

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: P270636

Luminaire Tested: **NAV-AF-05-D-UNV-T4FT-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270636
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-05-D-UNV-T4FT-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 1200mA 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: 28885 lumens
Efficiency: N/A
Efficacy: 90.3 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 - G4

Input Watts (W): 320
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

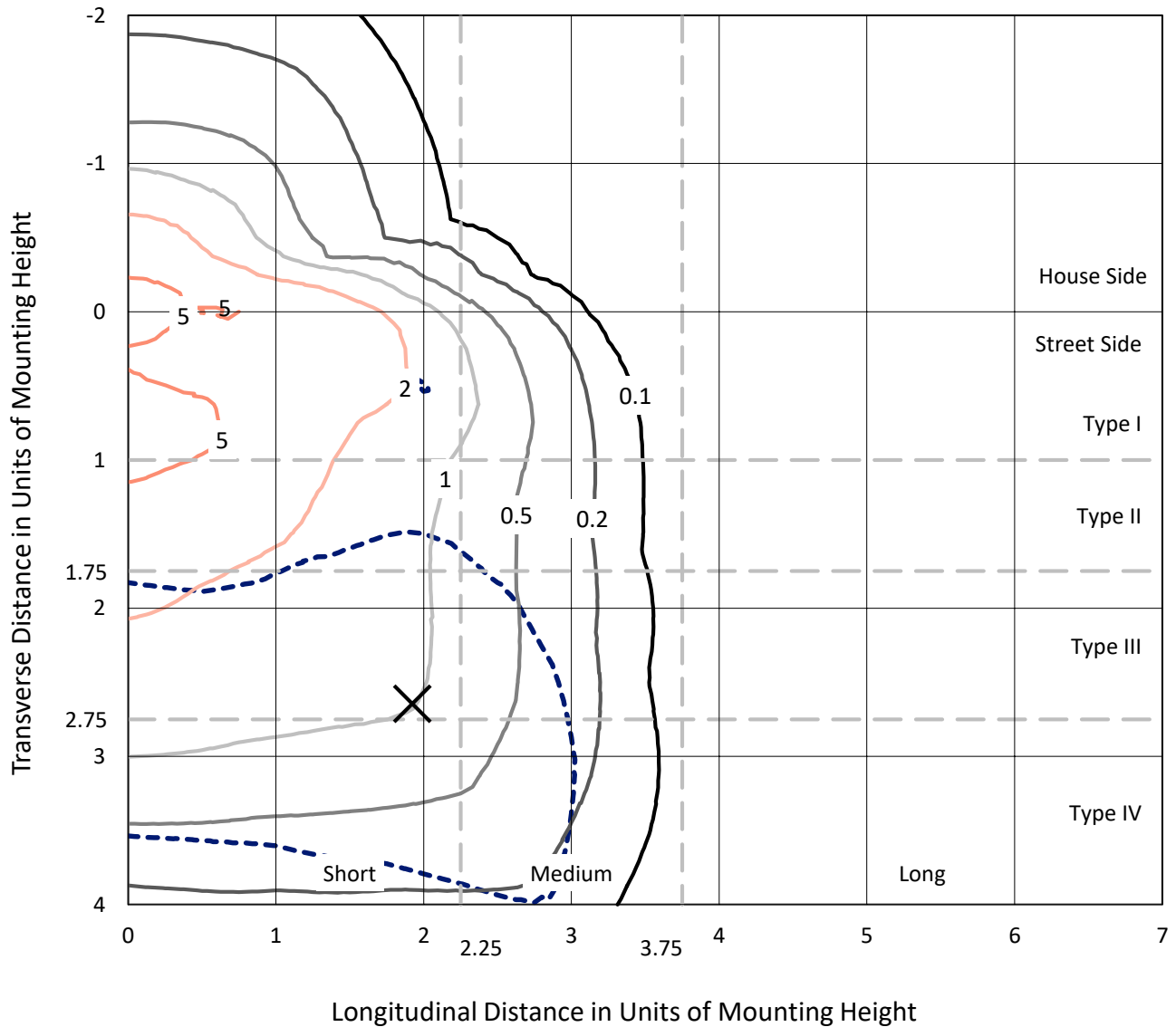


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Iso-Footcandle Lines of Horizontal Illumination

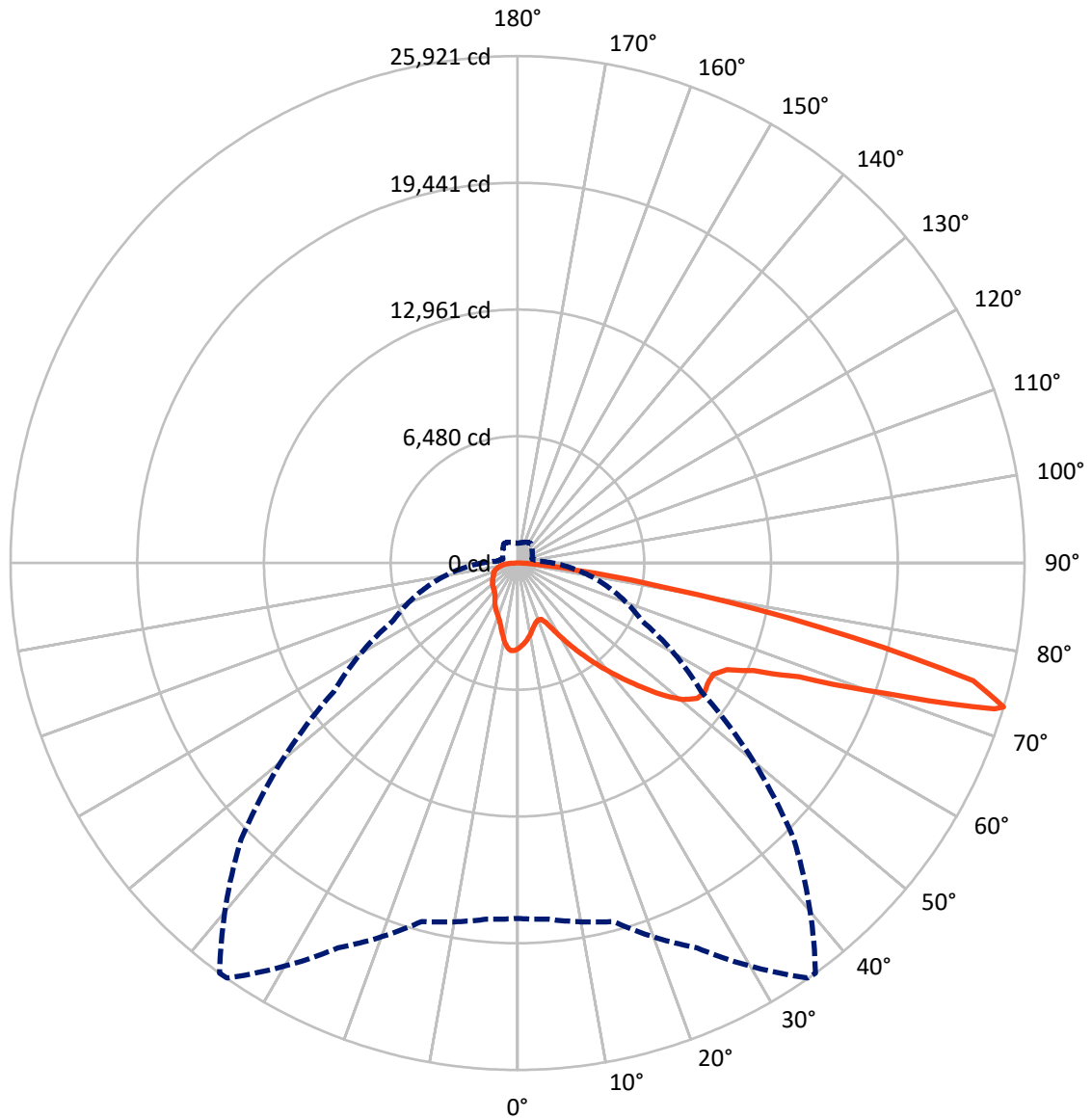
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5569.9	0.0	5569.9
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	23315.1	0.0	23315.1
	% Fixture	80.7	0.0	80.7
Total	Lumens	28885.0	0.0	28885.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	397.4	1.4
10°-20°	998.1	3.5
20°-30°	1600.2	5.5
30°-40°	2646.8	9.2
40°-50°	4095.7	14.2
50°-60°	5482.9	19.0
60°-70°	7162.4	24.8
70°-80°	5850.4	20.3
80°-90°	651.2	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°	28885.0	100.0
0°-180°	28885.0	100.0



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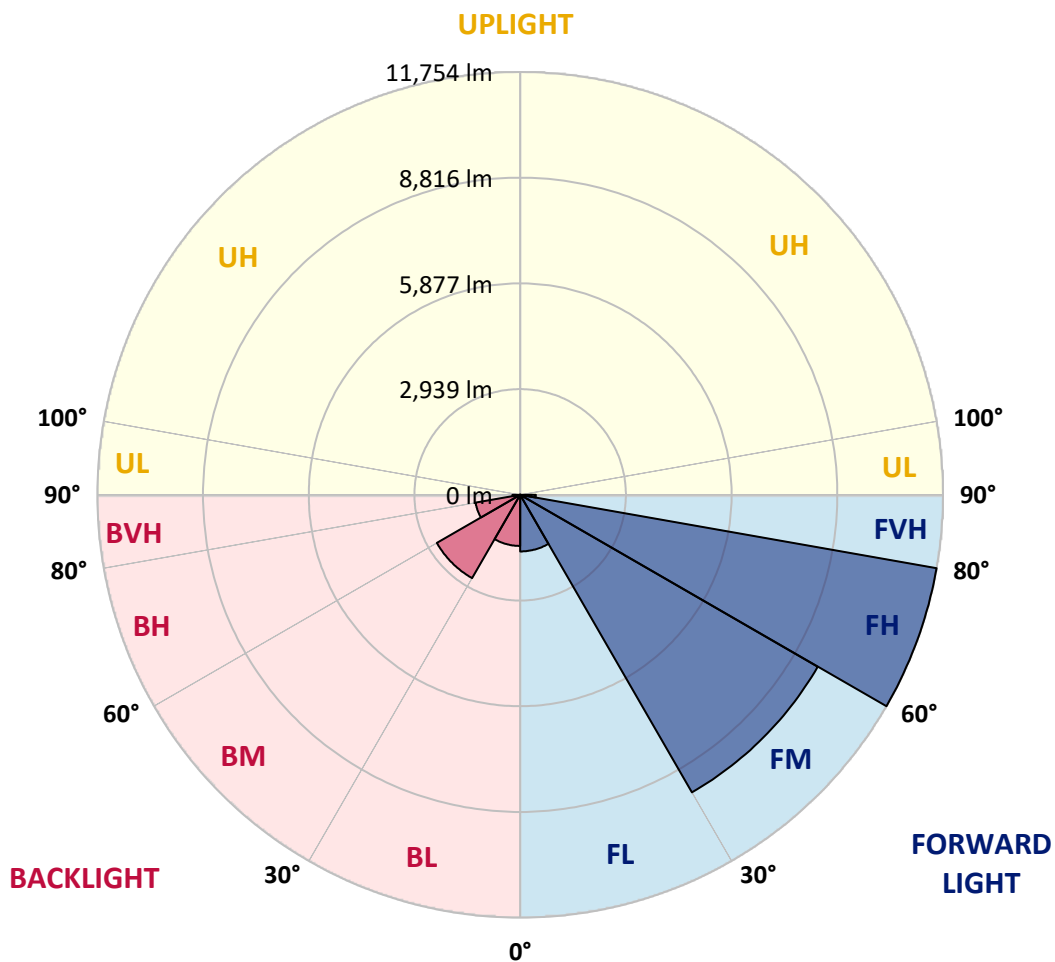
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1573.9	5.4			
FM (30°-60°)	9550.4	33.1			
FH (60°-80°)	11754.1	40.7			G4/12000
FVH (80°-90°)	436.7	1.5			G3/500
BL (0°-30°)	1421.8	4.9	B3/2500		
BM (30°-60°)	2675.0	9.3	B3/5000		
BH (60°-80°)	1258.7	4.4	B3/2500		G3/2500
BVH (80°-90°)	214.5	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-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	4375.3	4375.3	4375.3	4375.3	4375.3	4375.3	4375.3	4375.3	4375.3	4375.3	4375.3
2.5°	4208.2	4219.2	4221.0	4233.9	4233.9	4232.1	4237.6	4259.7	4270.6	4296.4	4318.3
5°	4000.8	4013.6	4019.1	4041.3	4068.8	4070.6	4090.8	4133.0	4173.3	4230.3	4278.0
7.5°	3767.9	3782.5	3797.1	3842.9	3883.5	3887.1	3925.7	3993.5	4046.8	4116.5	4202.7
10°	3542.0	3545.7	3560.4	3619.1	3672.4	3677.8	3732.8	3810.0	3881.5	3978.9	4076.1
12.5°	3356.6	3367.7	3364.1	3408.1	3454.0	3457.7	3531.0	3628.3	3732.8	3842.9	3958.7
15°	3292.5	3290.6	3252.0	3250.2	3270.4	3274.1	3345.6	3459.5	3577.0	3712.8	3861.4
17.5°	3336.5	3321.8	3220.9	3158.5	3145.7	3149.3	3202.5	3327.3	3452.0	3608.1	3786.1
20°	3578.8	3521.9	3285.1	3134.6	3092.3	3092.3	3123.5	3224.6	3362.1	3543.9	3767.9
22.5°	4153.1	4065.1	3560.4	3292.5	3143.8	3129.1	3105.3	3182.3	3334.7	3553.1	3842.9
25°	4876.3	4834.0	4065.1	3712.8	3406.3	3358.6	3200.8	3228.1	3391.6	3652.1	4048.7
27.5°	5546.1	5472.7	4727.6	4323.8	3890.6	3817.3	3483.3	3371.3	3527.4	3835.7	4345.9
30°	5937.1	5887.5	5408.4	5023.1	4507.3	4413.8	3934.8	3653.9	3769.6	4138.5	4767.9
32.5°	6362.9	6333.4	6091.1	5740.7	5175.4	5067.1	4518.4	4114.6	4140.3	4540.5	5276.4
35°	6775.7	6814.4	6676.7	6419.6	5894.8	5793.9	5302.1	4716.6	4597.3	4991.9	5819.6
37.5°	7271.3	7280.5	7194.2	7027.3	6651.0	6568.3	6162.8	5358.8	5094.6	5472.7	6344.5
40°	8260.5	8115.5	7777.7	7645.7	7421.7	7370.4	6907.8	5948.0	5557.2	5966.5	6840.0
42.5°	9330.4	9104.7	8576.1	8359.5	8269.6	8221.9	7528.2	6340.7	5990.3	6460.2	7326.3
45°	10193.0	10009.5	9491.9	9223.9	9234.9	9158.0	8069.7	6691.4	6460.2	6955.5	7869.5
47.5°	11042.8	10736.3	10156.2	10117.7	10246.2	10132.4	8587.2	7041.9	6950.0	7495.2	8412.7
50°	11097.8	10818.7	10583.9	10892.2	11112.5	10971.1	9056.9	7500.7	7458.4	8148.5	9113.8
52.5°	10427.9	10387.6	10745.3	11264.7	11629.9	11503.3	9440.6	7972.3	7977.8	8965.3	9967.2
55°	10183.8	10132.4	10561.8	11200.5	11694.2	11618.9	9726.8	8504.6	8554.1	9956.3	10883.1
57.5°	10594.9	10466.4	10550.9	11079.4	11543.7	11499.7	10024.1	9095.5	9185.3	11097.8	11729.1
60°	11870.5	11608.0	11160.2	11259.3	11549.1	11523.5	10450.0	9754.3	9904.8	12286.9	12265.0
62.5°	13780.9	13483.6	12571.5	12131.0	12066.8	12017.3	11152.7	10563.7	10638.9	13145.8	11952.9
65°	15876.7	15557.4	14472.9	13751.6	13373.4	13267.0	12286.9	11540.0	11068.3	13144.1	10738.1
67.5°	18229.6	17891.8	16810.9	16122.7	15713.4	15531.8	14127.7	12329.1	10928.9	12031.9	8592.6
70°	20639.2	20318.0	19822.5	20062.9	20242.9	19965.6	17027.5	12591.6	9926.9	9433.2	5770.1
72.5°	19360.0	19334.4	19710.6	21990.0	25456.8	25511.9	19923.5	11850.3	7669.5	5606.7	3075.8
73°	18172.6	18281.0	18978.3	21705.4	25902.7	25921.1	19980.5	11466.7	7041.9	4830.4	2701.6
75°	9414.9	10149.0	12736.7	17600.0	23984.8	24071.2	17612.9	8680.7	4197.2	2683.1	1820.5
77.5°	2521.6	2488.7	4103.5	8574.3	15990.5	15876.7	11128.9	4202.7	2011.5	1683.0	1277.3
80°	864.3	875.4	1396.7	3136.4	7463.9	7730.0	4830.4	1833.4	1323.3	1172.7	904.8
82.5°	440.4	455.1	730.4	1334.3	3121.8	3055.7	1554.4	1079.1	886.4	712.0	506.6
85°	234.8	242.3	401.9	691.9	1145.2	1158.0	546.9	576.3	563.4	403.8	249.5
87.5°	115.6	119.3	192.6	304.6	423.9	409.3	190.9	249.5	277.1	227.6	137.6
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°	4375.3	4375.3	4375.3	4375.3	4375.3	4375.3	4375.3	4375.3	4375.3	4375.3	4375.3
2.5°	4345.9	4345.9	4369.7	4410.0	4439.5	4467.0	4485.3	4514.7	4531.2	4529.4	4527.5
5°	4316.5	4335.0	4382.7	4432.1	4465.1	4487.3	4487.3	4500.0	4500.0	4494.5	4487.3
7.5°	4248.7	4279.9	4349.6	4393.6	4402.8	4378.9	4331.2	4294.4	4248.7	4224.8	4215.6
10°	4140.3	4180.7	4268.7	4289.0	4241.3	4156.8	4041.3	3942.1	3854.0	3813.7	3800.8
12.5°	4033.8	4087.1	4169.8	4138.5	4024.6	3859.6	3681.6	3545.7	3446.5	3408.1	3395.2
15°	3945.7	4010.0	4074.3	3976.9	3778.8	3549.4	3353.1	3226.4	3151.2	3121.8	3114.5
17.5°	3887.1	3962.3	3984.3	3802.6	3527.4	3270.4	3096.1	3013.5	2980.4	2967.6	2964.0
20°	3890.6	3975.2	3921.9	3633.9	3285.1	3026.3	2910.7	2886.9	2886.9	2886.9	2884.9
22.5°	3991.7	4065.1	3896.3	3475.9	3052.0	2820.8	2771.2	2791.5	2806.0	2806.0	2804.2
25°	4201.0	4241.3	3914.5	3323.5	2833.7	2642.8	2644.6	2683.1	2696.1	2696.1	2692.3
27.5°	4520.2	4487.3	3947.6	3154.8	2618.9	2481.3	2507.0	2541.8	2550.9	2545.4	2543.7
30°	4920.2	4788.1	3975.2	2956.6	2417.0	2330.7	2352.8	2373.1	2365.6	2352.8	2351.0
32.5°	5368.1	5094.6	3958.7	2734.5	2239.0	2174.7	2187.6	2198.6	2187.6	2156.4	2156.4
35°	5812.3	5371.8	3868.7	2492.3	2097.7	2024.3	2022.4	2057.3	2055.5	2018.9	2020.6
37.5°	6201.3	5590.2	3694.4	2270.1	1976.6	1914.2	1921.6	1943.6	1954.5	1904.9	1899.5
40°	6540.7	5740.7	3448.5	2081.2	1879.3	1882.9	1862.7	1828.0	1815.0	1793.0	1789.3
42.5°	6860.1	5845.4	3187.8	1923.4	1829.8	1872.0	1804.1	1721.4	1686.6	1706.8	1719.6
45°	7174.0	5962.7	2936.4	1793.0	1767.3	1838.9	1745.3	1653.6	1613.1	1622.3	1635.3
47.5°	7557.6	6126.1	2633.7	1653.6	1671.9	1778.4	1708.7	1609.6	1548.9	1512.2	1501.2
50°	8062.3	6362.9	2240.8	1503.0	1571.0	1712.3	1677.5	1545.3	1479.1	1405.8	1387.4
52.5°	8693.5	6586.7	1844.4	1382.0	1488.4	1655.3	1626.0	1490.2	1409.5	1321.3	1306.8
55°	9323.1	6618.0	1503.0	1277.3	1394.8	1578.3	1563.6	1446.2	1332.4	1260.9	1246.0
57.5°	9763.6	6322.5	1273.6	1189.3	1304.9	1482.9	1506.7	1392.9	1268.1	1213.2	1203.9
60°	9770.9	5615.8	1134.2	1130.4	1237.0	1400.3	1448.0	1330.6	1227.8	1191.2	1183.7
62.5°	8994.5	4525.8	1044.3	1086.5	1187.4	1332.4	1404.1	1295.6	1218.6	1203.9	1196.6
65°	7539.3	3343.9	972.7	1046.0	1141.6	1275.6	1367.3	1284.7	1215.0	1209.4	1203.9
67.5°	5566.3	2292.3	912.0	994.8	1090.2	1216.8	1332.4	1268.1	1192.9	1215.0	1207.6
70°	3501.7	1530.6	855.2	935.9	1022.2	1148.8	1286.6	1238.9	1165.5	1152.5	1128.7
72.5°	1976.6	1106.6	787.4	860.8	934.1	1058.9	1224.1	1189.3	1102.9	1051.6	1027.8
73°	1785.7	1048.0	770.7	842.4	913.9	1040.5	1209.4	1174.5	1084.7	1027.8	1005.7
75°	1306.8	857.1	695.6	767.2	829.6	956.2	1139.7	1101.1	1003.9	935.9	921.3
77.5°	947.1	660.8	598.4	662.5	717.6	838.7	1035.0	991.0	895.6	858.9	844.1
80°	682.7	501.1	495.5	557.8	605.6	728.5	923.1	877.3	785.5	893.8	869.9
82.5°	407.4	321.1	363.4	433.2	482.7	611.1	801.9	748.7	660.8	668.0	568.9
85°	194.6	181.6	225.7	284.5	319.3	418.4	668.0	625.8	528.6	433.2	423.9
87.5°	86.2	82.6	108.2	126.7	170.7	251.4	457.0	405.6	383.5	229.3	179.8
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)