017.2
45°	6501.5	4682.8	1357.8	1411.0	1495.3	1317.2	1110.9	971.9	920.3	1079.7	1170.3
47.5°	6973.4	4621.8	1295.3	1418.7	1504.7	1315.6	1093.7	992.2	959.3	1235.9	1339.0
50°	7485.9	4526.6	1245.3	1406.3	1500.0	1309.4	1112.5	1017.2	975.0	1270.3	1350.0
52.5°	8046.8	4439.0	1193.8	1378.1	1476.5	1290.7	1135.9	1006.3	931.2	1170.3	1231.2
55°	8710.8	4418.7	1135.9	1329.6	1437.5	1270.3	1123.4	971.9	882.8	1037.5	1075.0
57.5°	9470.3	4545.3	1060.9	1270.3	1384.4	1229.7	1093.7	953.1	865.6	943.8	964.0
60°	10434.3	4825.0	981.2	1207.8	1318.8	1168.7	1067.1	957.8	870.3	929.7	934.4
62.5°	11187.4	5076.5	909.4	1131.3	1231.2	1095.3	1039.0	962.5	884.3	948.4	940.6
65°	11460.8	4953.1	820.3	1017.2	1107.8	1014.1	1000.0	965.7	884.3	959.3	942.1
67°	10899.8	4364.0	735.9	903.2	990.6	942.1	962.5	953.1	868.8	957.8	928.1
67.5°	10632.8	4156.2	714.0	884.3	959.3	920.3	953.1	946.8	864.1	954.7	920.3
70°	8768.6	2981.2	603.1	742.2	803.1	810.9	895.3	906.2	826.5	896.8	834.3
72.5°	6239.0	1865.7	520.3	575.0	648.4	693.8	817.1	851.5	776.5	779.7	728.1
75°	3087.5	1001.6	464.0	443.8	504.7	578.1	712.5	776.5	703.1	650.0	632.8
77.5°	1042.2	567.2	392.2	357.8	392.2	464.0	590.7	678.1	620.3	550.0	539.1
80°	539.1	412.5	306.3	287.4	309.3	359.4	462.5	564.1	529.7	532.9	439.1
82.5°	335.9	251.5	220.3	218.7	234.4	275.0	340.6	457.8	454.7	389.0	282.8
85°	156.2	145.4	140.7	145.4	150.0	156.2	221.9	326.5	345.3	209.4	186.0
87.5°	65.7	64.0	56.3	61.0	67.2	65.7	89.1	139.0	193.7	131.2	120.3
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)