

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: P196356

Luminaire Tested: **NAV-AF-06-D-UNV-T4FT-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196356
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-T4FT-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30007.2 lumens
Efficiency: N/A
Efficacy: 120.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G5

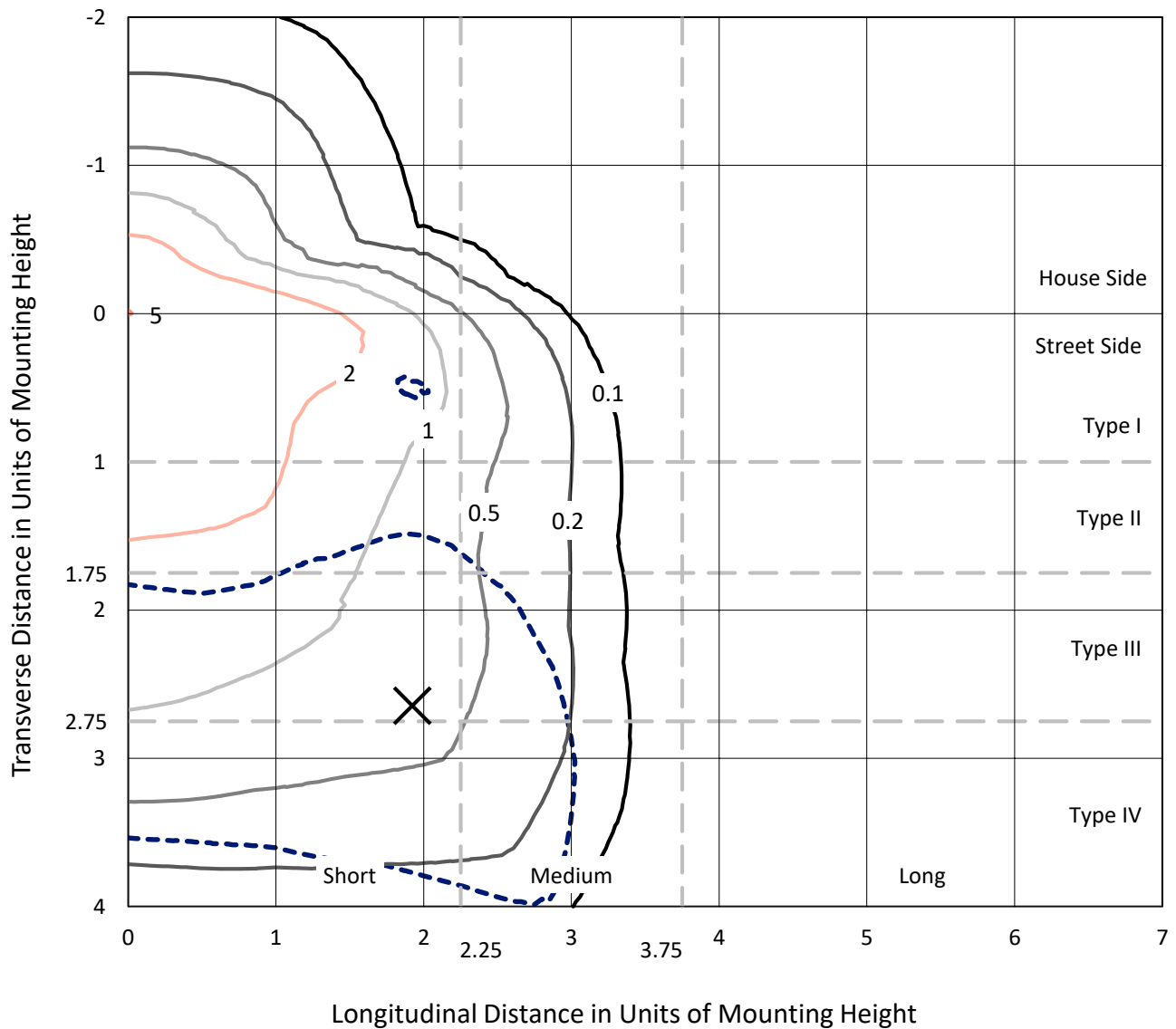
Input Watts (W): 249
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196356
 CATALOG NUMBER: NAV-AF-06-D-UNV-T4FT-800

Iso-Footcandle Lines of Horizontal Illumination

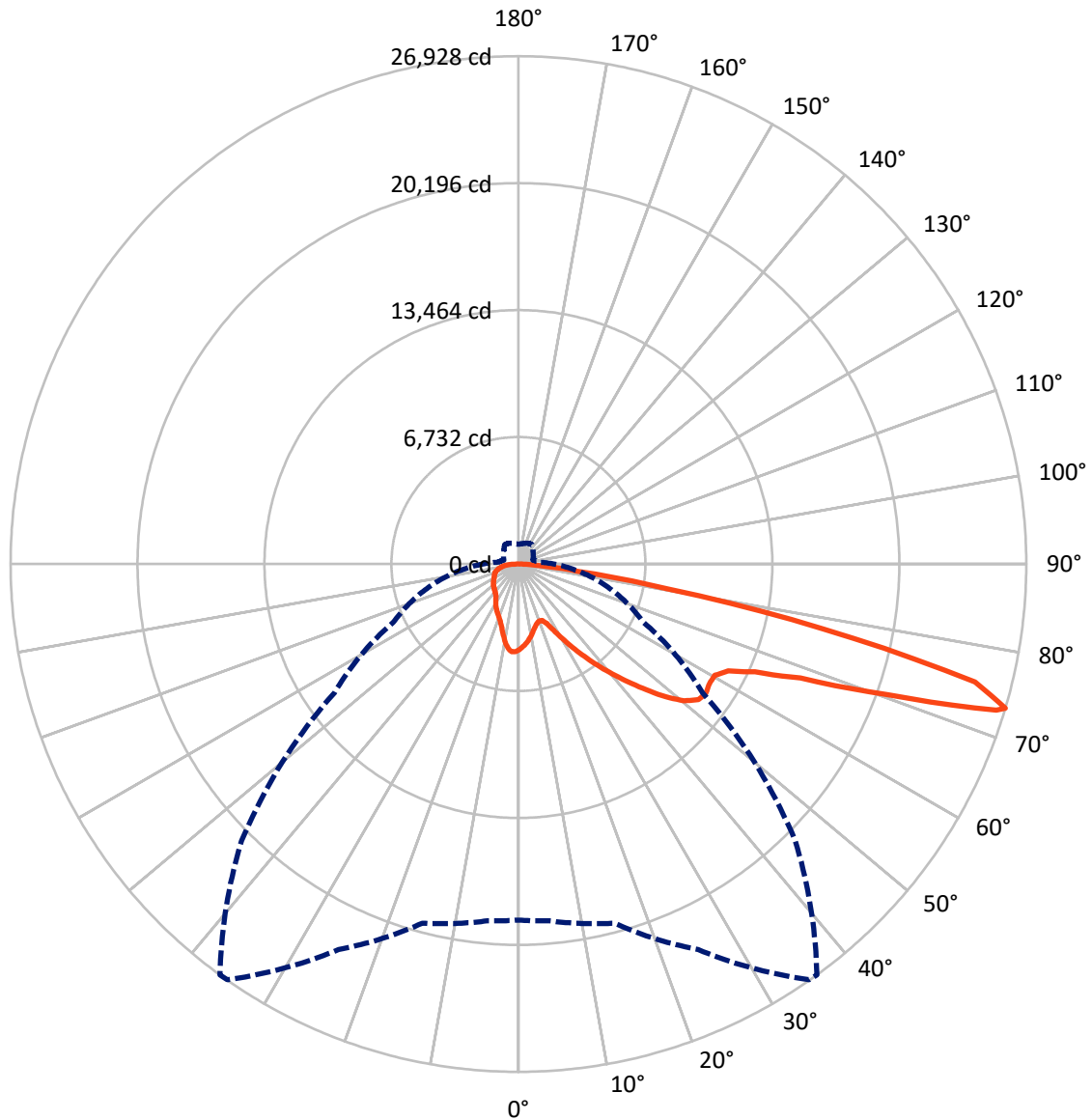
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 5.1 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196356
CATALOG NUMBER: NAV-AF-06-D-UNV-T4FT-800

Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

REPORT NUMBER: P196356

CATALOG NUMBER: NAV-AF-06-D-UNV-T4FT-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5786.3	0.0	5786.3
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	24220.9	0.0	24220.9
	% Fixture	80.7	0.0	80.7
Total	Lumens	30007.2	0.0	30007.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	412.8	1.4
10°-20°	1036.9	3.5
20°-30°	1662.4	5.5
30°-40°	2749.7	9.2
40°-50°	4254.8	14.2
50°-60°	5695.9	19.0
60°-70°	7440.6	24.8
70°-80°	6077.7	20.3
80°-90°	676.5	2.3
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°	30007.2	100.0
0°-180°	30007.2	100.0



REPORT NUMBER: P196356

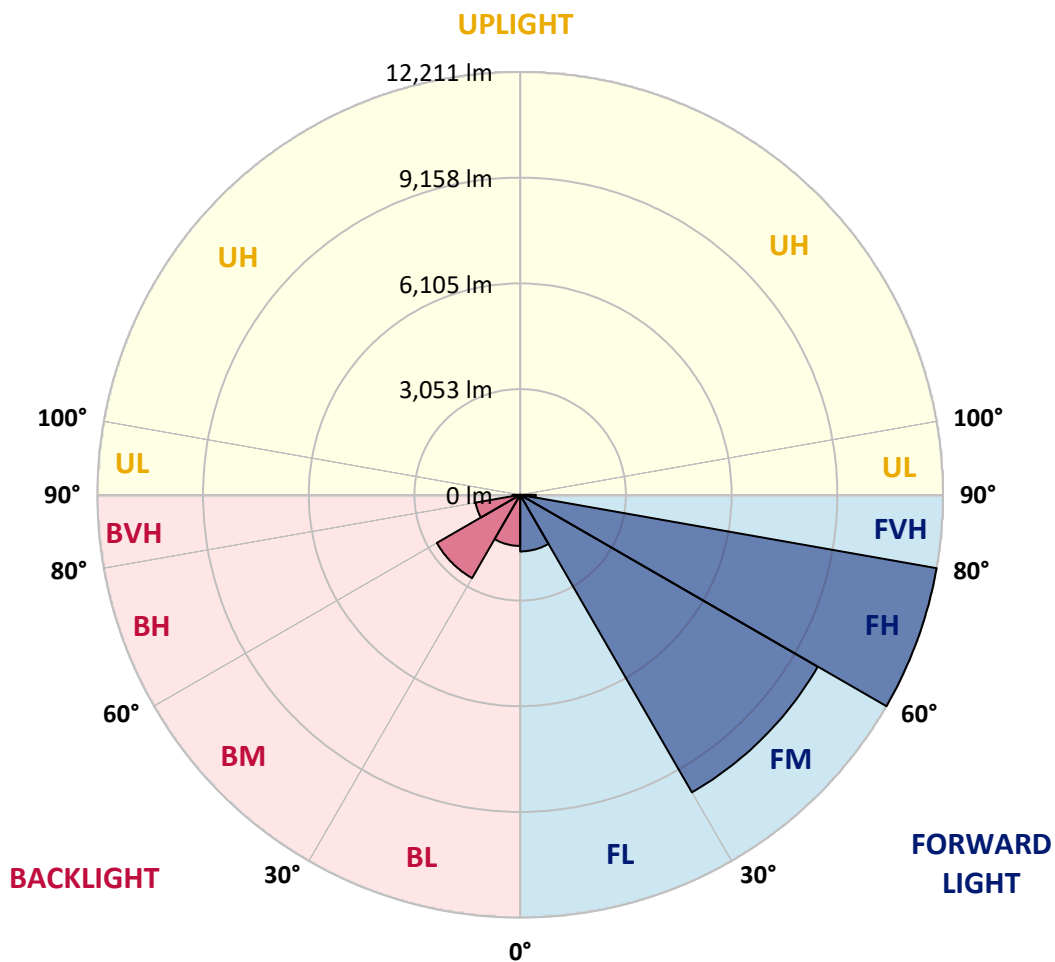
CATALOG NUMBER: NAV-AF-06-D-UNV-T4FT-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1635.1	5.4			
FM (30°-60°)	9921.4	33.1			
FH (60°-80°)	12210.8	40.7			G5
FVH (80°-90°)	453.7	1.5			G3/500
BL (0°-30°)	1477.0	4.9	B3/2500		
BM (30°-60°)	2778.9	9.3	B3/5000		
BH (60°-80°)	1307.6	4.4	B3/2500		G3/2500
BVH (80°-90°)	222.8	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type IV Short





REPORT NUMBER: P196356
 CATALOG NUMBER: NAV-AF-06-D-UNV-T4FT-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	4545.2	4545.2	4545.2	4545.2	4545.2	4545.2	4545.2	4545.2	4545.2	4545.2	4545.2
2.5°	4371.7	4383.1	4385.1	4398.4	4398.4	4396.5	4402.3	4425.1	4436.5	4463.2	4486.2
5°	4156.2	4169.6	4175.4	4198.2	4226.8	4228.8	4249.7	4293.5	4335.5	4394.6	4444.2
7.5°	3914.1	3929.4	3944.7	3992.4	4034.3	4038.1	4078.1	4148.7	4203.9	4276.4	4366.1
10°	3679.7	3683.4	3698.7	3759.8	3815.0	3820.7	3877.9	3958.0	4032.4	4133.4	4234.5
12.5°	3487.1	3498.5	3494.7	3540.4	3588.1	3592.0	3668.2	3769.3	3877.9	3992.4	4112.5
15°	3420.3	3418.5	3378.4	3376.6	3397.5	3401.3	3475.7	3593.8	3715.9	3856.9	4011.4
17.5°	3466.1	3450.8	3346.0	3281.2	3267.8	3271.6	3326.9	3456.6	3586.3	3748.3	3933.2
20°	3717.8	3658.7	3412.8	3256.4	3212.6	3212.6	3245.0	3349.9	3492.8	3681.6	3914.1
22.5°	4314.5	4223.0	3698.7	3420.3	3266.0	3250.6	3225.9	3306.0	3464.2	3691.1	3992.4
25°	5065.8	5021.9	4223.0	3856.9	3538.6	3489.0	3325.0	3353.6	3523.3	3794.0	4205.9
27.5°	5761.6	5685.4	4911.3	4491.9	4041.9	3965.7	3618.7	3502.4	3664.4	3984.7	4514.7
30°	6167.7	6116.2	5618.7	5218.3	4682.5	4585.3	4087.6	3796.0	3916.1	4299.3	4953.2
32.5°	6610.0	6579.5	6327.9	5963.7	5376.5	5264.0	4693.9	4274.5	4301.2	4716.8	5481.4
35°	7039.0	7079.0	6936.0	6669.1	6123.9	6018.9	5508.1	4899.8	4776.0	5185.8	6045.6
37.5°	7553.8	7563.3	7473.7	7300.2	6909.3	6823.6	6402.2	5567.1	5292.5	5685.4	6591.0
40°	8581.4	8430.8	8080.0	7942.7	7710.1	7656.7	7176.3	6179.1	5773.0	6198.2	7105.7
42.5°	9692.9	9458.4	8909.3	8684.3	8590.9	8541.3	7820.7	6587.2	6223.0	6711.1	7611.0
45°	10589.0	10398.3	9860.7	9582.4	9593.7	9513.7	8383.1	6951.3	6711.1	7225.8	8175.3
47.5°	11471.8	11153.3	10550.9	10510.8	10644.3	10526.1	8920.7	7315.4	7220.1	7786.4	8739.7
50°	11529.0	11239.2	10995.1	11315.4	11544.2	11397.4	9408.8	7792.1	7748.2	8465.1	9467.9
52.5°	10833.0	10791.1	11162.8	11702.5	12081.9	11950.3	9807.3	8282.1	8287.7	9313.6	10354.5
55°	10579.5	10526.1	10972.2	11635.7	12148.6	12070.4	10104.7	8834.9	8886.5	10343.1	11305.9
57.5°	11006.5	10873.0	10960.8	11509.8	11992.3	11946.4	10413.6	9448.9	9542.3	11529.0	12184.8
60°	12331.6	12059.0	11593.7	11696.7	11998.0	11971.3	10856.0	10133.4	10289.7	12764.4	12741.5
62.5°	14316.3	14007.5	13059.9	12602.3	12535.5	12484.1	11586.1	10974.1	11052.3	13656.6	12417.4
65°	16493.5	16161.9	15035.1	14285.8	13893.1	13782.5	12764.4	11988.4	11498.4	13654.8	11155.3
67.5°	18937.8	18587.0	17464.0	16749.1	16323.9	16135.2	14676.7	12808.3	11353.5	12499.3	8926.5
70°	21441.2	21107.5	20592.7	20842.4	21029.3	20741.4	17689.0	13080.9	10312.6	9799.7	5994.2
72.5°	20112.2	20085.5	20476.4	22844.3	26445.8	26503.0	20697.6	12310.6	7967.5	5824.5	3195.4
73°	18878.7	18991.2	19715.6	22548.8	26909.1	26928.2	20756.7	11912.2	7315.4	5018.1	2806.5
75°	9780.6	10543.2	13231.5	18283.8	24916.7	25006.3	18297.2	9018.0	4360.3	2787.3	1891.3
77.5°	2619.6	2585.3	4263.0	8907.4	16611.8	16493.5	11561.4	4366.1	2089.6	1748.3	1327.0
80°	897.9	909.4	1450.9	3258.3	7754.0	8030.4	5018.1	1904.6	1374.6	1218.3	939.9
82.5°	457.6	472.8	758.8	1386.1	3243.1	3174.4	1614.8	1121.1	920.9	739.7	526.2
85°	244.1	251.6	417.6	718.7	1189.7	1203.0	568.1	598.6	585.3	419.4	259.3
87.5°	120.1	123.9	200.2	316.5	440.4	425.1	198.2	259.3	287.9	236.4	143.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196356
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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4545.2	4545.2	4545.2	4545.2	4545.2	4545.2	4545.2	4545.2	4545.2	4545.2	4545.2
2.5°	4514.7	4514.7	4539.5	4581.5	4612.0	4640.5	4659.6	4690.1	4707.3	4705.4	4703.4
5°	4484.2	4503.2	4552.8	4604.3	4638.7	4661.5	4661.5	4674.9	4674.9	4669.2	4661.5
7.5°	4413.6	4446.1	4518.6	4564.3	4573.8	4549.1	4499.4	4461.3	4413.6	4388.9	4379.4
10°	4301.2	4343.1	4434.6	4455.7	4406.1	4318.4	4198.2	4095.3	4003.7	3961.8	3948.5
12.5°	4190.6	4245.9	4331.7	4299.3	4181.1	4009.5	3824.5	3683.4	3580.5	3540.4	3527.1
15°	4099.1	4165.9	4232.6	4131.5	3925.6	3687.2	3483.2	3351.7	3273.5	3243.1	3235.4
17.5°	4038.1	4116.3	4139.2	3950.3	3664.4	3397.5	3216.4	3130.5	3096.3	3082.9	3079.1
20°	4041.9	4129.6	4074.3	3775.0	3412.8	3143.9	3023.8	2999.0	2999.0	2999.0	2997.1
22.5°	4146.7	4223.0	4047.6	3611.0	3170.6	2930.3	2878.9	2899.9	2915.1	2915.1	2913.3
25°	4364.1	4406.1	4066.6	3452.8	2943.7	2745.4	2747.3	2787.3	2800.7	2800.7	2797.0
27.5°	4695.9	4661.5	4101.0	3277.3	2720.6	2577.6	2604.3	2640.5	2650.2	2644.4	2642.5
30°	5111.5	4974.2	4129.6	3071.4	2510.9	2421.3	2444.2	2465.2	2457.5	2444.2	2442.3
32.5°	5576.7	5292.5	4112.5	2840.7	2326.0	2259.3	2272.6	2284.0	2272.6	2240.2	2240.2
35°	6038.1	5580.5	4019.0	2589.1	2179.2	2102.9	2101.0	2137.3	2135.3	2097.3	2099.1
37.5°	6442.2	5807.4	3837.9	2358.4	2053.4	1988.5	1996.2	2019.0	2030.5	1979.0	1973.3
40°	6795.0	5963.7	3582.4	2162.0	1952.3	1956.1	1935.1	1898.9	1885.6	1862.7	1858.9
42.5°	7126.7	6072.3	3311.7	1998.0	1900.8	1944.7	1874.1	1788.3	1752.1	1773.1	1786.5
45°	7452.7	6194.4	3050.4	1862.7	1836.0	1910.4	1813.2	1717.8	1675.9	1685.4	1698.7
47.5°	7851.1	6364.1	2735.9	1717.8	1736.9	1847.4	1775.0	1672.0	1609.1	1571.0	1559.6
50°	8375.5	6610.0	2327.9	1561.4	1632.0	1778.8	1742.6	1605.3	1536.7	1460.5	1441.3
52.5°	9031.3	6842.6	1916.1	1435.6	1546.2	1719.7	1689.2	1548.1	1464.3	1372.7	1357.5
55°	9685.3	6875.0	1561.4	1327.0	1449.0	1639.6	1624.3	1502.4	1384.2	1309.8	1294.5
57.5°	10142.9	6568.1	1323.2	1235.4	1355.5	1540.5	1565.3	1447.1	1317.5	1260.3	1250.7
60°	10150.5	5834.1	1178.2	1174.4	1285.0	1454.7	1504.2	1382.2	1275.5	1237.4	1229.7
62.5°	9344.0	4701.6	1084.8	1128.7	1233.6	1384.2	1458.5	1346.0	1265.9	1250.7	1243.1
65°	7832.1	3473.7	1010.5	1086.8	1185.9	1325.0	1420.4	1334.5	1262.1	1256.4	1250.7
67.5°	5782.5	2381.3	947.6	1033.4	1132.5	1264.1	1384.2	1317.5	1239.3	1262.1	1254.5
70°	3637.7	1590.1	888.4	972.3	1061.9	1193.5	1336.5	1287.0	1210.7	1197.4	1172.5
72.5°	2053.4	1149.7	818.0	894.2	970.5	1100.1	1271.6	1235.4	1145.8	1092.4	1067.7
73°	1855.1	1088.6	800.8	875.1	949.5	1081.1	1256.4	1220.2	1126.8	1067.7	1044.8
75°	1357.5	890.4	722.6	797.0	861.7	993.3	1184.0	1144.0	1042.9	972.3	957.1
77.5°	983.8	686.4	621.5	688.2	745.4	871.2	1075.3	1029.5	930.4	892.2	877.0
80°	709.2	520.5	514.7	579.6	629.1	756.9	959.0	911.3	816.0	928.5	903.7
82.5°	423.3	333.7	377.5	450.0	501.5	634.8	833.2	777.9	686.4	694.0	591.1
85°	202.1	188.7	234.5	295.5	331.7	434.7	694.0	650.1	549.1	450.0	440.4
87.5°	89.6	85.8	112.5	131.6	177.3	261.2	474.8	421.4	398.4	238.3	186.9
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)