

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: P196799

Luminaire Tested: **NAV-AF-05-D-UNV-T3-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196799
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 31911.4 lumens
Efficiency: N/A
Efficacy: 99.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Short - Semi-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

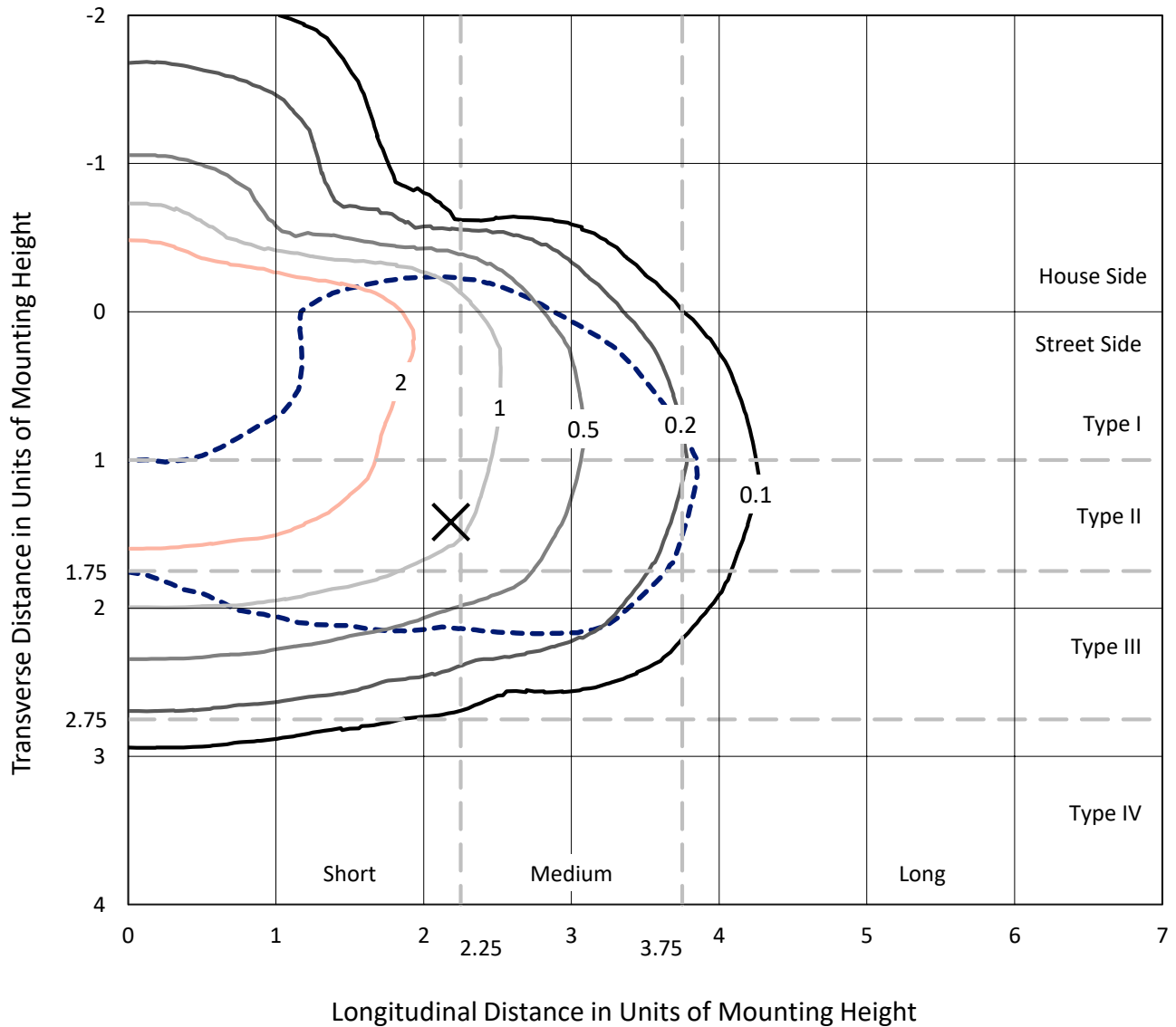


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Iso-Footcandle Lines of Horizontal Illumination

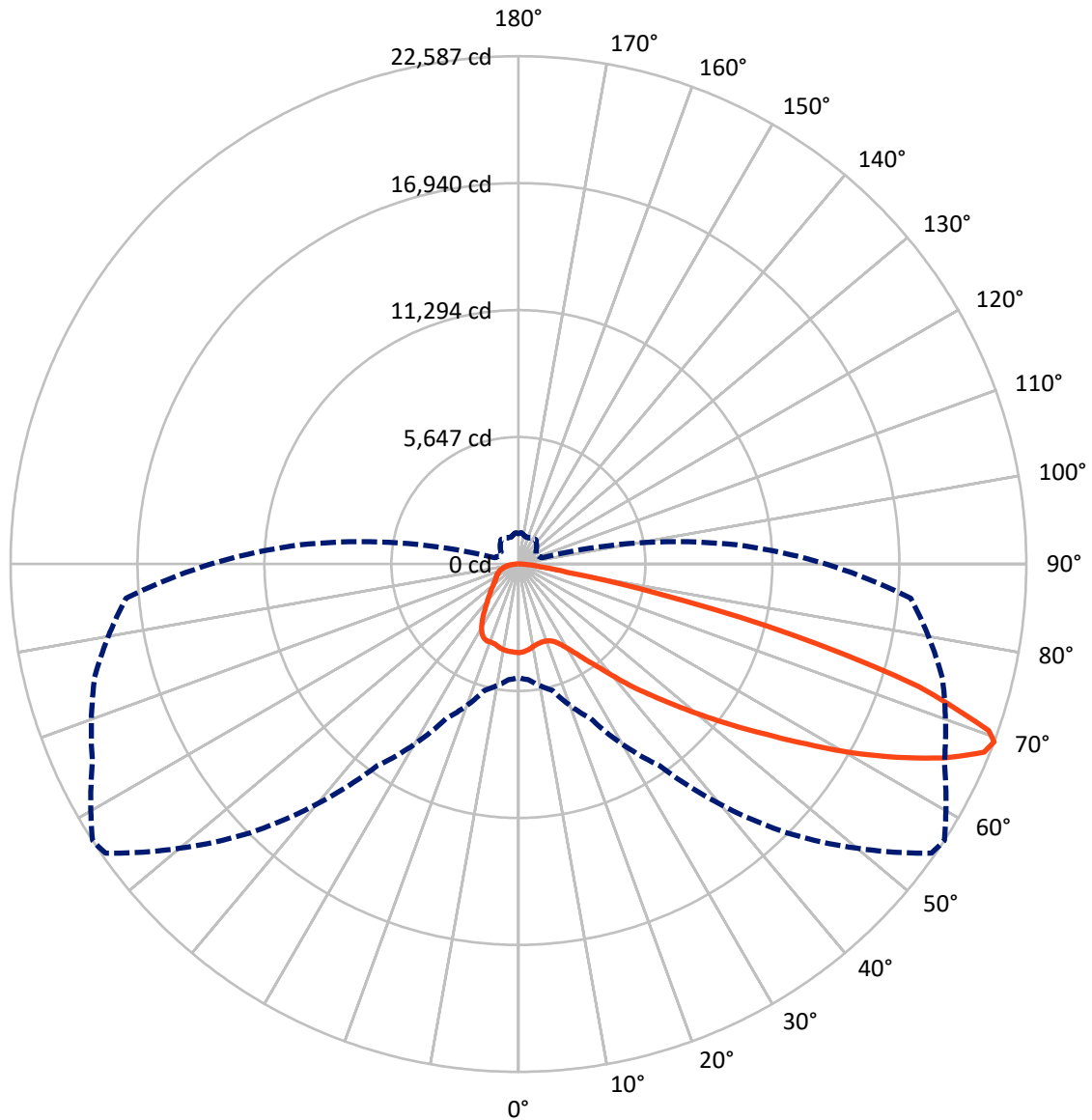
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 4.5 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	7041.7	0.0	7041.7
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	24869.7	0.0	24869.7
	% Fixture	77.9	0.0	77.9
Total	Lumens	31911.4	0.0	31911.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	369.2	1.2
10°-20°	1049.6	3.3
20°-30°	1745.9	5.5
30°-40°	2851.0	8.9
40°-50°	4811.9	15.1
50°-60°	7485.2	23.5
60°-70°	8916.4	27.9
70°-80°	4153.9	13.0
80°-90°	528.3	1.7
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°	31911.4	100.0
0°-180°	31911.4	100.0



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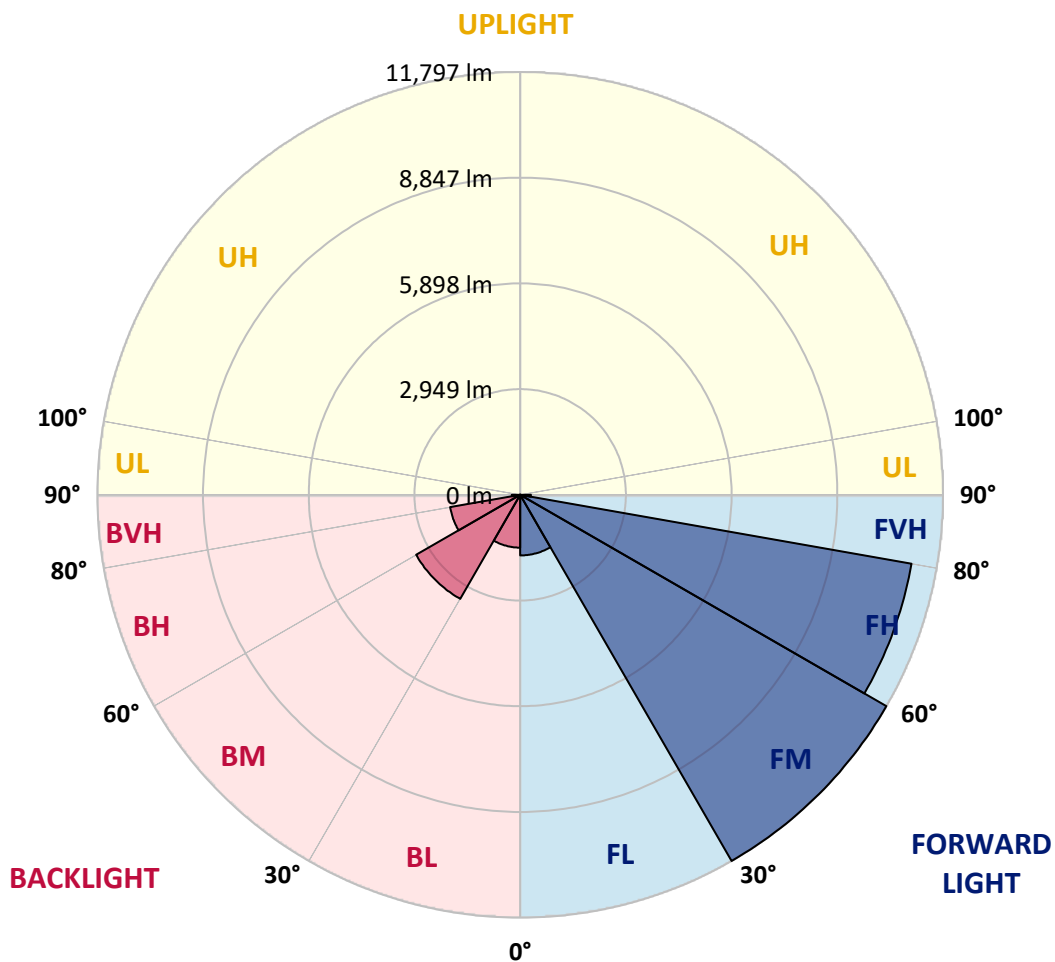
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1690.0	5.3			
FM	(30°-60°)	11796.7	37.0			
FH	(60°-80°)	11086.0	34.7			G4/12000
FVH	(80°-90°)	297.0	0.9			G3/500
BL	(0°-30°)	1474.7	4.6	B3/2500		
BM	(30°-60°)	3351.4	10.5	B3/5000		
BH	(60°-80°)	1984.2	6.2	B3/2500		G3/2500
BVH	(80°-90°)	231.3	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-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	3942.9	3942.9	3942.9	3942.9	3942.9	3942.9	3942.9	3942.9	3942.9	3942.9	3942.9
2.5°	3920.4	3920.4	3930.7	3930.7	3930.7	3926.7	3914.3	3918.5	3910.3	3904.2	3893.9
5°	3840.8	3845.0	3857.2	3861.2	3867.3	3869.4	3869.4	3867.3	3869.4	3869.4	3863.3
7.5°	3730.4	3734.6	3748.9	3757.1	3775.5	3791.8	3799.9	3799.9	3810.2	3818.3	3820.4
10°	3663.0	3663.0	3671.2	3671.2	3685.6	3693.7	3720.3	3718.2	3746.8	3773.4	3785.7
12.5°	3654.9	3654.9	3650.8	3636.4	3628.4	3626.4	3652.9	3656.9	3699.8	3746.8	3769.3
15°	3681.5	3681.5	3669.2	3640.6	3609.9	3595.6	3622.2	3630.3	3677.3	3732.6	3767.3
17.5°	3767.3	3765.2	3738.7	3681.5	3628.4	3605.9	3614.1	3622.2	3665.1	3728.5	3771.3
20°	3957.3	3957.3	3900.0	3795.8	3703.9	3650.8	3638.6	3644.7	3675.4	3734.6	3789.7
22.5°	4290.3	4296.4	4194.3	4022.6	3865.4	3752.9	3703.9	3710.0	3724.3	3781.6	3842.8
25°	4780.5	4764.2	4619.2	4376.1	4130.9	3938.9	3838.8	3845.0	3845.0	3898.1	3961.3
27.5°	5299.5	5303.6	5095.2	4833.7	4510.9	4224.8	4065.5	4063.5	4061.5	4112.5	4179.9
30°	5885.8	5887.9	5646.8	5344.4	4974.7	4609.0	4370.0	4367.8	4349.5	4412.9	4500.7
32.5°	6527.3	6525.3	6245.4	5904.3	5493.5	5078.8	4768.3	4766.3	4752.0	4837.8	4944.0
35°	7238.3	7238.3	6960.5	6539.6	6096.2	5634.5	5275.0	5273.0	5281.1	5397.5	5497.7
37.5°	8094.3	8112.7	7777.6	7267.0	6782.7	6290.4	5871.5	5859.2	5798.0	5994.1	6159.6
40°	8987.1	9038.2	8690.8	8094.3	7571.3	7062.6	6600.9	6592.7	6539.6	6748.0	7015.6
42.5°	9953.4	10069.9	9683.7	9075.0	8505.0	7955.3	7491.6	7469.2	7264.8	7589.7	8008.4
45°	11220.1	11295.7	10736.0	10184.3	9646.9	9019.8	8468.1	8347.6	8143.3	8560.1	9103.5
47.5°	12082.2	12045.4	11696.1	11326.3	10981.0	10380.4	9532.6	9379.4	9130.1	9681.7	10280.3
50°	12617.5	12644.0	12447.9	12429.6	12411.1	11992.3	10733.8	10550.0	10261.9	10915.6	11614.4
52.5°	12970.9	12850.4	12885.1	13301.9	13806.4	13606.3	12092.4	11888.2	11591.9	12245.7	13034.2
55°	12823.8	12664.5	12985.3	13806.4	14993.4	15038.5	13583.7	13373.4	13120.1	13659.4	14742.2
57.5°	12214.9	12294.7	12801.4	13943.3	15804.6	16321.3	15297.8	15083.4	14584.9	15132.4	16364.3
60°	11359.0	11520.4	12294.7	13726.8	16372.5	17320.5	17179.5	17036.5	16178.3	16566.6	18068.1
62.5°	10439.6	10599.0	11551.0	13357.1	16117.1	18205.0	19026.3	18938.5	17937.4	17947.6	19148.9
65°	9081.1	9146.4	10118.9	12347.8	15408.2	19003.8	20875.2	20797.6	19618.8	19126.4	19451.2
67.5°	6858.3	6940.0	7738.9	9747.1	13250.8	18570.7	22352.3	22340.0	20630.0	19563.6	18732.2
69°	5064.6	5164.6	5816.4	7567.2	10956.5	16920.0	22421.7	22587.2	20903.8	19518.6	17516.6
70°	3706.0	3820.4	4423.1	6006.4	9126.0	15097.7	21827.3	22182.7	20799.5	19234.6	16568.6
72.5°	1575.2	1614.0	1910.2	2711.0	4629.5	9103.5	17878.2	18625.9	18785.3	17234.7	12944.4
75°	986.7	999.0	1115.4	1391.3	2059.3	3765.2	11577.5	12597.0	14025.1	13371.3	8666.3
77.5°	743.6	753.9	821.3	958.2	1278.9	1405.6	5370.9	6404.8	8033.0	7865.5	4312.8
80°	570.0	576.2	621.0	696.6	901.0	880.5	1742.6	2190.1	3352.5	2958.2	1526.2
82.5°	447.4	449.5	488.3	502.6	629.3	592.5	874.4	974.5	1354.5	1125.7	745.7
85°	396.4	402.5	441.3	367.7	402.5	357.5	480.0	520.9	719.2	678.3	281.9
87.5°	202.2	212.5	369.8	314.6	202.2	169.6	210.5	226.8	292.2	316.7	136.9
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°	3942.9	3942.9	3942.9	3942.9	3942.9	3942.9	3942.9	3942.9	3942.9	3942.9	3942.9
2.5°	3895.9	3898.1	3904.2	3914.3	3930.7	3951.2	3975.6	4000.2	4014.5	4024.7	4020.6
5°	3863.3	3865.4	3877.6	3895.9	3916.4	3947.0	3987.9	4018.5	4041.1	4055.3	4053.3
7.5°	3822.4	3828.6	3853.0	3873.5	3902.0	3926.7	3959.3	3987.9	4010.4	4024.7	4022.6
10°	3791.8	3798.0	3828.6	3855.1	3879.6	3883.7	3877.6	3869.4	3867.3	3877.6	3873.5
12.5°	3777.5	3789.7	3818.3	3836.7	3826.5	3787.7	3742.7	3724.3	3718.2	3738.7	3740.7
15°	3781.6	3791.8	3816.3	3804.1	3748.9	3683.4	3659.0	3673.3	3685.6	3697.8	3699.8
17.5°	3791.8	3798.0	3804.1	3759.1	3681.5	3638.6	3630.3	3616.1	3579.4	3558.9	3556.8
20°	3810.2	3818.3	3808.1	3736.6	3667.2	3609.9	3511.9	3424.0	3340.3	3295.4	3276.9
22.5°	3873.5	3879.6	3848.9	3779.5	3673.3	3487.3	3289.2	3138.0	3009.3	2939.8	2913.3
25°	3998.2	4008.2	3965.4	3877.6	3599.8	3274.9	2995.1	2790.7	2629.4	2545.5	2523.2
27.5°	4216.8	4226.9	4179.9	3951.2	3428.1	2991.0	2651.8	2449.5	2310.7	2239.2	2228.9
30°	4543.5	4557.9	4515.0	3949.0	3166.7	2629.4	2316.8	2198.3	2118.5	2069.6	2067.5
32.5°	4997.2	5050.3	4874.6	3879.6	2843.8	2263.7	2063.4	2022.6	1983.7	1951.1	1951.1
35°	5573.2	5697.9	5230.0	3734.6	2488.4	2014.4	1922.4	1883.6	1834.6	1799.8	1795.7
37.5°	6261.7	6455.8	5483.4	3477.1	2181.9	1893.9	1836.6	1773.3	1695.7	1628.3	1611.9
40°	7207.7	7252.6	5607.9	3058.3	1953.1	1828.5	1757.0	1677.2	1579.3	1503.6	1495.4
42.5°	8157.7	8010.6	5583.4	2608.9	1822.3	1769.2	1675.3	1587.4	1499.6	1436.2	1436.2
45°	9238.4	8672.5	5397.5	2157.5	1703.9	1701.8	1599.7	1515.9	1448.4	1401.5	1391.3
47.5°	10272.1	9267.0	5076.8	1824.4	1581.3	1634.4	1550.6	1483.2	1421.9	1377.0	1368.8
50°	11526.6	9955.4	4735.7	1591.5	1462.8	1575.2	1530.1	1495.4	1436.2	1358.5	1350.5
52.5°	12772.7	10760.4	4472.1	1415.8	1358.5	1528.1	1542.4	1546.6	1491.4	1340.2	1330.0
55°	14111.0	11620.5	4194.3	1278.9	1272.8	1505.7	1571.0	1567.0	1540.4	1344.3	1327.9
57.5°	15383.7	12484.7	3779.5	1182.8	1205.3	1483.2	1577.1	1511.8	1464.8	1364.7	1338.2
60°	16437.8	13199.7	3170.7	1115.4	1148.2	1438.3	1536.3	1438.3	1358.5	1360.6	1336.1
62.5°	16950.6	13399.9	2425.0	1037.9	1101.2	1364.7	1477.0	1383.1	1309.6	1368.8	1354.5
65°	16560.4	12830.0	1728.4	966.3	1044.0	1278.9	1442.3	1336.1	1285.0	1409.7	1393.3
67.5°	15158.9	11277.3	1254.4	903.0	988.8	1191.0	1377.0	1293.2	1260.6	1440.2	1403.6
69°	13669.7	9736.8	1086.9	866.2	950.0	1144.1	1334.0	1270.6	1242.2	1397.4	1344.3
70°	12431.5	8549.9	1003.1	843.7	917.3	1117.5	1301.4	1256.5	1223.7	1346.3	1283.0
72.5°	8913.6	5526.3	843.7	776.3	831.5	1058.2	1229.8	1203.3	1154.4	1215.6	1174.7
75°	5385.3	2884.7	717.1	706.9	741.7	976.6	1146.1	1113.5	1064.4	1070.5	1050.1
77.5°	2474.0	1332.0	600.6	625.2	647.6	874.4	1044.0	1007.2	962.2	945.8	948.0
80°	1084.8	778.4	502.6	533.1	545.4	786.5	933.6	892.7	843.7	931.7	864.1
82.5°	586.2	451.5	392.2	412.7	447.4	684.4	811.0	757.9	710.9	827.4	668.0
85°	237.0	230.9	265.6	286.0	310.6	492.3	678.3	623.1	565.9	506.6	494.4
87.5°	102.1	110.4	130.8	138.9	165.5	306.5	455.6	398.4	400.4	343.2	337.1
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)