

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: P196319

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196319
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-T3-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 33752.3 lumens
Efficiency: N/A
Efficacy: 105.5 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

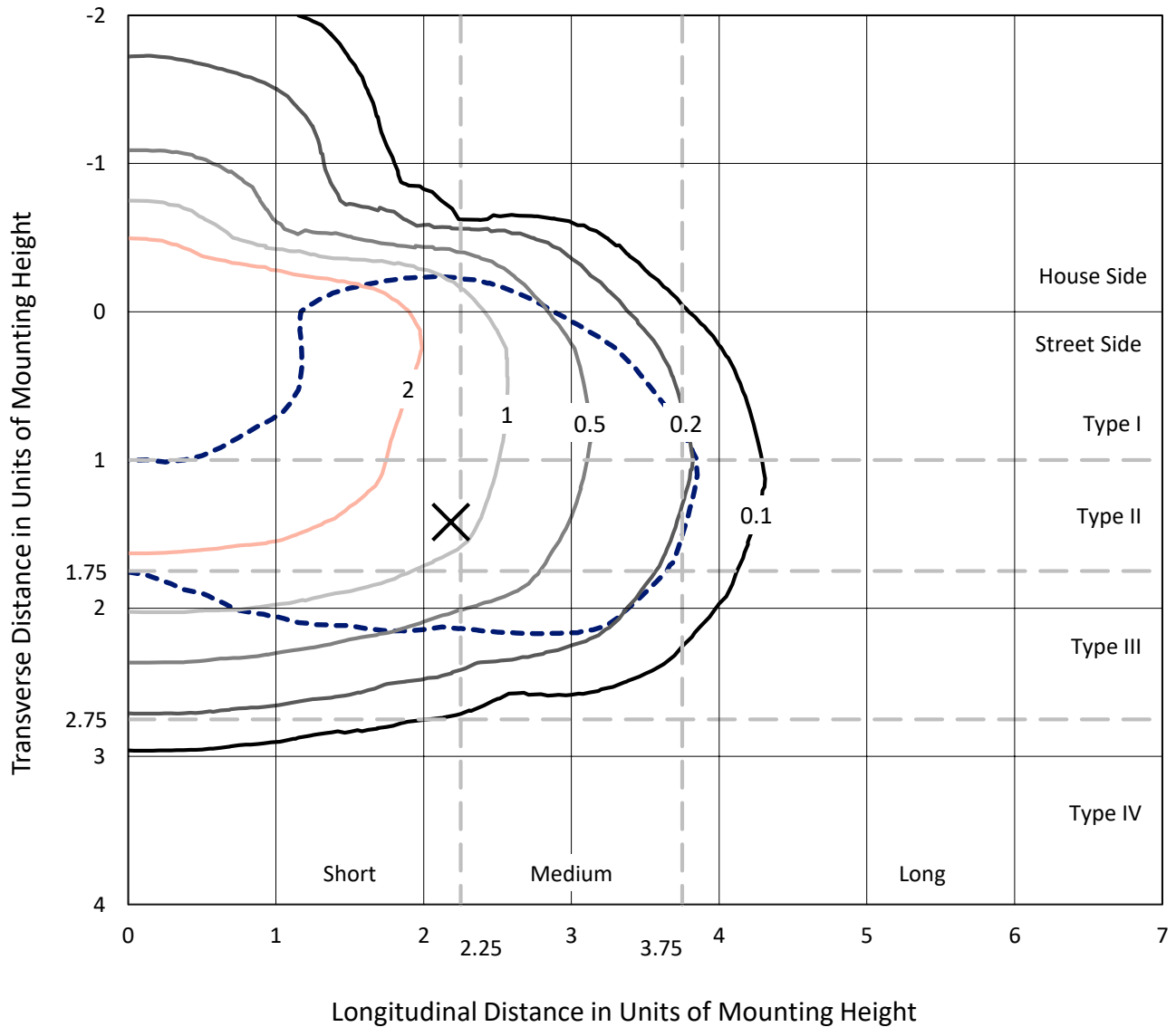
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

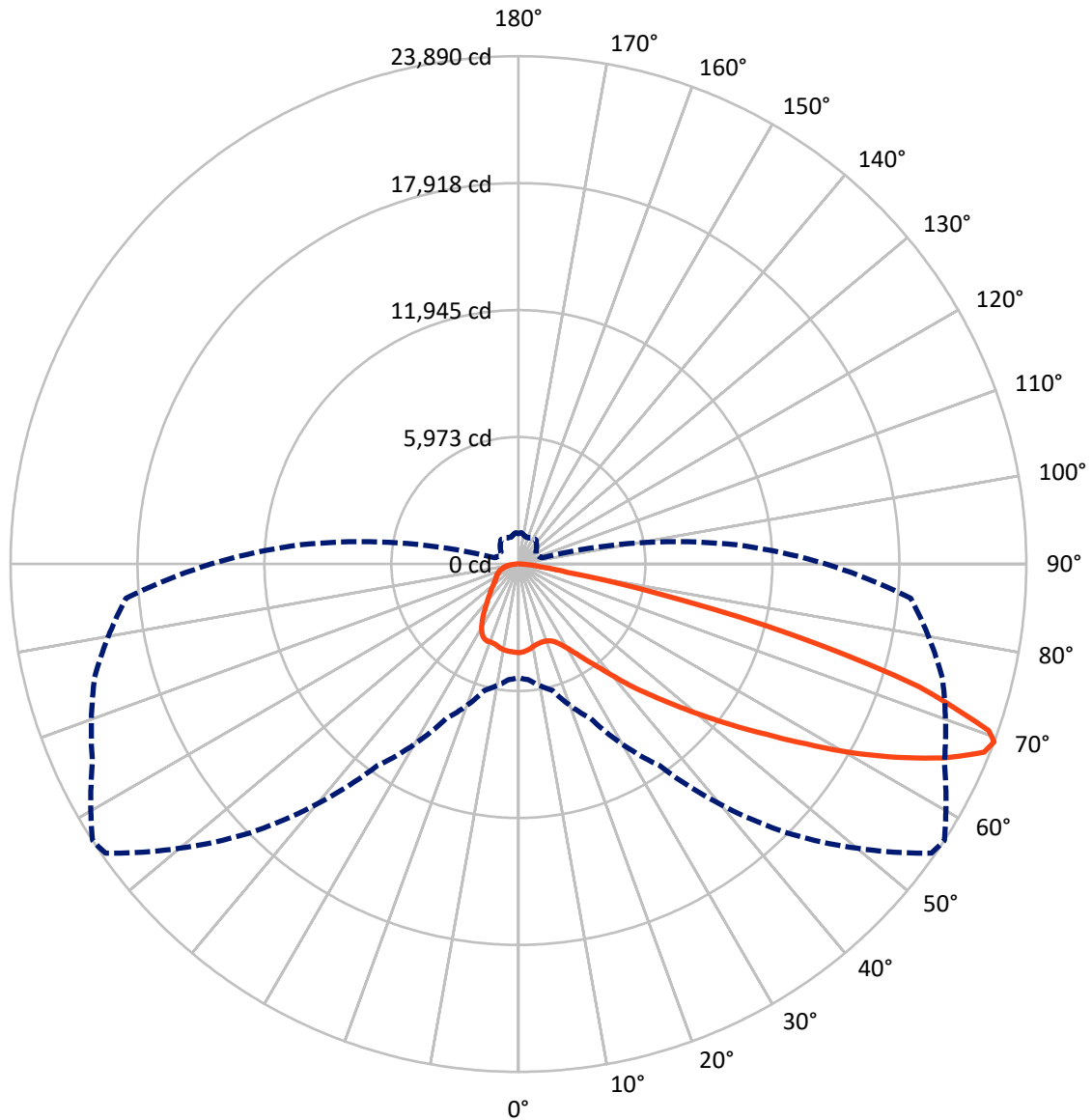
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 4.7 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	7447.9	0.0	7447.9
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	26304.3	0.0	26304.3
	% Fixture	77.9	0.0	77.9
Total	Lumens	33752.3	0.0	33752.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	390.4	1.2
10°-20°	1110.1	3.3
20°-30°	1846.7	5.5
30°-40°	3015.5	8.9
40°-50°	5089.5	15.1
50°-60°	7917.0	23.5
60°-70°	9430.8	27.9
70°-80°	4393.5	13.0
80°-90°	558.8	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°	33752.3	100.0
0°-180°	33752.3	100.0

Coefficient of Utilization



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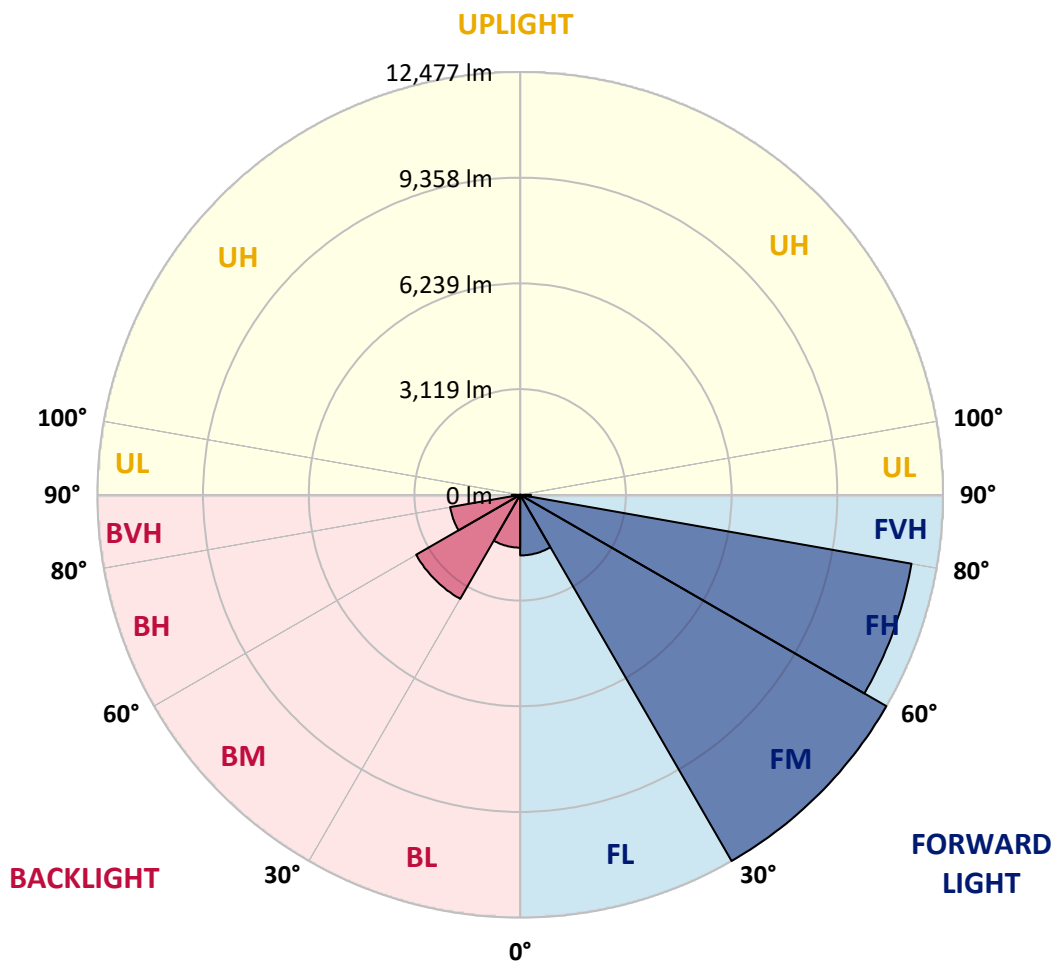
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1787.5	5.3			
FM	(30°-60°)	12477.2	37.0			
FH	(60°-80°)	11725.6	34.7			G4/12000
FVH	(80°-90°)	314.1	0.9			G3/500
BL	(0°-30°)	1559.7	4.6	B3/2500		
BM	(30°-60°)	3544.8	10.5	B3/5000		
BH	(60°-80°)	2098.7	6.2	B3/2500		G3/2500
BVH	(80°-90°)	244.7	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°	4170.5	4170.5	4170.5	4170.5	4170.5	4170.5	4170.5	4170.5	4170.5	4170.5	4170.5
2.5°	4146.6	4146.6	4157.5	4157.5	4157.5	4153.2	4140.2	4144.5	4135.9	4129.3	4118.6
5°	4062.3	4066.7	4079.6	4084.0	4090.5	4092.6	4092.6	4090.5	4092.6	4092.6	4086.2
7.5°	3945.7	3950.0	3965.2	3973.8	3993.2	4010.5	4019.2	4019.2	4030.0	4038.6	4040.8
10°	3874.4	3874.4	3883.0	3883.0	3898.2	3906.8	3934.9	3932.7	3963.0	3991.0	4004.0
12.5°	3865.7	3865.7	3861.4	3846.3	3837.7	3835.5	3863.6	3867.9	3913.3	3963.0	3986.7
15°	3893.9	3893.9	3880.9	3850.6	3818.2	3803.1	3831.2	3839.9	3889.5	3947.9	3984.6
17.5°	3984.6	3982.4	3954.3	3893.9	3837.7	3813.9	3822.6	3831.2	3876.6	3943.6	3988.9
20°	4185.5	4185.5	4125.0	4014.9	3917.6	3861.4	3848.4	3854.9	3887.3	3950.0	4008.3
22.5°	4537.8	4544.3	4436.2	4254.7	4088.3	3969.5	3917.6	3924.0	3939.2	3999.7	4064.5
25°	5056.3	5039.1	4885.6	4628.5	4369.2	4166.1	4060.2	4066.7	4066.7	4122.9	4189.9
27.5°	5605.3	5609.6	5389.1	5112.5	4771.1	4468.7	4300.1	4297.9	4295.8	4349.8	4421.1
30°	6225.4	6227.5	5972.6	5652.7	5261.6	4874.9	4622.0	4619.9	4600.4	4667.4	4760.3
32.5°	6903.9	6901.7	6605.7	6244.8	5810.5	5371.8	5043.4	5041.2	5026.1	5116.9	5229.2
35°	7655.9	7655.9	7362.0	6916.9	6448.0	5959.6	5579.3	5577.1	5585.7	5709.0	5814.9
37.5°	8561.3	8580.7	8226.4	7686.1	7174.0	6653.3	6210.2	6197.2	6132.5	6339.9	6515.0
40°	9505.6	9559.6	9192.2	8561.3	8008.1	7470.0	6981.6	6973.0	6916.9	7137.2	7420.3
42.5°	10527.6	10650.8	10242.4	9598.4	8995.6	8414.3	7923.8	7900.0	7684.0	8027.5	8470.4
45°	11867.4	11947.2	11355.2	10771.8	10203.5	9540.1	8956.7	8829.2	8613.1	9053.9	9628.7
47.5°	12779.2	12740.3	12370.9	11979.7	11614.5	10979.2	10082.5	9920.4	9656.8	10240.2	10873.4
50°	13345.3	13373.4	13166.0	13146.6	13127.1	12684.2	11353.0	11158.6	10853.9	11545.3	12284.4
52.5°	13719.2	13591.6	13628.5	14069.3	14602.9	14391.2	12790.1	12573.9	12260.6	12952.1	13786.2
55°	13563.6	13395.0	13734.3	14602.9	15858.4	15906.0	14367.4	14144.9	13876.9	14447.3	15592.6
57.5°	12919.7	13004.0	13539.8	14747.8	16716.2	17262.9	16180.3	15953.5	15426.2	16005.3	17308.3
60°	12014.3	12185.0	13004.0	14518.6	17316.9	18319.6	18170.5	18019.3	17111.7	17522.2	19110.5
62.5°	11041.9	11210.4	12217.4	14127.6	17046.9	19255.2	20123.9	20031.0	18972.2	18983.0	20253.5
65°	9604.9	9674.0	10702.6	13060.1	16297.0	20100.2	22079.5	21997.3	20750.6	20229.8	20573.4
67.5°	7253.9	7340.4	8185.2	10309.4	14015.2	19642.0	23641.7	23628.8	21820.2	20692.2	19812.7
69°	5356.7	5462.6	6151.9	8003.8	11588.6	17896.1	23715.2	23890.2	22109.8	20644.7	18527.1
70°	3919.7	4040.8	4678.3	6352.8	9652.5	15968.6	23086.4	23462.4	21999.5	20344.3	17524.4
72.5°	1666.0	1707.1	2020.4	2867.4	4896.5	9628.7	18909.6	19700.4	19868.9	18228.9	13691.1
75°	1043.7	1056.6	1179.8	1471.5	2178.2	3982.4	12245.4	13323.7	14834.1	14142.7	9166.3
77.5°	786.5	797.4	868.7	1013.4	1352.6	1486.7	5680.9	6774.2	8496.4	8319.2	4561.5
80°	602.8	609.4	656.9	736.8	953.0	931.3	1843.2	2316.4	3546.0	3128.9	1614.1
82.5°	473.2	475.4	516.5	531.5	665.5	626.7	924.8	1030.7	1432.6	1190.6	788.7
85°	419.2	425.6	466.8	388.9	425.6	378.2	507.8	551.1	760.7	717.4	298.2
87.5°	213.9	224.7	391.1	332.8	213.9	179.3	222.6	239.9	309.0	334.9	144.7
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°	4170.5	4170.5	4170.5	4170.5	4170.5	4170.5	4170.5	4170.5	4170.5	4170.5	4170.5
2.5°	4120.8	4122.9	4129.3	4140.2	4157.5	4179.1	4205.0	4230.9	4246.1	4256.8	4252.5
5°	4086.2	4088.3	4101.3	4120.8	4142.3	4174.8	4217.9	4250.4	4274.1	4289.2	4287.1
7.5°	4042.9	4049.5	4075.3	4096.9	4127.2	4153.2	4187.8	4217.9	4241.8	4256.8	4254.7
10°	4010.5	4017.0	4049.5	4077.5	4103.5	4107.8	4101.3	4092.6	4090.5	4101.3	4096.9
12.5°	3995.4	4008.3	4038.6	4058.0	4047.2	4006.2	3958.6	3939.2	3932.7	3954.3	3956.5
15°	3999.7	4010.5	4036.5	4023.5	3965.2	3896.0	3870.0	3885.2	3898.2	3911.2	3913.3
17.5°	4010.5	4017.0	4023.5	3975.9	3893.9	3848.4	3839.9	3824.7	3785.8	3764.2	3762.0
20°	4030.0	4038.6	4027.8	3952.2	3878.7	3818.2	3714.4	3621.6	3533.0	3485.4	3466.0
22.5°	4096.9	4103.5	4071.0	3997.6	3885.2	3688.6	3479.0	3319.1	3182.9	3109.5	3081.3
25°	4228.8	4239.5	4194.2	4101.3	3807.4	3463.8	3167.8	2951.7	2781.0	2692.4	2668.7
27.5°	4460.0	4470.8	4421.1	4179.1	3625.8	3163.5	2804.7	2590.8	2443.9	2368.2	2357.5
30°	4805.7	4820.9	4775.4	4176.9	3349.3	2781.0	2450.4	2325.1	2240.8	2188.9	2186.8
32.5°	5285.4	5341.6	5155.8	4103.5	3007.9	2394.2	2182.5	2139.2	2098.2	2063.6	2063.6
35°	5894.8	6026.6	5531.7	3950.0	2632.0	2130.6	2033.3	1992.3	1940.4	1903.7	1899.4
37.5°	6623.0	6828.3	5799.7	3677.7	2307.8	2003.1	1942.6	1875.6	1793.5	1722.2	1705.0
40°	7623.4	7671.0	5931.5	3234.8	2065.7	1934.0	1858.3	1774.0	1670.4	1590.4	1581.7
42.5°	8628.3	8472.7	5905.6	2759.4	1927.4	1871.3	1771.9	1679.0	1586.1	1519.1	1519.1
45°	9771.3	9172.8	5709.0	2281.9	1802.1	1800.0	1692.0	1603.4	1532.1	1482.4	1471.5
47.5°	10864.7	9801.6	5369.7	1929.6	1672.5	1728.7	1640.1	1568.8	1503.9	1456.4	1447.8
50°	12191.4	10529.7	5008.8	1683.3	1547.1	1666.0	1618.5	1581.7	1519.1	1436.9	1428.3
52.5°	13509.6	11381.1	4730.1	1497.5	1436.9	1616.3	1631.4	1635.8	1577.4	1417.5	1406.7
55°	14925.0	12290.9	4436.2	1352.6	1346.2	1592.5	1661.7	1657.4	1629.3	1421.8	1404.5
57.5°	16271.2	13204.9	3997.6	1251.2	1274.9	1568.8	1668.1	1599.0	1549.4	1443.5	1415.4
60°	17386.1	13961.2	3353.6	1179.8	1214.3	1521.2	1625.0	1521.2	1436.9	1439.1	1413.2
62.5°	17928.4	14173.0	2564.9	1097.7	1164.7	1443.5	1562.3	1462.9	1385.1	1447.8	1432.6
65°	17515.8	13570.1	1828.1	1022.0	1104.2	1352.6	1525.5	1413.2	1359.2	1491.0	1473.7
67.5°	16033.4	11927.8	1326.8	955.1	1045.9	1259.8	1456.4	1367.8	1333.2	1523.4	1484.5
69°	14458.2	10298.6	1149.6	916.2	1004.7	1210.0	1411.1	1344.1	1313.8	1478.1	1421.8
70°	13148.7	9043.1	1061.0	892.4	970.2	1182.0	1376.5	1328.9	1294.3	1423.9	1357.0
72.5°	9427.7	5845.0	892.4	821.1	879.4	1119.3	1300.8	1272.8	1220.9	1285.7	1242.5
75°	5696.0	3051.2	758.4	747.7	784.4	1032.9	1212.2	1177.6	1125.8	1132.3	1110.7
77.5°	2616.8	1408.9	635.3	661.2	685.0	924.8	1104.2	1065.3	1017.7	1000.4	1002.6
80°	1147.4	823.3	531.5	564.0	576.9	832.0	987.5	944.3	892.4	985.3	914.0
82.5°	620.1	477.5	414.9	436.5	473.2	723.8	857.8	801.7	752.0	875.1	706.6
85°	250.6	244.2	280.9	302.5	328.5	520.8	717.4	659.1	598.5	535.9	522.9
87.5°	108.0	116.7	138.3	146.9	175.0	324.2	481.9	421.4	423.5	363.0	356.5
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)