

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: P270552

Luminaire Tested: **NAV-AF-04-D-UNV-T3R-7027-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270552  
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-7027-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
ROADWAY OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 23649.8 lumens  
Efficiency: N/A  
Efficacy: 91.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Medium - Full Cutoff  
BUG Rating: B3 - U0 - G4

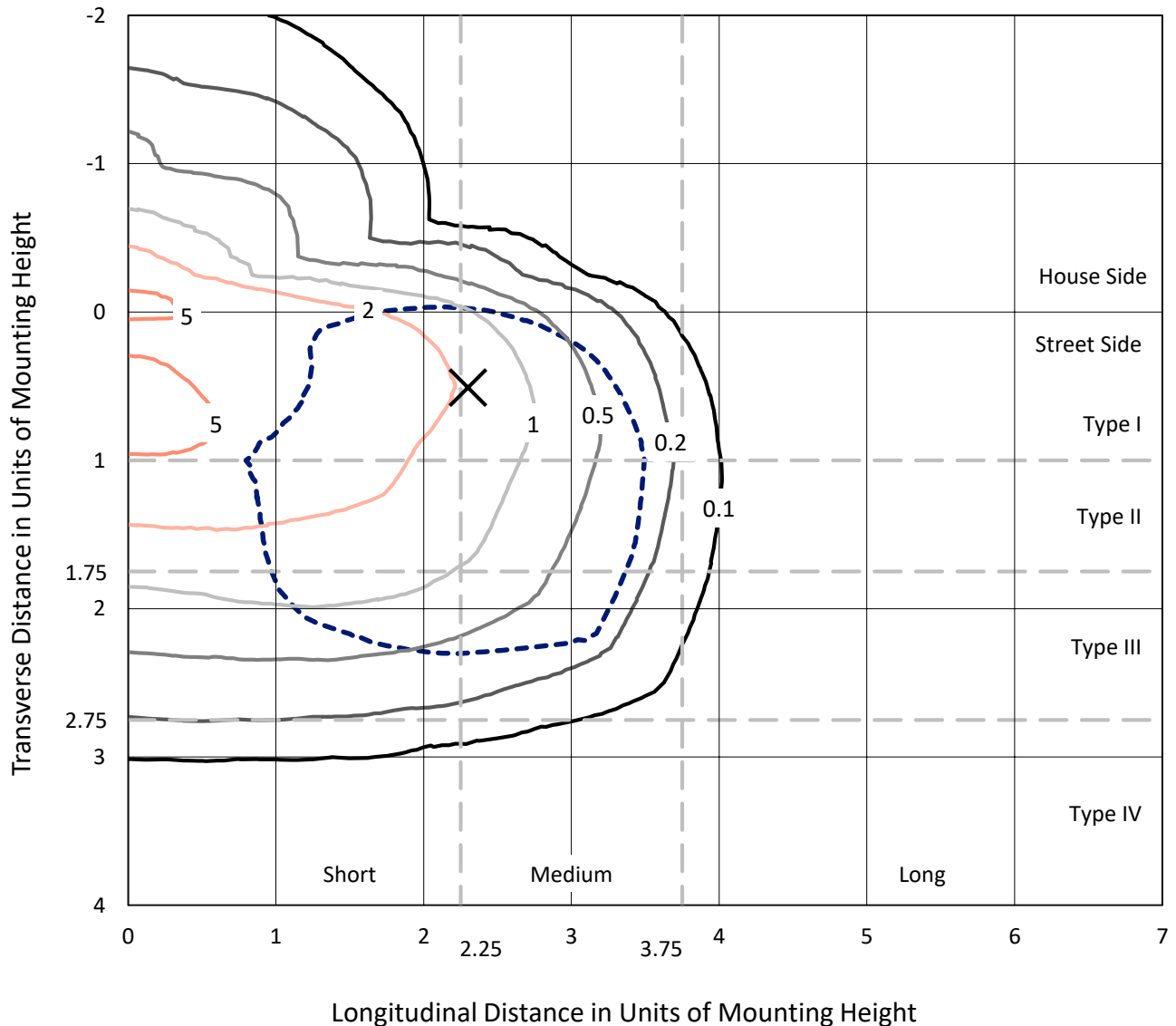
Input Watts (W): 258  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

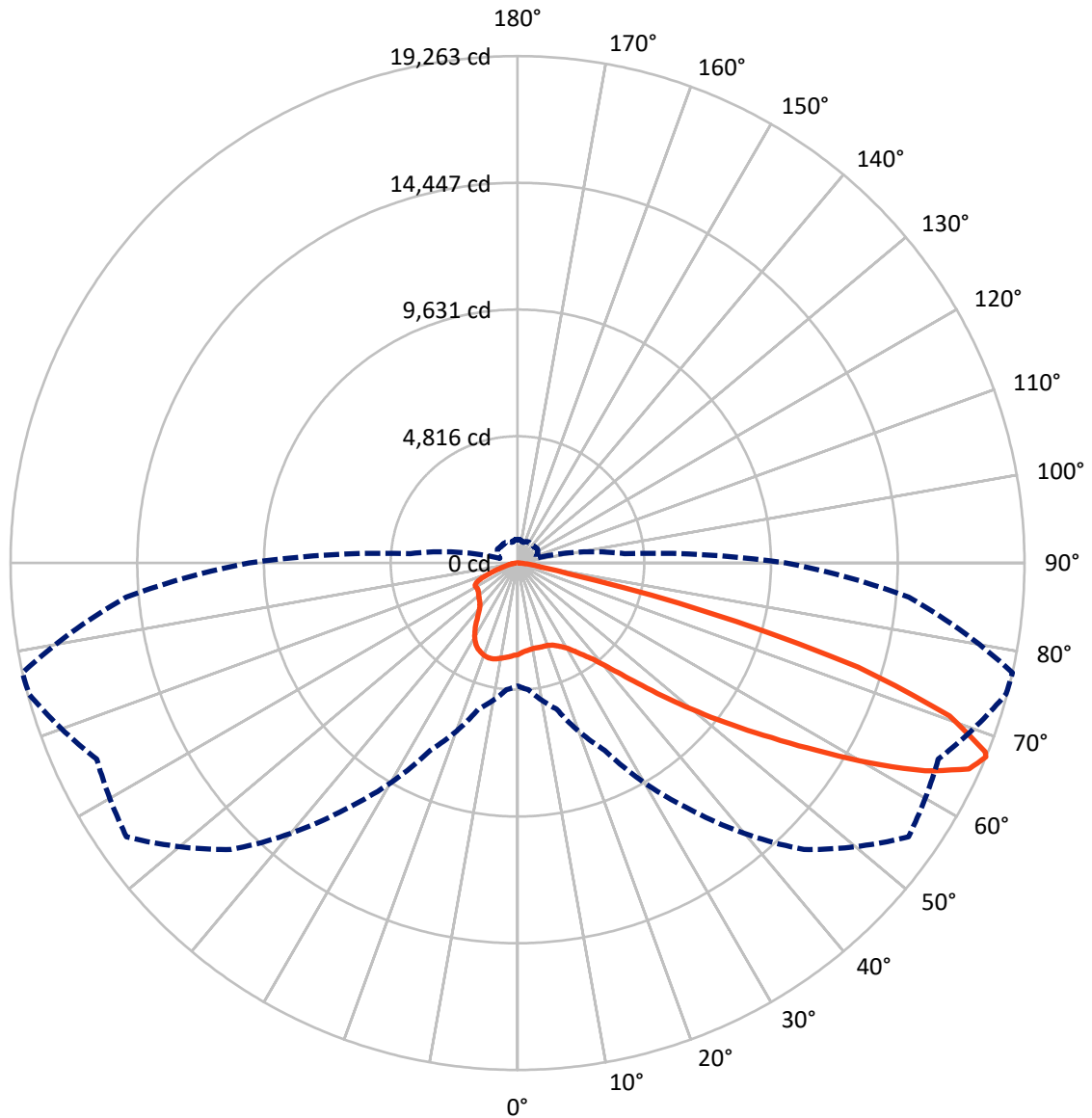
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.7 fc  
 Type 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	4064.2	0.0	4064.2
	% Fixture	17.2	0.0	17.2
<b>Street Side</b>	Lumens	19585.6	0.0	19585.6
	% Fixture	82.8	0.0	82.8
<b>Total</b>	Lumens	23649.8	0.0	23649.8
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	310.0	1.3
10°-20°	858.5	3.6
20°-30°	1458.7	6.2
30°-40°	2333.5	9.9
40°-50°	3592.5	15.2
50°-60°	4984.3	21.1
60°-70°	6648.6	28.1
70°-80°	3164.1	13.4
80°-90°	299.6	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°	23649.8	100.0
0°-180°	23649.8	100.0



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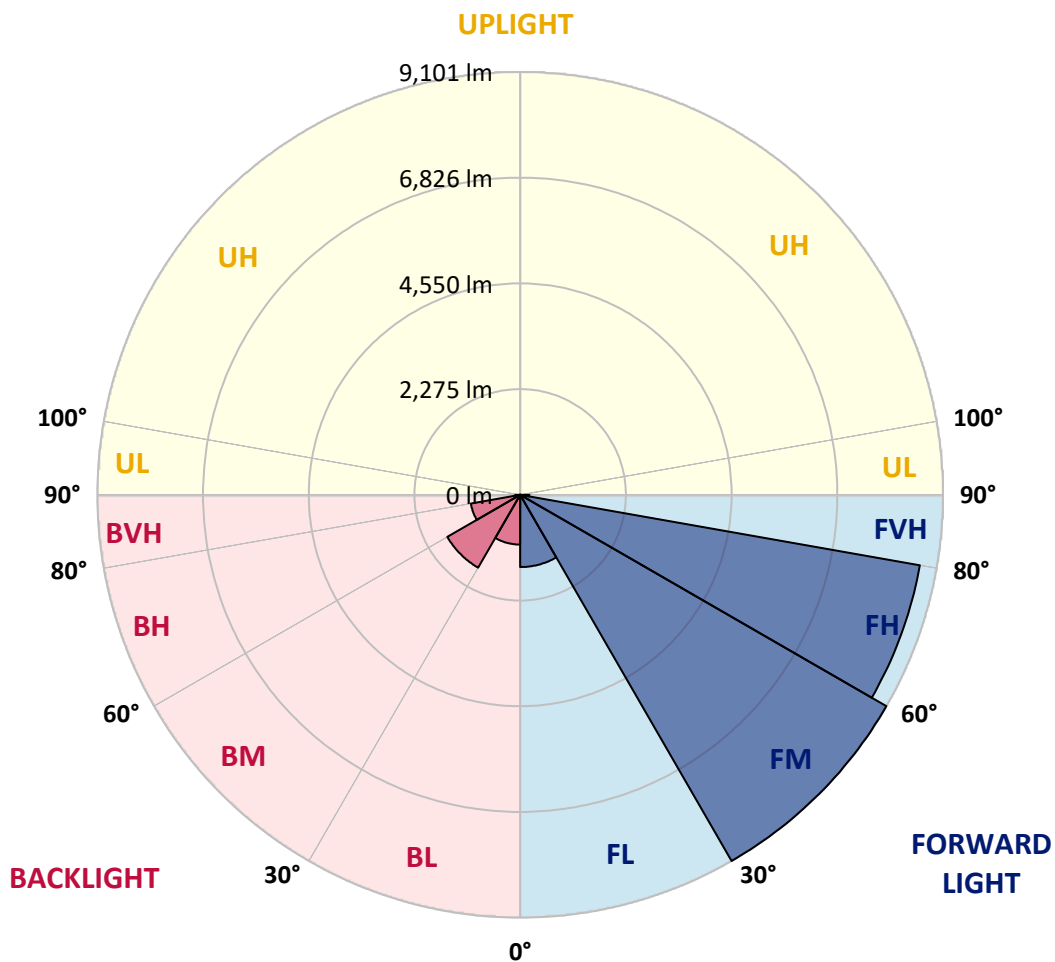
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1555.2	6.6			
FM	(30°-60°)	9100.7	38.5			
FH	(60°-80°)	8735.1	36.9			G4/12000
FVH	(80°-90°)	194.6	0.8			G2/225
BL	(0°-30°)	1072.0	4.5	B3/2500		
BM	(30°-60°)	1809.6	7.7	B2/2500		
BH	(60°-80°)	1077.6	4.6	B3/2500		G3/2500
BVH	(80°-90°)	105.0	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°	3480.7	3480.7	3480.7	3480.7	3480.7	3480.7	3480.7	3480.7	3480.7	3480.7	3480.7
2.5°	3121.0	3135.7	3137.2	3179.6	3198.4	3246.7	3299.4	3346.1	3387.1	3401.7	3428.0
5°	2808.2	2808.2	2812.6	2840.4	2894.3	2972.0	3081.5	3201.4	3327.1	3357.9	3435.3
7.5°	2644.5	2647.3	2650.3	2678.0	2720.4	2789.1	2898.8	3062.5	3271.5	3322.7	3458.7
10°	2659.1	2654.8	2640.1	2634.2	2651.7	2695.6	2790.7	2958.7	3224.8	3303.7	3501.1
12.5°	2888.6	2879.7	2831.5	2761.4	2697.2	2681.0	2746.7	2906.1	3202.8	3303.7	3572.6
15°	3281.8	3287.6	3192.7	3046.4	2878.3	2764.4	2755.6	2887.2	3195.6	3312.5	3656.0
17.5°	3793.5	3796.3	3664.8	3452.8	3173.6	2938.3	2815.5	2887.2	3195.6	3321.4	3736.4
20°	4337.2	4316.7	4167.6	3901.6	3539.1	3179.6	2925.2	2904.7	3204.3	3334.5	3812.4
22.5°	4803.5	4784.6	4628.2	4349.0	3933.8	3464.6	3072.8	2963.1	3252.6	3388.5	3919.1
25°	5211.4	5223.1	5071.1	4756.9	4327.0	3786.1	3293.5	3097.6	3353.5	3486.5	4050.7
27.5°	5707.0	5685.1	5509.7	5210.0	4731.9	4119.4	3569.9	3267.1	3473.3	3604.9	4211.6
30°	6280.1	6269.8	6032.9	5724.5	5177.8	4492.2	3843.2	3449.9	3629.7	3767.1	4413.3
32.5°	6975.9	6974.4	6720.0	6341.5	5679.3	4913.2	4166.2	3699.8	3857.9	3996.6	4680.8
35°	7763.8	7762.3	7499.2	6999.2	6256.6	5379.5	4546.3	4003.9	4139.8	4286.2	4999.4
37.5°	8310.5	8301.7	8164.3	7679.0	6895.5	5921.8	5021.3	4413.3	4460.1	4623.8	5383.9
40°	8415.9	8468.4	8586.8	8300.2	7592.7	6524.2	5497.9	4853.4	4897.1	5107.7	5867.8
42.5°	8301.7	8370.4	8763.7	8844.2	8290.1	7253.6	6094.5	5462.9	5518.4	5780.1	6436.4
45°	8202.3	8262.3	8754.9	9145.3	8978.6	8048.9	6838.4	6207.0	6312.2	6636.7	7085.6
47.5°	8032.7	8088.2	8582.4	9199.4	9371.7	8814.9	7734.5	7101.6	7282.9	7676.0	7825.1
50°	8024.0	8048.9	8347.1	9018.1	9507.8	9396.7	8727.2	8148.3	8426.0	8879.1	8643.9
52.5°	7801.8	7975.8	8246.3	8728.7	9510.6	9735.8	9705.1	9295.8	9724.2	10225.5	9541.3
55°	6442.4	6642.5	7909.9	8586.8	9493.2	10026.7	10598.4	10516.5	11186.0	11713.7	10547.1
57.5°	6015.4	6100.2	6939.3	8629.2	9639.4	10507.7	11491.5	11827.8	12858.2	13434.2	11753.2
60°	5898.5	5987.7	6745.0	8649.7	10035.4	11383.3	12703.3	13308.5	14824.5	15435.4	13122.9
62.5°	5768.3	5883.9	6759.6	8668.6	10731.3	12678.5	14311.3	14915.1	16843.2	17388.5	14406.4
65°	5388.4	5541.9	6489.0	8548.8	11492.9	14304.0	16436.8	16590.3	18511.3	18857.7	15181.1
67°	4667.7	4835.8	5746.5	7855.9	11422.8	15398.9	18137.0	17638.5	19220.1	19262.5	14929.7
67.5°	4439.7	4613.5	5495.0	7568.0	11222.4	15542.3	18438.2	17783.1	19214.3	19167.6	14695.8
70°	2989.5	3185.3	3891.4	5556.5	9001.9	14464.9	18364.9	17337.4	17954.2	17417.7	12625.9
72.5°	1483.8	1489.6	1941.2	3043.5	5454.1	10374.6	15320.1	14831.7	14554.0	13541.1	9265.1
75°	714.8	727.9	916.6	1344.9	2299.5	5356.1	10447.7	10007.7	8521.1	7377.9	4637.0
77.5°	545.4	558.4	711.8	875.7	959.0	1746.9	5174.9	4182.2	2469.0	1972.0	1306.9
80°	421.0	445.9	600.7	672.4	634.5	700.1	1627.0	1280.5	960.4	881.4	647.6
82.5°	328.9	343.5	510.1	510.1	438.6	469.3	757.2	739.7	596.5	537.9	348.0
85°	232.4	261.6	410.7	380.1	287.9	291.0	453.1	434.2	307.0	247.0	136.0
87.5°	103.8	132.9	292.4	248.6	153.5	118.3	185.7	159.3	121.4	93.6	62.8
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°	3480.7	3480.7	3480.7	3480.7	3480.7	3480.7	3480.7	3480.7	3480.7	3480.7	3480.7
2.5°	3457.2	3480.7	3517.1	3539.1	3568.3	3580.0	3591.8	3612.2	3628.3	3623.9	3616.5
5°	3489.3	3528.8	3574.1	3588.8	3588.8	3574.1	3565.5	3566.9	3562.5	3559.5	3550.8
7.5°	3536.2	3590.3	3622.4	3607.9	3562.5	3505.5	3451.4	3419.2	3388.5	3369.5	3375.4
10°	3601.9	3661.9	3663.4	3599.0	3490.9	3366.6	3259.9	3191.1	3125.5	3096.2	3104.9
12.5°	3697.0	3756.9	3705.8	3566.9	3376.8	3182.4	2986.5	2844.8	2717.6	2686.8	2678.0
15°	3799.3	3846.2	3732.1	3498.2	3213.1	2893.0	2564.0	2352.1	2210.3	2185.4	2176.7
17.5°	3888.5	3914.9	3719.0	3375.4	2954.3	2450.0	2067.0	1923.8	1894.5	1909.2	1909.2
20°	3967.5	3958.7	3661.9	3185.3	2546.5	1958.8	1736.7	1735.2	1774.7	1811.3	1814.1
22.5°	4066.8	3998.1	3571.2	2903.2	2059.8	1634.3	1596.3	1634.3	1678.2	1719.1	1723.5
25°	4185.3	4042.0	3449.9	2501.2	1656.2	1483.8	1499.8	1532.0	1559.7	1591.9	1593.5
27.5°	4303.6	4075.6	3279.0	2029.0	1437.0	1387.3	1404.8	1418.0	1425.3	1445.7	1445.7
30°	4441.0	4101.9	3031.8	1625.6	1336.0	1302.5	1292.2	1286.5	1292.2	1320.0	1321.4
32.5°	4613.5	4148.7	2694.1	1394.6	1289.3	1242.5	1190.0	1160.7	1181.1	1230.9	1239.7
35°	4809.4	4204.2	2289.2	1302.5	1273.3	1213.3	1116.9	1071.5	1078.9	1124.1	1131.4
37.5°	5055.0	4275.8	1890.2	1280.5	1289.3	1210.3	1083.3	1018.9	986.8	988.1	986.8
40°	5369.3	4347.4	1574.4	1286.5	1324.5	1217.7	1067.1	966.2	899.1	902.0	907.7
42.5°	5698.2	4394.2	1374.1	1304.0	1366.9	1228.0	1061.3	915.2	856.7	906.3	951.7
45°	6082.8	4381.2	1270.4	1320.0	1399.0	1232.4	1039.3	909.3	861.0	1010.1	1094.9
47.5°	6524.2	4324.1	1211.9	1327.3	1407.7	1230.9	1023.3	928.3	897.5	1156.3	1252.7
50°	7003.6	4234.9	1165.1	1315.7	1403.3	1225.0	1040.9	951.7	912.1	1188.5	1263.0
52.5°	7528.4	4153.0	1116.9	1289.3	1381.5	1207.5	1062.8	941.5	871.3	1094.9	1151.9
55°	8149.8	4134.1	1062.8	1244.1	1344.9	1188.5	1051.0	909.3	825.9	970.7	1005.7
57.5°	8860.2	4252.4	992.5	1188.5	1295.1	1150.5	1023.3	891.7	809.8	882.9	902.0
60°	9762.2	4514.2	918.1	1130.0	1233.8	1093.4	998.5	896.1	814.3	869.7	874.2
62.5°	10466.7	4749.5	850.8	1058.4	1151.9	1024.7	972.1	900.6	827.3	887.3	880.0
65°	10722.6	4633.9	767.4	951.7	1036.5	948.7	935.6	903.4	827.3	897.5	881.4
67°	10197.7	4082.8	688.6	844.9	926.8	881.4	900.6	891.7	812.7	896.1	868.3
67.5°	9947.8	3888.5	668.1	827.3	897.5	861.0	891.7	885.9	808.4	893.2	861.0
70°	8203.9	2789.1	564.2	694.4	751.4	758.7	837.6	847.9	773.4	839.0	780.5
72.5°	5837.0	1745.4	486.8	537.9	606.6	649.0	764.5	796.6	726.5	729.5	681.3
75°	2888.6	937.0	434.2	415.1	472.1	540.9	666.6	726.5	657.7	608.2	592.1
77.5°	975.0	530.7	366.9	334.8	366.9	434.2	552.5	634.5	580.3	514.5	504.3
80°	504.3	385.9	286.5	269.0	289.4	336.2	432.8	527.8	495.5	498.5	410.7
82.5°	314.2	235.4	206.2	204.6	219.2	257.3	318.7	428.3	425.3	364.1	264.6
85°	146.2	136.0	131.5	136.0	140.3	146.2	207.6	305.6	323.1	195.9	173.9
87.5°	61.4	59.9	52.6	57.0	62.8	61.4	83.4	130.2	181.3	122.8	112.6
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)