

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: P196361

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196361
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 1050mA 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: 31002.6 lumens
Efficiency: N/A
Efficacy: 111.1 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

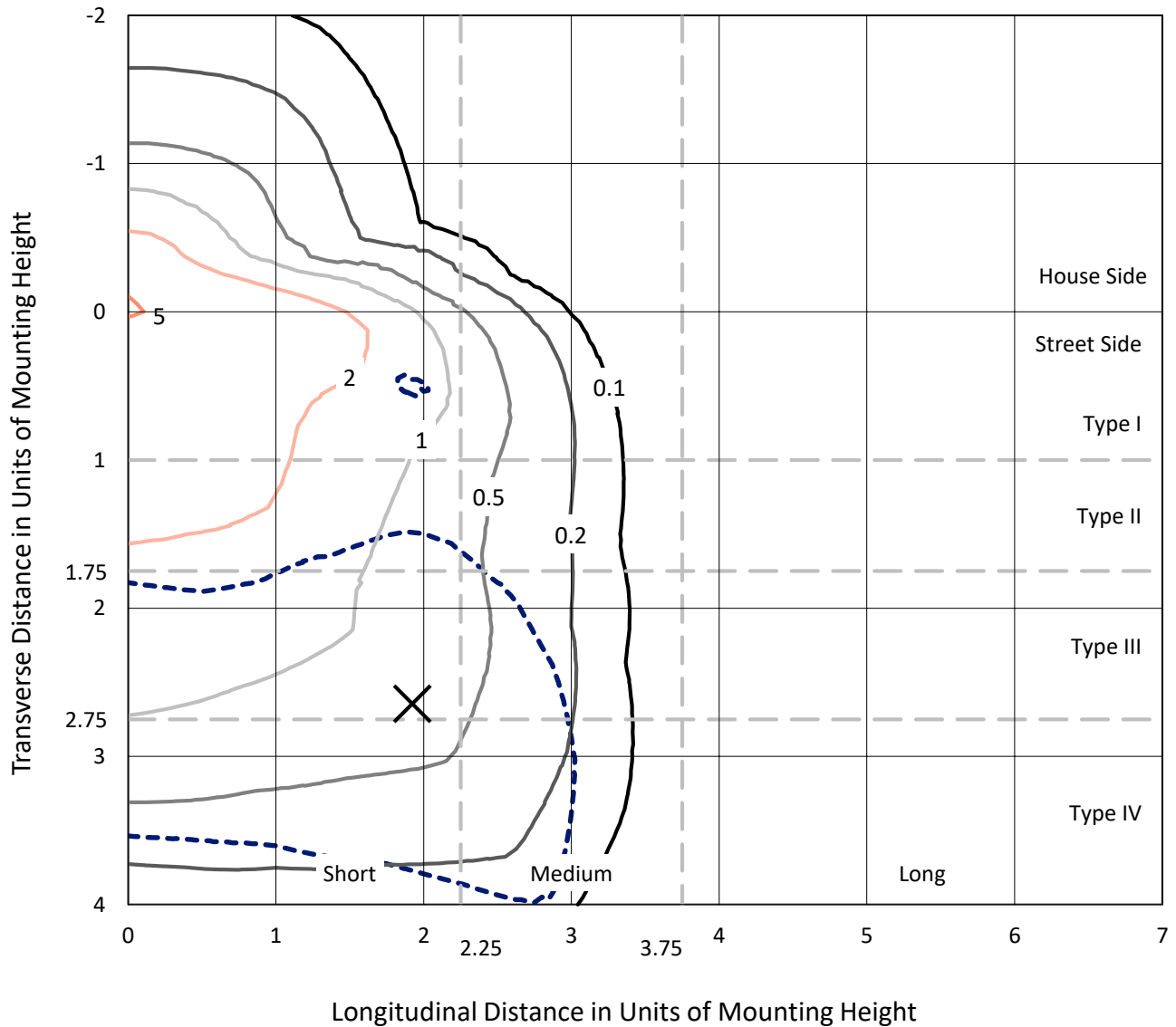
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

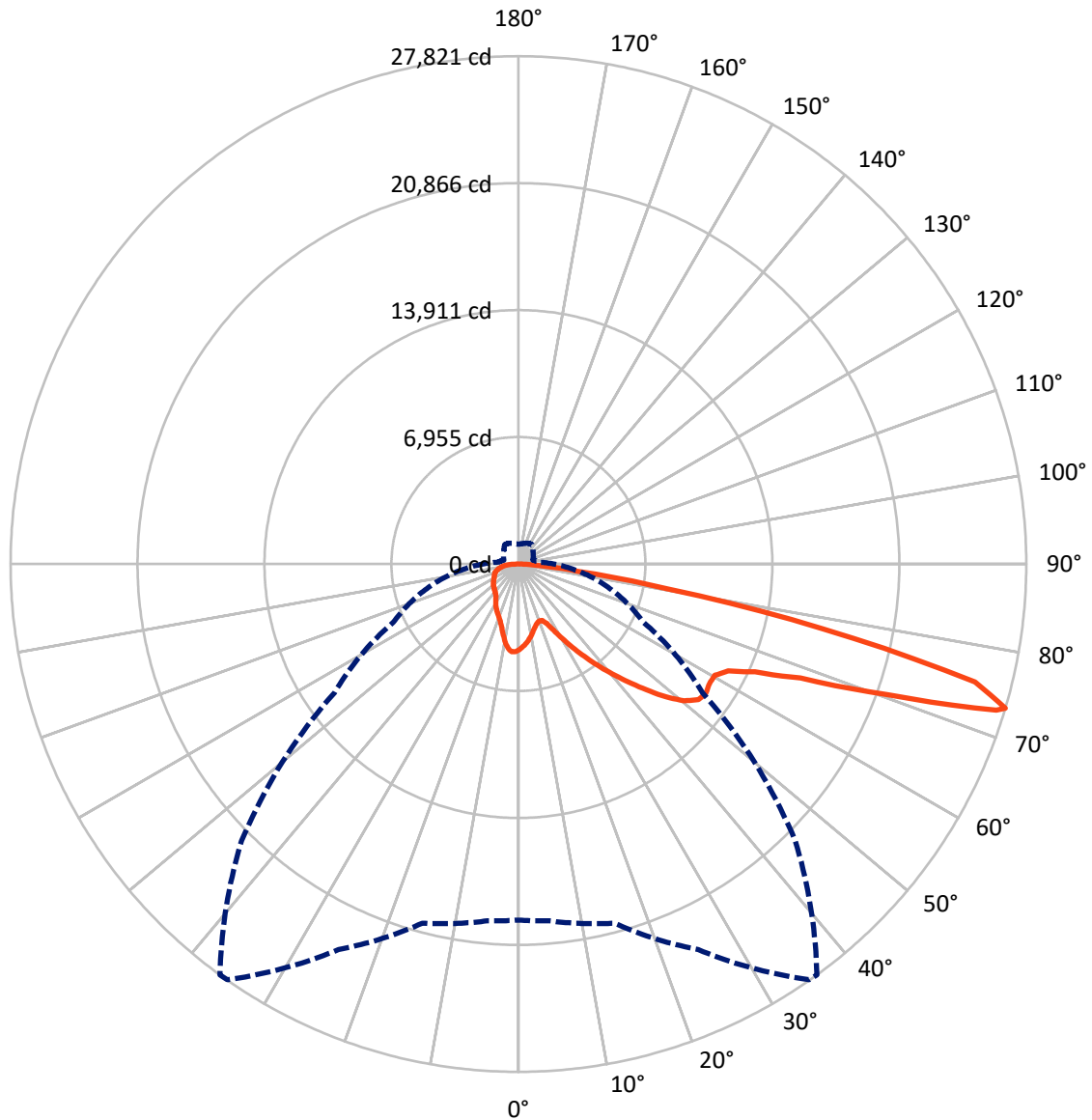


Based on 30 foot mounting height. Maximum calculated value = 5.2 fc
 Type IV - Short - Non-Cutoff

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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	5978.2	0.0	5978.2
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	25024.3	0.0	25024.3
	% Fixture	80.7	0.0	80.7
Total	Lumens	31002.6	0.0	31002.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	426.5	1.4
10°-20°	1071.2	3.5
20°-30°	1717.5	5.5
30°-40°	2840.9	9.2
40°-50°	4395.9	14.2
50°-60°	5884.8	19.0
60°-70°	7687.4	24.8
70°-80°	6279.3	20.3
80°-90°	698.9	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°	31002.6	100.0
0°-180°	31002.6	100.0



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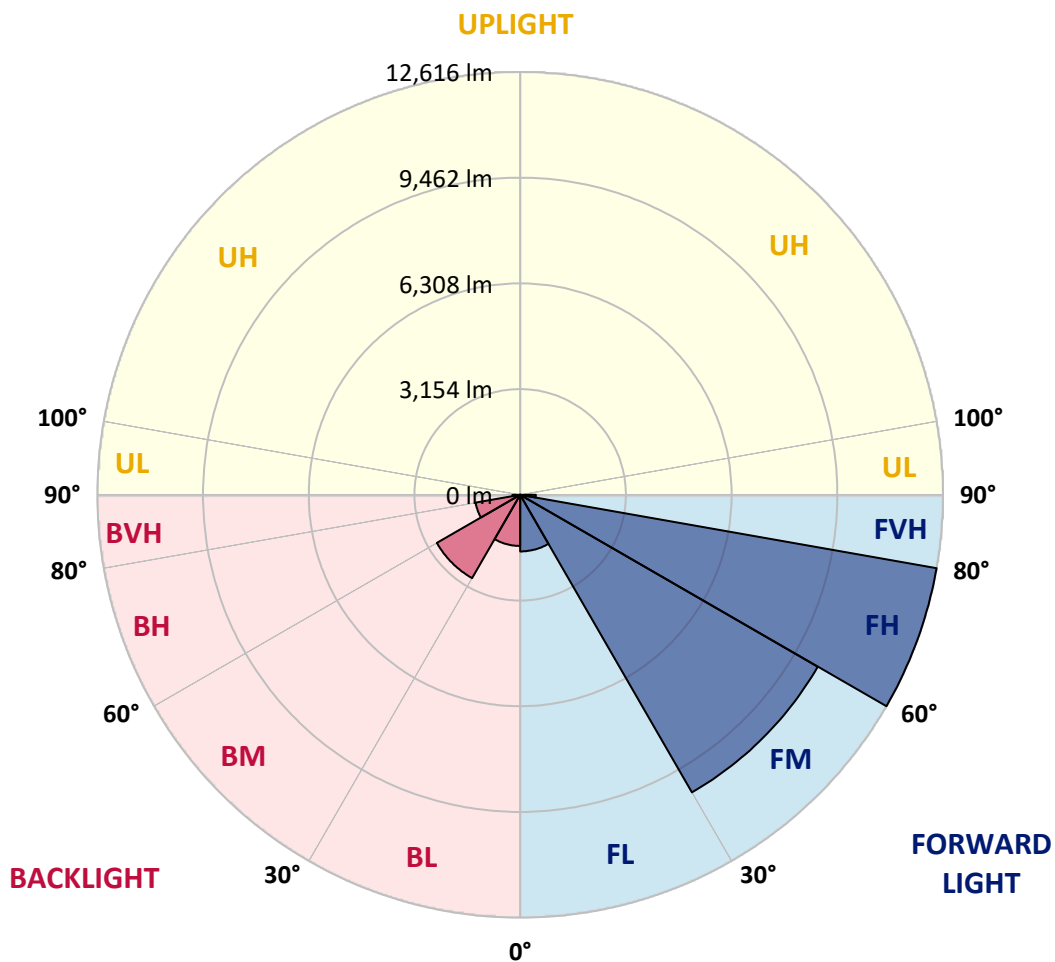
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1689.3	5.4			
FM (30°-60°)	10250.5	33.1			
FH (60°-80°)	12615.8	40.7			G5
FVH (80°-90°)	468.8	1.5			G3/500
BL (0°-30°)	1526.0	4.9	B3/2500		
BM (30°-60°)	2871.1	9.3	B3/5000		
BH (60°-80°)	1351.0	4.4	B3/2500		G3/2500
BVH (80°-90°)	230.2	0.7			G3/500
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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	4696.0	4696.0	4696.0	4696.0	4696.0	4696.0	4696.0	4696.0	4696.0	4696.0	4696.0
2.5°	4516.7	4528.6	4530.5	4544.4	4544.4	4542.3	4548.2	4571.9	4583.7	4611.3	4634.9
5°	4294.1	4308.0	4313.9	4337.5	4367.1	4369.0	4390.7	4435.9	4479.3	4540.4	4591.6
7.5°	4044.0	4059.8	4075.5	4124.7	4168.1	4172.0	4213.4	4286.3	4343.3	4418.2	4510.8
10°	3801.7	3805.7	3821.4	3884.5	3941.5	3947.5	4006.6	4089.2	4166.1	4270.5	4375.0
12.5°	3602.7	3614.6	3610.6	3657.9	3707.2	3711.1	3789.9	3894.3	4006.6	4124.7	4248.8
15°	3533.8	3531.8	3490.5	3488.5	3510.2	3514.1	3591.0	3713.1	3839.1	3984.9	4144.5
17.5°	3581.0	3565.3	3457.0	3390.1	3376.2	3380.1	3437.3	3571.2	3705.2	3872.6	4063.7
20°	3841.1	3780.0	3525.9	3364.4	3319.1	3319.1	3352.6	3460.9	3608.7	3803.6	4044.0
22.5°	4457.6	4363.1	3821.4	3533.8	3374.3	3358.4	3332.9	3415.6	3579.1	3813.6	4124.7
25°	5233.7	5188.4	4363.1	3984.9	3655.9	3604.7	3435.3	3464.8	3640.2	3919.8	4345.4
27.5°	5952.8	5873.9	5074.1	4640.8	4176.0	4097.1	3738.7	3618.5	3785.9	4116.9	4664.5
30°	6372.3	6319.1	5804.9	5391.4	4837.8	4737.4	4223.3	3921.9	4046.0	4441.9	5117.5
32.5°	6829.3	6797.7	6537.8	6161.5	5554.8	5438.6	4849.6	4416.3	4443.9	4873.2	5663.2
35°	7272.5	7313.9	7166.1	6890.3	6327.0	6218.6	5690.8	5062.4	4934.3	5357.8	6246.2
37.5°	7804.3	7814.2	7721.5	7542.3	7138.6	7049.9	6614.6	5751.8	5468.2	5873.9	6809.6
40°	8866.0	8710.4	8348.0	8206.1	7965.8	7910.7	7414.3	6384.1	5964.5	6403.8	7341.4
42.5°	10014.4	9772.1	9204.8	8972.4	8875.9	8824.7	8080.1	6805.6	6429.5	6933.7	7863.4
45°	10940.3	10743.2	10187.8	9900.2	9912.0	9829.2	8661.2	7181.8	6933.7	7465.5	8446.5
47.5°	11852.2	11523.3	10900.9	10859.4	10997.3	10875.2	9216.7	7558.1	7459.6	8044.6	9029.5
50°	11911.3	11611.9	11359.8	11690.7	11927.1	11775.4	9720.9	8050.5	8005.2	8745.9	9782.0
52.5°	11192.4	11149.0	11533.2	12090.6	12482.6	12346.7	10132.6	8556.8	8562.7	9622.5	10697.9
55°	10930.4	10875.2	11336.1	12021.6	12551.5	12470.8	10439.9	9128.0	9181.2	10686.2	11680.9
57.5°	11371.6	11233.7	11324.4	11891.6	12390.0	12342.7	10759.0	9762.3	9858.8	11911.3	12588.9
60°	12740.6	12458.9	11978.3	12084.7	12395.9	12368.3	11216.0	10469.5	10631.0	13187.8	13164.1
62.5°	14791.2	14472.1	13493.1	13020.3	12951.4	12898.2	11970.5	11338.2	11418.9	14109.7	12829.2
65°	17040.7	16697.9	15533.8	14759.6	14353.8	14239.7	13187.8	12386.1	11879.8	14107.6	11525.3
67.5°	19566.0	19203.5	18043.3	17304.6	16865.4	16670.3	15163.5	13233.1	11730.1	12913.9	9222.6
70°	22152.3	21807.6	21275.7	21533.8	21726.9	21429.4	18275.7	13514.7	10654.6	10124.8	6193.0
72.5°	20779.3	20751.8	21155.5	23602.0	27323.0	27382.1	21384.1	12719.0	8231.8	6017.7	3301.4
73°	19504.9	19621.1	20369.6	23296.8	27801.7	27821.4	21445.1	12307.2	7558.1	5184.5	2899.6
75°	10105.0	10893.0	13670.4	18890.3	25743.3	25835.9	18904.1	9317.1	4504.9	2879.8	1954.0
77.5°	2706.5	2671.0	4404.4	9202.9	17162.8	17040.7	11944.8	4510.8	2158.9	1806.3	1371.0
80°	927.8	939.6	1499.0	3366.3	8011.1	8296.7	5184.5	1967.9	1420.3	1258.7	971.1
82.5°	472.7	488.5	784.0	1432.0	3350.6	3279.7	1668.4	1158.3	951.4	764.2	543.7
85°	252.2	260.0	431.4	742.7	1229.2	1243.0	587.0	618.5	604.8	433.3	267.9
87.5°	124.1	128.1	206.8	326.9	455.0	439.3	204.9	267.9	297.5	244.3	147.7
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°	4696.0	4696.0	4696.0	4696.0	4696.0	4696.0	4696.0	4696.0	4696.0	4696.0	4696.0
2.5°	4664.5	4664.5	4690.1	4733.4	4764.9	4794.5	4814.2	4845.7	4863.4	4861.5	4859.5
5°	4632.9	4652.7	4703.8	4757.0	4792.5	4816.2	4816.2	4830.0	4830.0	4824.0	4816.2
7.5°	4560.1	4593.6	4668.4	4715.7	4725.5	4699.9	4648.7	4609.3	4560.1	4534.4	4524.6
10°	4443.9	4487.2	4581.7	4603.4	4552.2	4461.6	4337.5	4231.1	4136.6	4093.2	4079.4
12.5°	4329.6	4386.7	4475.4	4441.9	4319.7	4142.4	3951.5	3805.7	3699.3	3657.9	3644.2
15°	4235.0	4304.0	4372.9	4268.6	4055.8	3809.6	3598.8	3462.9	3382.2	3350.6	3342.7
17.5°	4172.0	4252.8	4276.4	4081.4	3785.9	3510.2	3323.1	3234.4	3199.0	3185.2	3181.2
20°	4176.0	4266.5	4209.4	3900.2	3525.9	3248.2	3124.1	3098.5	3098.5	3098.5	3096.5
22.5°	4284.3	4363.1	4181.8	3730.8	3275.8	3027.5	2974.4	2996.0	3011.8	3011.8	3009.8
25°	4508.9	4552.2	4201.6	3567.3	3041.3	2836.5	2838.5	2879.8	2893.6	2893.6	2889.7
27.5°	4851.7	4816.2	4237.1	3386.1	2810.9	2663.2	2690.8	2728.2	2738.0	2732.1	2730.2
30°	5281.0	5139.2	4266.5	3173.3	2594.2	2501.6	2525.3	2546.9	2539.1	2525.3	2523.3
32.5°	5761.7	5468.2	4248.8	2934.9	2403.1	2334.2	2348.0	2359.8	2348.0	2314.5	2314.5
35°	6238.4	5765.6	4152.4	2675.0	2251.5	2172.6	2170.7	2208.1	2206.2	2166.8	2168.8
37.5°	6655.9	6000.0	3965.2	2436.7	2121.5	2054.5	2062.4	2086.0	2097.9	2044.7	2038.7
40°	7020.3	6161.5	3701.2	2233.7	2017.1	2021.0	1999.4	1961.9	1948.1	1924.5	1920.6
42.5°	7363.1	6273.8	3421.6	2064.3	1963.9	2009.2	1936.3	1847.7	1810.2	1831.9	1845.7
45°	7700.0	6399.9	3151.7	1924.5	1897.0	1973.8	1873.2	1774.8	1731.4	1741.3	1755.1
47.5°	8111.6	6575.2	2826.6	1774.8	1794.5	1908.7	1833.8	1727.6	1662.5	1623.1	1611.2
50°	8653.3	6829.3	2405.2	1613.3	1686.1	1837.8	1800.4	1658.6	1587.6	1508.9	1489.2
52.5°	9330.9	7069.6	1979.6	1483.3	1597.5	1776.8	1745.3	1599.5	1512.8	1418.2	1402.5
55°	10006.5	7103.1	1613.3	1371.0	1497.1	1694.0	1678.3	1552.2	1430.1	1353.3	1337.5
57.5°	10479.3	6785.9	1367.1	1276.4	1400.5	1591.6	1617.2	1495.0	1361.1	1302.0	1292.2
60°	10487.2	6027.5	1217.3	1213.4	1327.7	1502.9	1554.2	1428.1	1317.8	1278.4	1270.5
62.5°	9654.0	4857.5	1120.8	1166.2	1274.5	1430.1	1506.9	1390.7	1307.9	1292.2	1284.3
65°	8092.0	3588.9	1044.0	1122.8	1225.2	1369.0	1467.5	1378.8	1304.0	1298.1	1292.2
67.5°	5974.3	2460.3	979.0	1067.7	1170.1	1306.0	1430.1	1361.1	1280.3	1304.0	1296.1
70°	3758.3	1642.8	917.9	1004.6	1097.2	1233.1	1380.8	1329.6	1250.9	1237.1	1211.4
72.5°	2121.5	1187.7	845.1	923.8	1002.6	1136.6	1313.9	1276.4	1183.9	1128.7	1103.0
73°	1916.6	1124.7	827.4	904.2	980.9	1116.9	1298.1	1260.7	1164.1	1103.0	1079.4
75°	1402.5	919.9	746.5	823.4	890.4	1026.2	1223.2	1181.9	1077.5	1004.6	988.9
77.5°	1016.4	709.1	642.1	711.1	770.2	900.2	1110.9	1063.7	961.3	921.9	906.1
80°	732.7	537.8	531.8	598.8	650.0	782.0	990.8	941.5	843.1	959.3	933.6
82.5°	437.3	344.7	390.1	464.8	518.0	655.9	860.8	803.6	709.1	717.0	610.6
85°	208.8	195.0	242.2	305.4	342.8	449.1	717.0	671.7	567.3	464.8	455.0
87.5°	92.6	88.7	116.2	136.0	183.2	269.9	490.5	435.4	411.7	246.2	193.0
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)