

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: P196314

Luminaire Tested: **NAV-AF-06-D-UNV-T3**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196314
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-06-D-UNV-T3
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 36859 lumens
Efficiency: N/A
Efficacy: 110.7 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 - G5

Input Watts (W): 333
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

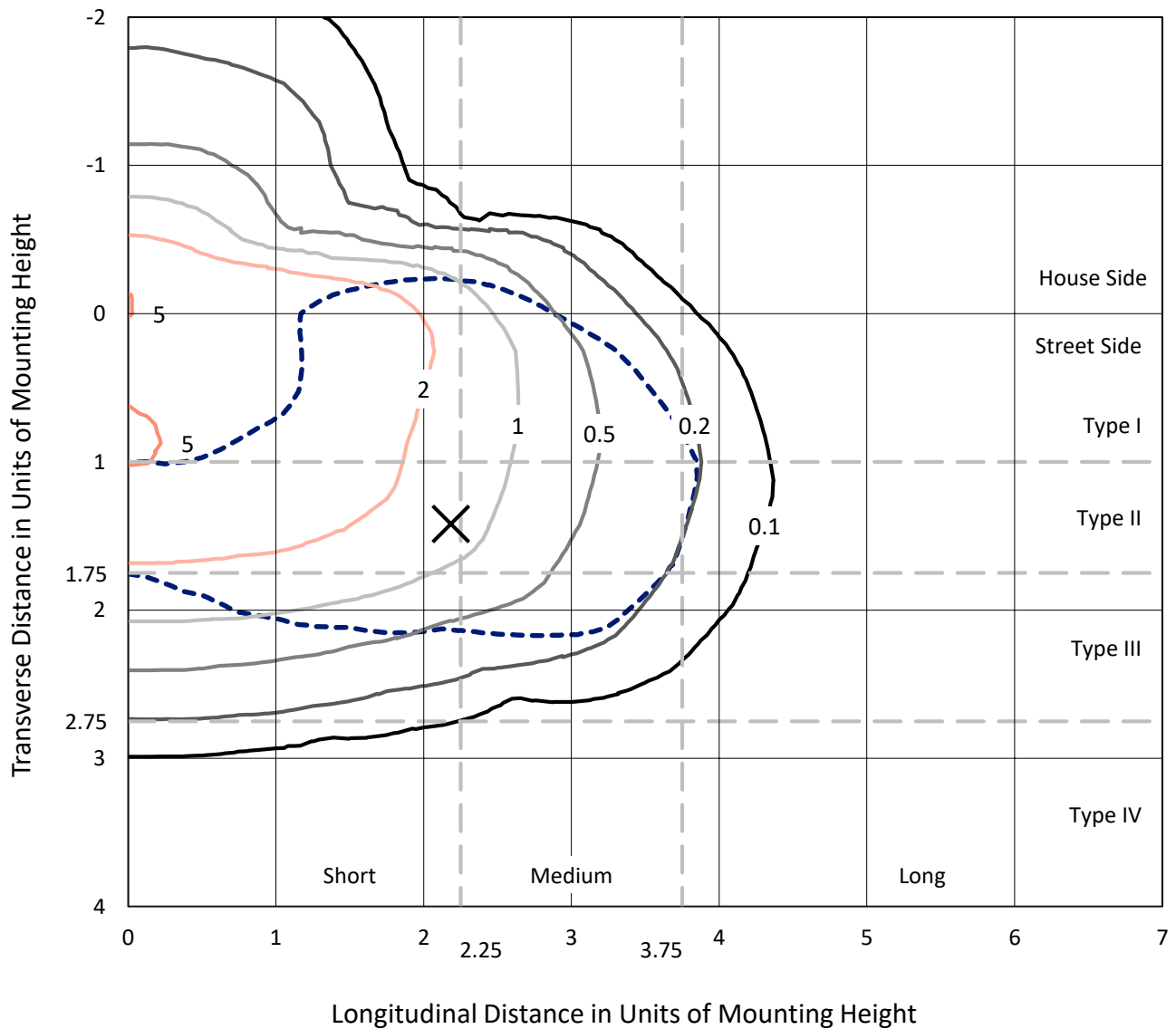


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

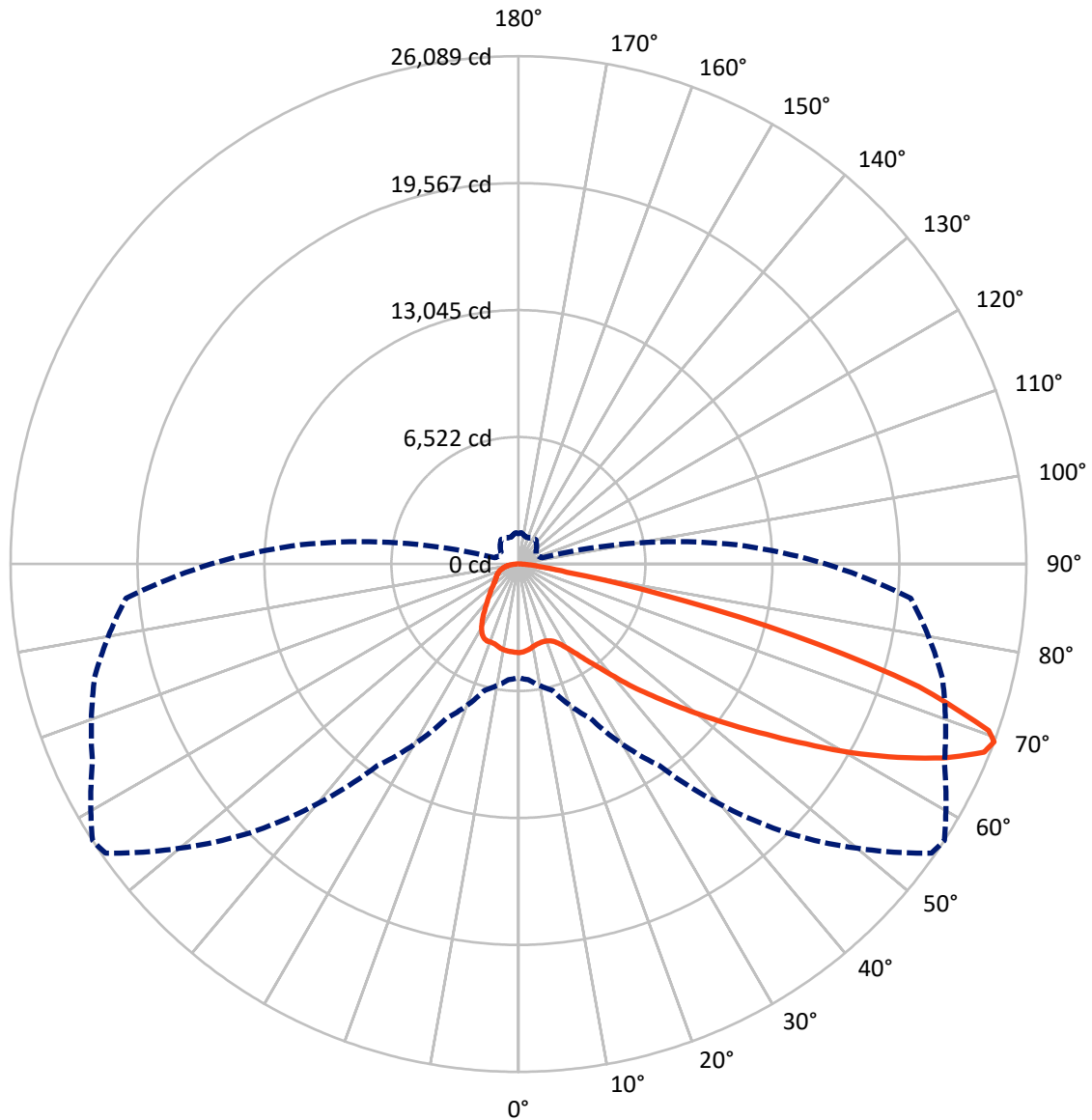


Based on 30 foot mounting height. Maximum calculated value = 5.2 fc
 Type III - Short - Semi-Cutoff

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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	8133.5	0.0	8133.5
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	28725.5	0.0	28725.5
	% Fixture	77.9	0.0	77.9
Total	Lumens	36859.0	0.0	36859.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	426.4	1.2
10°-20°	1212.3	3.3
20°-30°	2016.6	5.5
30°-40°	3293.1	8.9
40°-50°	5558.0	15.1
50°-60°	8645.7	23.5
60°-70°	10298.9	27.9
70°-80°	4797.9	13.0
80°-90°	610.2	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°	36859.0	100.0
0°-180°	36859.0	100.0



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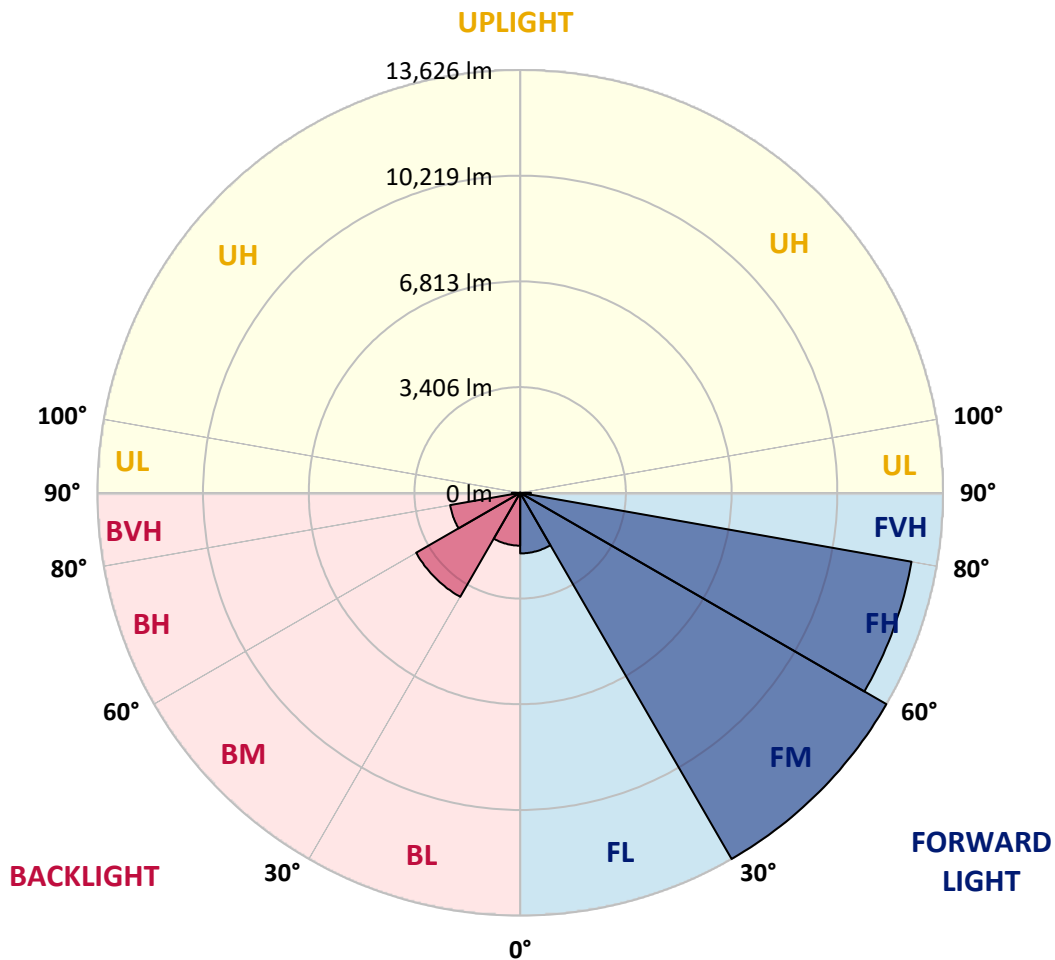
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1952.0	5.3			
FM	(30°-60°)	13625.6	37.0			
FH	(60°-80°)	12804.8	34.7			G5
FVH	(80°-90°)	343.0	0.9			G3/500
BL	(0°-30°)	1703.3	4.6	B3/2500		
BM	(30°-60°)	3871.1	10.5	B3/5000		
BH	(60°-80°)	2291.9	6.2	B3/2500		G3/2500
BVH	(80°-90°)	267.2	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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	4554.3	4554.3	4554.3	4554.3	4554.3	4554.3	4554.3	4554.3	4554.3	4554.3	4554.3
2.5°	4528.3	4528.3	4540.2	4540.2	4540.2	4535.5	4521.2	4525.9	4516.5	4509.5	4497.6
5°	4436.3	4441.0	4455.2	4459.9	4467.0	4469.4	4469.4	4467.0	4469.4	4469.4	4462.2
7.5°	4308.9	4313.6	4330.2	4339.6	4360.7	4379.7	4389.1	4389.1	4400.9	4410.4	4412.7
10°	4231.0	4231.0	4240.4	4240.4	4256.9	4266.4	4297.1	4294.8	4327.8	4358.4	4372.6
12.5°	4221.5	4221.5	4216.8	4200.3	4190.9	4188.6	4219.2	4224.0	4273.5	4327.8	4353.7
15°	4252.2	4252.2	4238.1	4205.0	4169.6	4153.2	4183.8	4193.3	4247.5	4311.2	4351.3
17.5°	4351.3	4349.0	4318.3	4252.2	4190.9	4164.9	4174.4	4183.8	4233.4	4306.5	4356.0
20°	4570.9	4570.9	4504.8	4384.4	4278.2	4216.8	4202.7	4209.7	4245.1	4313.6	4377.3
22.5°	4955.5	4962.5	4844.5	4646.3	4464.6	4334.9	4278.2	4285.2	4301.8	4367.9	4438.7
25°	5521.8	5502.9	5335.4	5054.5	4771.3	4549.6	4434.0	4441.0	4441.0	4502.4	4575.6
27.5°	6121.1	6125.8	5885.1	5583.2	5210.3	4879.9	4695.9	4693.5	4691.2	4750.2	4828.0
30°	6798.4	6800.8	6522.3	6173.1	5745.9	5323.5	5047.4	5045.1	5023.9	5097.1	5198.5
32.5°	7539.4	7537.0	7213.7	6819.6	6345.4	5866.3	5507.6	5505.2	5488.7	5587.9	5710.5
35°	8360.6	8360.6	8039.6	7553.5	7041.5	6508.1	6092.8	6090.4	6100.0	6234.4	6350.1
37.5°	9349.3	9370.5	8983.6	8393.6	7834.3	7265.6	6781.9	6767.7	6697.0	6923.4	7114.6
40°	10380.5	10439.4	10038.3	9349.3	8745.2	8157.6	7624.3	7614.8	7553.5	7794.2	8103.3
42.5°	11496.6	11631.2	11185.1	10482.0	9823.6	9188.8	8653.1	8627.2	8391.2	8766.4	9250.1
45°	12959.7	13046.9	12400.4	11763.2	11142.7	10418.2	9781.0	9641.8	9405.9	9887.3	10515.0
47.5°	13955.5	13912.9	13509.5	13082.3	12683.6	11989.8	11010.5	10833.6	10545.6	11182.8	11874.2
50°	14573.7	14604.4	14377.9	14356.6	14335.4	13851.7	12398.1	12185.7	11852.9	12608.1	13415.1
52.5°	14981.9	14842.7	14882.8	15364.2	15947.1	15715.8	13967.3	13731.3	13389.1	14144.2	15055.1
55°	14812.0	14628.0	14998.5	15947.1	17318.0	17370.0	15689.8	15446.8	15154.2	15777.2	17027.8
57.5°	14108.8	14200.9	14786.0	16105.1	18254.9	18851.9	17669.6	17421.9	16846.2	17478.5	18901.5
60°	13120.2	13306.5	14200.9	15855.0	18910.9	20005.8	19843.0	19677.8	18686.8	19135.1	20869.5
62.5°	12058.2	12242.3	13341.9	15427.9	18616.0	21027.6	21976.2	21874.7	20718.4	20730.3	22117.7
65°	10489.0	10564.5	11687.7	14262.2	17797.1	21950.3	24111.8	24022.1	22660.5	22091.9	22467.0
67.5°	7921.6	8016.0	8938.6	11258.3	15305.2	21449.9	25817.8	25803.7	23828.6	22596.8	21636.4
69°	5849.7	5965.4	6718.1	8740.5	12655.2	19543.3	25898.0	26089.2	24144.8	22544.9	20232.3
70°	4280.5	4412.7	5108.8	6937.7	10540.9	17438.4	25211.3	25622.0	24024.4	22216.9	19137.5
72.5°	1819.3	1864.2	2206.3	3131.4	5347.2	10515.0	20650.0	21513.7	21697.7	19906.7	14951.2
75°	1139.8	1153.9	1288.4	1607.0	2378.6	4349.0	13372.6	14550.1	16199.6	15444.4	10010.0
77.5°	859.0	870.7	948.6	1106.7	1477.2	1623.5	6203.8	7397.8	9278.5	9084.9	4981.4
80°	658.4	665.4	717.4	804.7	1040.6	1017.0	2012.9	2529.7	3872.3	3416.9	1762.7
82.5°	516.8	519.1	564.0	580.5	726.8	684.4	1010.0	1125.6	1564.5	1300.2	861.3
85°	457.8	464.8	509.7	424.7	464.8	413.0	554.5	601.7	830.6	783.5	325.6
87.5°	233.6	245.4	427.1	363.4	233.6	195.9	243.1	262.0	337.5	365.8	158.1
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°	4554.3	4554.3	4554.3	4554.3	4554.3	4554.3	4554.3	4554.3	4554.3	4554.3	4554.3
2.5°	4500.0	4502.4	4509.5	4521.2	4540.2	4563.7	4592.0	4620.4	4636.8	4648.7	4644.0
5°	4462.2	4464.6	4478.8	4500.0	4523.6	4559.0	4606.2	4641.6	4667.5	4684.1	4681.7
7.5°	4415.1	4422.1	4450.4	4474.1	4507.1	4535.5	4573.2	4606.2	4632.1	4648.7	4646.3
10°	4379.7	4386.7	4422.1	4452.8	4481.1	4485.8	4478.8	4469.4	4467.0	4478.8	4474.1
12.5°	4363.2	4377.3	4410.4	4431.6	4419.8	4375.0	4323.0	4301.8	4294.8	4318.3	4320.6
15°	4367.9	4379.7	4408.0	4393.8	4330.2	4254.6	4226.3	4242.8	4256.9	4271.1	4273.5
17.5°	4379.7	4386.7	4393.8	4341.9	4252.2	4202.7	4193.3	4176.7	4134.3	4110.6	4108.3
20°	4400.9	4410.4	4398.6	4315.9	4235.7	4169.6	4056.4	3954.9	3858.2	3806.3	3785.0
22.5°	4474.1	4481.1	4445.7	4365.5	4242.8	4028.1	3799.1	3624.5	3475.9	3395.7	3365.0
25°	4618.0	4629.8	4580.3	4478.8	4157.9	3782.7	3459.4	3223.4	3036.9	2940.3	2914.3
27.5°	4870.5	4882.2	4828.0	4563.7	3959.6	3454.6	3062.9	2829.3	2668.9	2586.2	2574.5
30°	5248.0	5264.5	5215.0	4561.3	3657.6	3036.9	2675.9	2539.1	2447.0	2390.4	2388.1
32.5°	5771.9	5833.3	5630.3	4481.1	3284.8	2614.6	2383.4	2336.1	2291.3	2253.6	2253.6
35°	6437.3	6581.3	6040.9	4313.6	2874.2	2326.7	2220.5	2175.7	2119.0	2078.9	2074.2
37.5°	7232.6	7456.8	6333.5	4016.3	2520.2	2187.5	2121.4	2048.3	1958.5	1880.7	1861.9
40°	8325.2	8377.0	6477.4	3532.6	2255.9	2112.0	2029.3	1937.4	1824.0	1736.8	1727.4
42.5°	9422.4	9252.5	6449.2	3013.4	2104.9	2043.5	1935.0	1833.5	1732.1	1658.9	1658.9
45°	10670.7	10017.0	6234.4	2491.9	1968.1	1965.7	1847.7	1750.9	1673.0	1618.8	1607.0
47.5°	11864.7	10703.7	5864.0	2107.3	1826.5	1887.8	1791.1	1713.1	1642.3	1590.5	1581.0
50°	13313.6	11499.0	5469.8	1838.2	1689.6	1819.3	1767.5	1727.4	1658.9	1569.2	1559.8
52.5°	14753.1	12428.8	5165.5	1635.3	1569.2	1765.1	1781.6	1786.3	1722.6	1548.0	1536.2
55°	16298.7	13422.1	4844.5	1477.2	1470.1	1739.1	1814.6	1809.9	1779.2	1552.7	1533.8
57.5°	17768.8	14420.3	4365.5	1366.3	1392.2	1713.1	1821.7	1746.2	1692.0	1576.3	1545.6
60°	18986.4	15246.3	3662.3	1288.4	1326.2	1661.3	1774.5	1661.3	1569.2	1571.6	1543.2
62.5°	19578.7	15477.5	2801.0	1198.7	1271.9	1576.3	1706.1	1597.5	1512.6	1581.0	1564.5
65°	19128.0	14819.1	1996.3	1116.1	1205.9	1477.2	1666.0	1543.2	1484.3	1628.2	1609.3
67.5°	17509.2	13025.7	1448.9	1043.0	1142.1	1375.8	1590.5	1493.7	1456.0	1663.6	1621.2
69°	15788.9	11246.5	1255.4	1000.5	1097.3	1321.4	1540.9	1467.7	1434.7	1614.0	1552.7
70°	14359.0	9875.5	1158.6	974.6	1059.5	1290.8	1503.1	1451.3	1413.5	1555.1	1481.9
72.5°	10295.5	6383.1	974.6	896.7	960.4	1222.3	1420.6	1389.9	1333.2	1404.0	1356.8
75°	6220.3	3332.0	828.3	816.4	856.6	1127.9	1323.8	1286.1	1229.4	1236.5	1212.9
77.5°	2857.6	1538.5	693.8	722.1	748.1	1010.0	1205.9	1163.3	1111.4	1092.5	1095.0
80°	1253.0	899.1	580.5	615.9	630.0	908.5	1078.4	1031.2	974.6	1076.0	998.2
82.5°	677.2	521.5	453.1	476.7	516.8	790.5	936.8	875.4	821.2	955.7	771.6
85°	273.7	266.7	306.8	330.4	358.6	568.7	783.5	719.7	653.7	585.2	571.0
87.5°	117.9	127.5	151.0	160.5	191.2	353.9	526.2	460.1	462.5	396.4	389.3
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)