

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: P195431

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195431
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 32597 lumens
Efficiency: N/A
Efficacy: 101.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G5

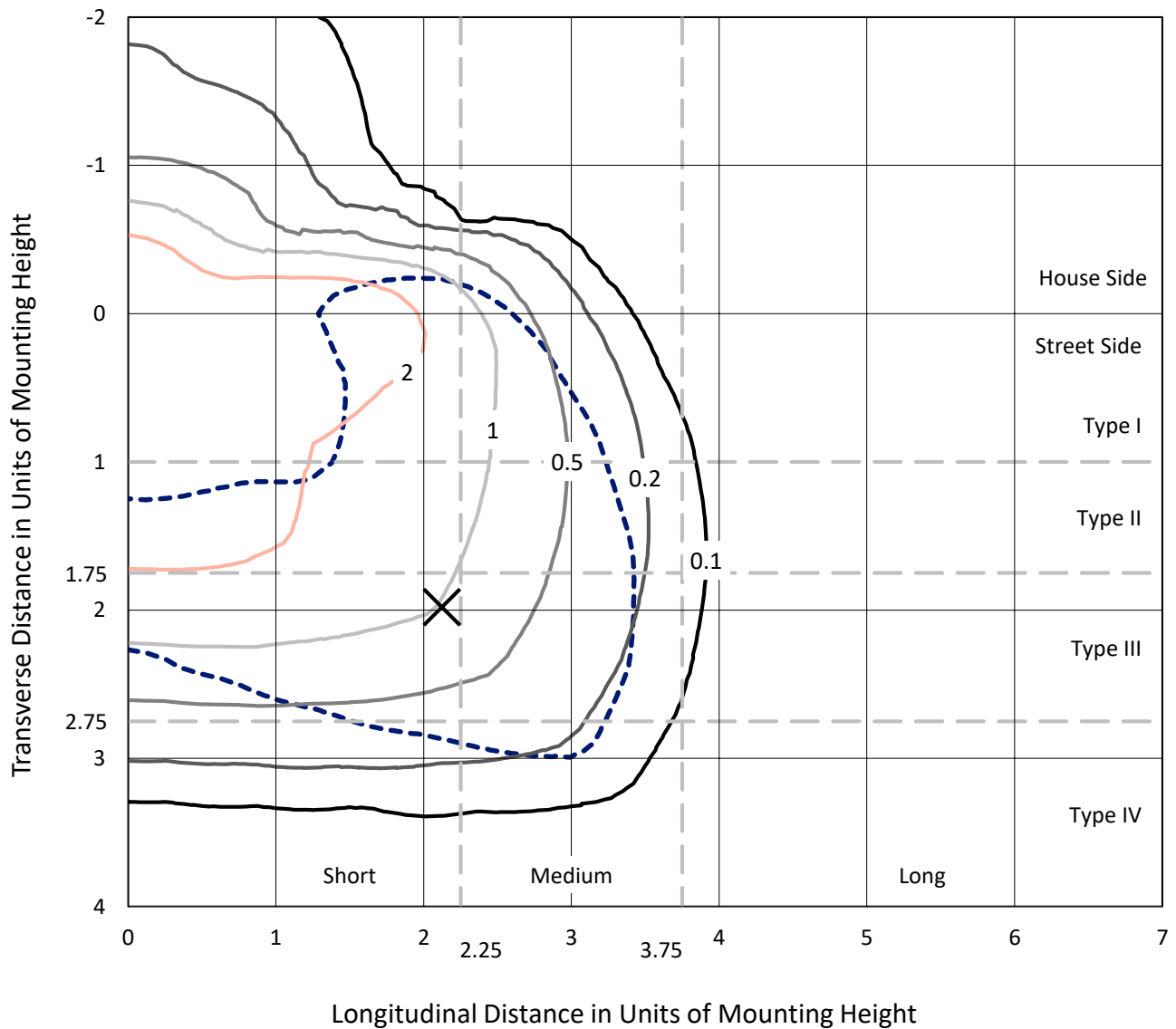
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

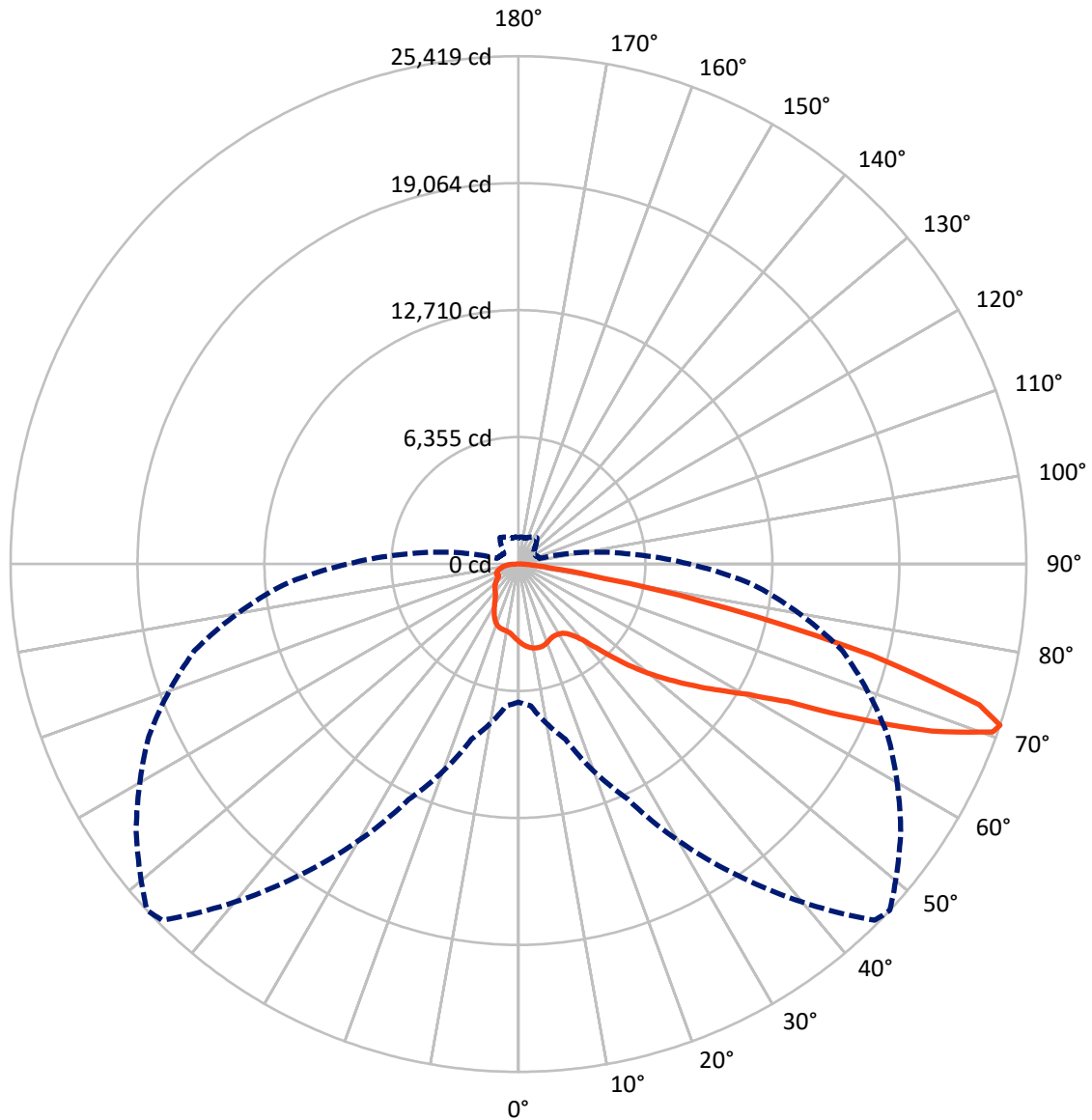
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 4.9 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6986.0	0.0	6986.0
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	25611.0	0.0	25611.0
	% Fixture	78.6	0.0	78.6
Total	Lumens	32597.0	0.0	32597.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	370.1	1.1
10°-20°	1082.8	3.3
20°-30°	1609.0	4.9
30°-40°	2310.2	7.1
40°-50°	4096.1	12.6
50°-60°	7009.1	21.5
60°-70°	9950.5	30.5
70°-80°	5449.8	16.7
80°-90°	719.4	2.2
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°	32597.0	100.0
0°-180°	32597.0	100.0



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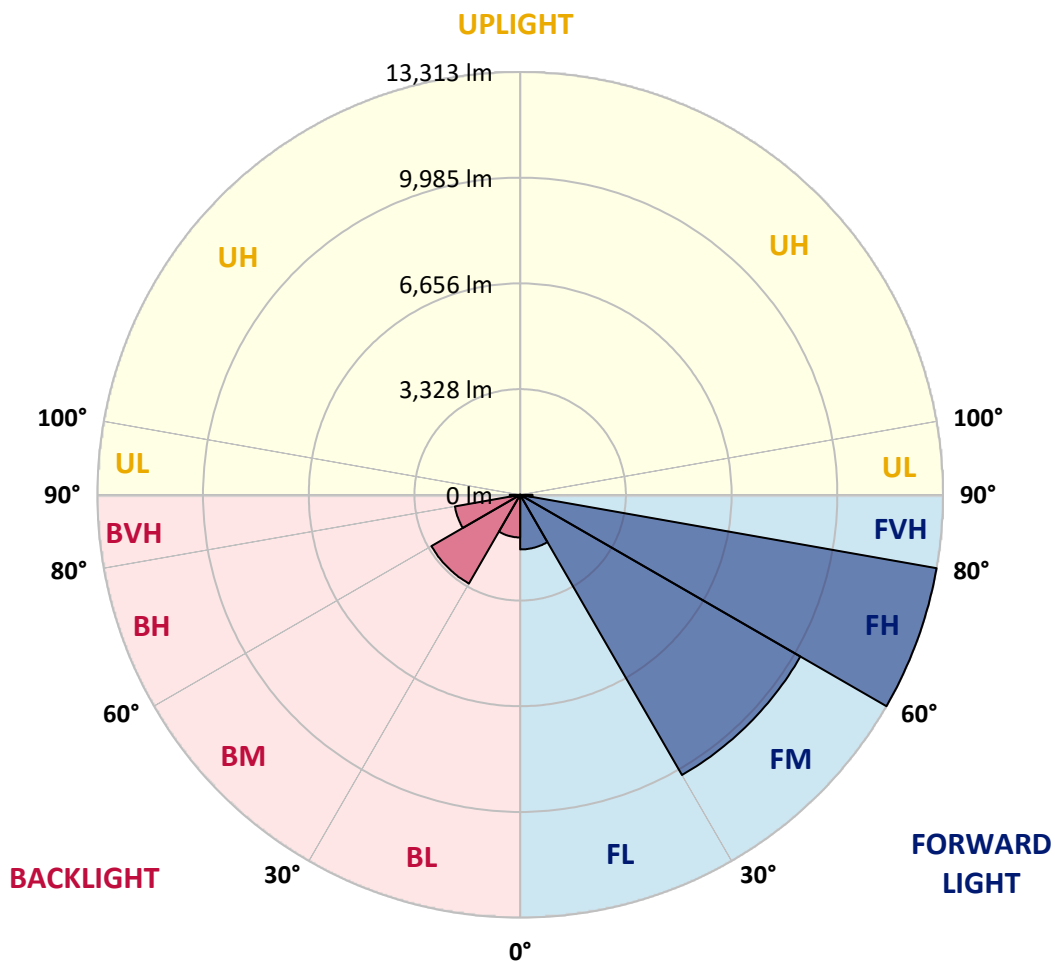
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1720.3	5.3			
FM	(30°-60°)	10187.5	31.3			
FH	(60°-80°)	13312.9	40.8			G5
FVH	(80°-90°)	390.2	1.2			G3/500
BL	(0°-30°)	1341.5	4.1	B3/2500		
BM	(30°-60°)	3227.9	9.9	B3/5000		
BH	(60°-80°)	2087.3	6.4	B3/2500		G3/2500
BVH	(80°-90°)	329.2	1.0			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°	45°	47°	55°	65°	75°	85°
0°	3876.3	3876.3	3876.3	3876.3	3876.3	3876.3	3876.3	3876.3	3876.3	3876.3	3876.3
2.5°	4112.9	4104.5	4108.7	4093.9	4058.0	4020.0	4020.0	3979.8	3937.6	3895.3	3848.9
5°	4368.5	4355.9	4345.3	4298.8	4229.1	4150.9	4138.3	4058.0	3971.4	3884.8	3800.3
7.5°	4581.9	4569.2	4537.5	4453.0	4351.6	4235.4	4220.7	4115.0	4001.0	3880.6	3762.3
10°	4734.0	4725.5	4664.3	4556.5	4438.2	4300.9	4275.6	4167.8	4032.6	3882.7	3732.7
12.5°	4818.5	4805.8	4731.9	4605.1	4465.7	4326.3	4300.9	4197.4	4043.2	3878.4	3703.1
15°	4784.7	4778.3	4708.6	4579.8	4440.4	4319.9	4298.8	4193.2	4036.9	3863.7	3675.6
17.5°	4641.0	4655.8	4600.9	4474.2	4360.1	4275.6	4252.3	4153.1	4005.2	3827.7	3633.4
20°	4442.5	4459.4	4431.9	4303.0	4237.6	4182.6	4170.0	4089.7	3952.4	3774.9	3582.7
22.5°	4231.2	4246.0	4248.1	4127.7	4106.6	4085.5	4074.9	4017.9	3905.9	3743.2	3548.9
25°	4085.5	4102.4	4106.6	4001.0	4013.6	4020.0	4017.9	3977.7	3897.5	3743.2	3553.1
27.5°	4047.4	4055.9	4051.7	3954.5	3977.7	4013.6	4015.8	4007.3	3931.3	3785.5	3612.3
30°	4178.4	4182.6	4129.8	3984.1	4007.3	4053.8	4055.9	4051.7	4003.1	3895.3	3745.4
32.5°	4744.5	4740.3	4558.6	4182.6	4102.4	4119.3	4125.6	4163.6	4167.8	4077.0	3937.6
35°	5606.4	5604.3	5393.1	4750.9	4372.8	4284.0	4292.5	4351.6	4404.4	4343.2	4262.9
37.5°	6554.9	6561.2	6432.4	5562.1	4955.8	4586.1	4577.7	4622.0	4717.1	4738.2	4748.8
40°	7606.9	7638.6	7632.2	6493.6	5773.3	5101.5	5017.0	4966.3	5150.1	5266.3	5416.3
42.5°	8808.9	8800.4	8804.7	7516.1	6707.0	5912.7	5756.4	5519.8	5733.2	5933.8	6263.4
45°	9841.9	9875.7	9901.0	8604.0	7752.7	6840.1	6681.7	6250.7	6442.9	6742.9	7245.7
47.5°	10881.2	10822.0	10868.5	9814.4	8916.6	7898.4	7693.5	7112.6	7292.1	7714.6	8479.3
50°	12091.6	12064.2	11852.9	11394.5	10323.5	8971.5	8703.3	8012.5	8274.4	8838.5	10002.4
52.5°	13177.4	13029.5	12864.8	12636.6	11707.1	10057.3	9717.2	8948.3	9429.9	10129.2	11893.0
55°	13574.5	13475.3	13673.8	13969.6	13171.1	11164.3	10784.0	10040.4	10733.3	11605.8	14117.4
57.5°	13997.0	14030.8	14478.7	15076.5	14556.8	12345.1	11933.2	11333.2	12163.4	13257.7	16603.8
60°	14208.3	14343.5	15237.0	16358.7	15875.0	13640.0	13245.0	12818.3	13749.9	15082.8	19083.8
62.5°	14244.2	14425.9	15691.2	16808.7	17689.6	15623.6	15167.3	14704.7	15731.3	17100.2	20879.4
65°	13585.1	13864.0	15651.1	17362.2	19343.6	18938.0	18648.6	17841.7	18384.6	18876.8	21185.7
67.5°	11648.0	11952.2	14102.7	17134.0	20670.2	22377.1	22322.2	21130.7	20433.6	19563.3	18914.8
70°	8549.0	8794.1	10860.1	14647.7	20091.4	25076.8	25174.0	23262.2	21006.1	18105.7	14064.6
71°	6914.0	7125.3	9072.9	13004.2	18963.4	25216.2	25419.0	23357.3	20410.4	16789.7	11774.7
72.5°	4303.0	4421.3	6024.7	9814.4	16329.2	23779.7	24122.0	22140.5	18534.6	14191.4	8323.0
75°	1624.5	1670.9	2235.0	4328.4	9746.8	17864.9	18279.0	16732.6	13021.1	8101.2	3483.4
77.5°	872.4	895.7	1109.0	1799.8	3905.9	10241.1	10773.4	9544.0	6246.5	2834.9	1423.8
80°	585.1	599.9	766.8	1066.8	1795.6	3899.6	4343.2	3832.0	2338.5	1618.1	1014.0
82.5°	378.1	386.6	521.8	701.3	1159.7	1371.0	1565.3	1635.0	1459.7	1159.7	612.6
85°	249.3	255.6	344.3	447.8	718.2	676.0	692.9	906.2	995.0	764.7	312.6
87.5°	143.6	147.9	207.0	230.3	323.2	253.5	274.6	430.9	591.5	498.5	179.6
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°	3876.3	3876.3	3876.3	3876.3	3876.3	3876.3	3876.3	3876.3	3876.3	3876.3	3876.3
2.5°	3827.7	3810.8	3772.8	3749.6	3739.0	3734.8	3730.6	3739.0	3739.0	3734.8	3726.3
5°	3758.0	3726.3	3663.0	3618.6	3595.4	3589.0	3597.5	3608.0	3614.4	3614.4	3608.0
7.5°	3707.3	3660.9	3576.4	3515.1	3479.2	3468.6	3491.9	3529.9	3555.2	3567.9	3570.0
10°	3665.1	3601.7	3508.8	3445.4	3415.8	3411.6	3441.2	3489.8	3542.6	3565.8	3570.0
12.5°	3627.1	3555.2	3453.8	3394.7	3373.6	3384.1	3424.3	3468.6	3529.9	3563.7	3565.8
15°	3591.1	3517.2	3409.5	3348.2	3344.0	3360.9	3398.9	3434.8	3481.3	3523.6	3523.6
17.5°	3548.9	3468.6	3356.7	3299.6	3299.6	3314.4	3339.8	3358.8	3388.4	3428.5	3426.4
20°	3498.2	3415.8	3301.7	3242.6	3229.9	3221.5	3221.5	3225.7	3251.0	3287.0	3293.3
22.5°	3460.2	3375.7	3255.3	3183.4	3126.4	3071.5	3048.3	3039.8	3063.0	3096.8	3105.3
25°	3460.2	3375.7	3240.5	3120.1	2980.7	2875.0	2830.7	2818.0	2841.2	2872.9	2885.6
27.5°	3517.2	3432.7	3274.3	3063.0	2807.4	2638.4	2585.6	2575.1	2596.2	2621.5	2634.2
30°	3650.3	3567.9	3371.5	2997.6	2615.2	2393.4	2334.2	2323.7	2334.2	2344.8	2359.6
32.5°	3872.1	3802.4	3529.9	2938.4	2420.9	2171.6	2099.8	2082.9	2087.1	2089.2	2101.9
35°	4233.3	4201.6	3741.1	2868.7	2237.1	1989.9	1916.0	1882.2	1880.1	1890.6	1905.4
37.5°	4786.8	4805.8	4013.6	2767.3	2085.0	1861.1	1787.1	1753.3	1736.4	1757.6	1774.5
40°	5568.4	5612.8	4328.4	2630.0	1960.3	1785.0	1706.9	1675.2	1651.9	1645.6	1654.0
42.5°	6584.5	6571.8	4649.5	2454.7	1825.1	1734.3	1651.9	1618.1	1580.1	1531.5	1521.0
45°	7788.6	7606.9	4917.8	2239.2	1670.9	1685.7	1601.2	1554.8	1495.6	1423.8	1415.3
47.5°	9210.2	8709.6	5082.5	2008.9	1527.3	1622.4	1544.2	1472.4	1385.8	1339.3	1333.0
50°	10923.4	10000.3	5198.7	1774.5	1398.4	1542.1	1463.9	1368.9	1284.4	1271.7	1269.6
52.5°	12951.4	11523.4	5342.4	1563.2	1297.0	1438.6	1383.6	1286.5	1218.9	1225.2	1225.2
55°	15108.2	13099.2	5346.6	1396.3	1208.3	1318.2	1324.5	1246.3	1193.5	1214.7	1221.0
57.5°	17074.9	14476.6	4926.2	1278.0	1123.8	1223.1	1305.5	1261.1	1221.0	1294.9	1301.3
60°	18790.2	15537.0	4022.1	1180.9	1054.1	1187.2	1347.7	1352.0	1343.5	1544.2	1559.0
62.5°	19417.6	15547.6	2856.0	1098.5	1016.1	1208.3	1436.5	1442.8	1442.8	1628.7	1656.2
65°	18538.8	14252.6	1901.2	1049.9	990.7	1254.8	1508.3	1480.8	1415.3	1544.2	1514.6
67.5°	15441.9	11094.5	1390.0	1018.2	954.8	1256.9	1571.7	1501.9	1390.0	1499.8	1449.1
70°	10612.9	7059.8	1164.0	988.6	912.6	1202.0	1605.5	1495.6	1352.0	1398.4	1330.8
71°	8542.7	5633.9	1104.8	978.1	895.7	1170.3	1609.7	1487.2	1333.0	1362.5	1301.3
72.5°	5627.5	3470.7	1033.0	954.8	870.3	1115.4	1599.1	1468.1	1307.6	1309.7	1269.6
75°	2220.2	1438.6	929.5	902.0	798.5	1026.6	1552.6	1428.0	1259.0	1216.8	1199.9
77.5°	1121.7	940.0	817.5	828.1	714.0	935.8	1487.2	1362.5	1191.4	1134.4	1121.7
80°	819.6	714.0	699.2	718.2	618.9	847.1	1404.8	1273.8	1104.8	1164.0	1138.6
82.5°	498.5	435.2	547.1	593.6	517.5	756.3	1307.6	1170.3	995.0	916.8	887.2
85°	236.6	255.6	395.0	437.3	382.4	604.2	1195.6	1056.2	868.2	749.9	762.6
87.5°	116.2	141.5	226.0	261.9	251.4	443.6	902.0	819.6	684.4	564.0	551.3
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)