

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: P270632

Luminaire Tested: **NAV-AF-05-D-UNV-T3R-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270632
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 29149 lumens
Efficiency: N/A
Efficacy: 91.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B3 - U0 - G4

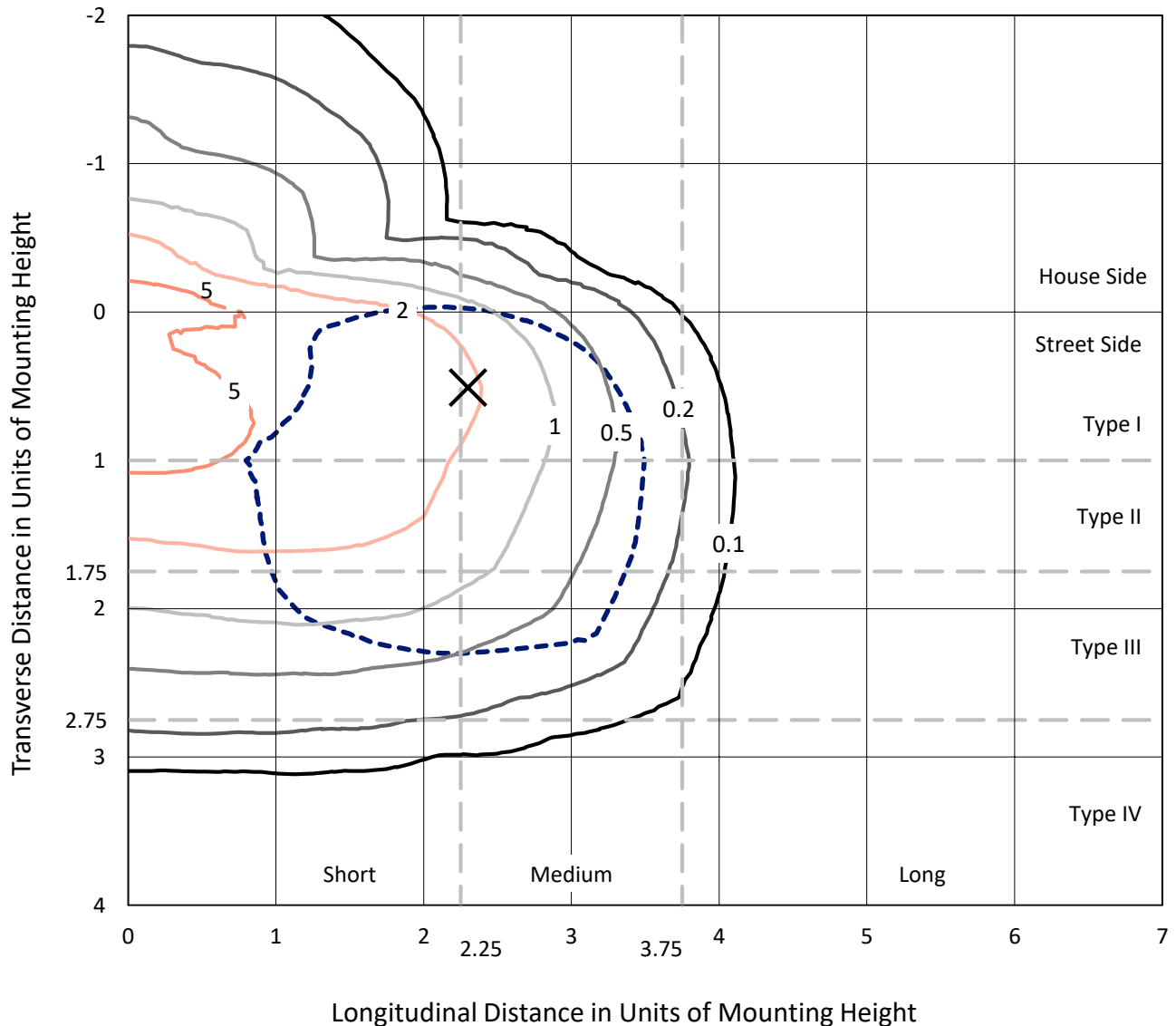
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

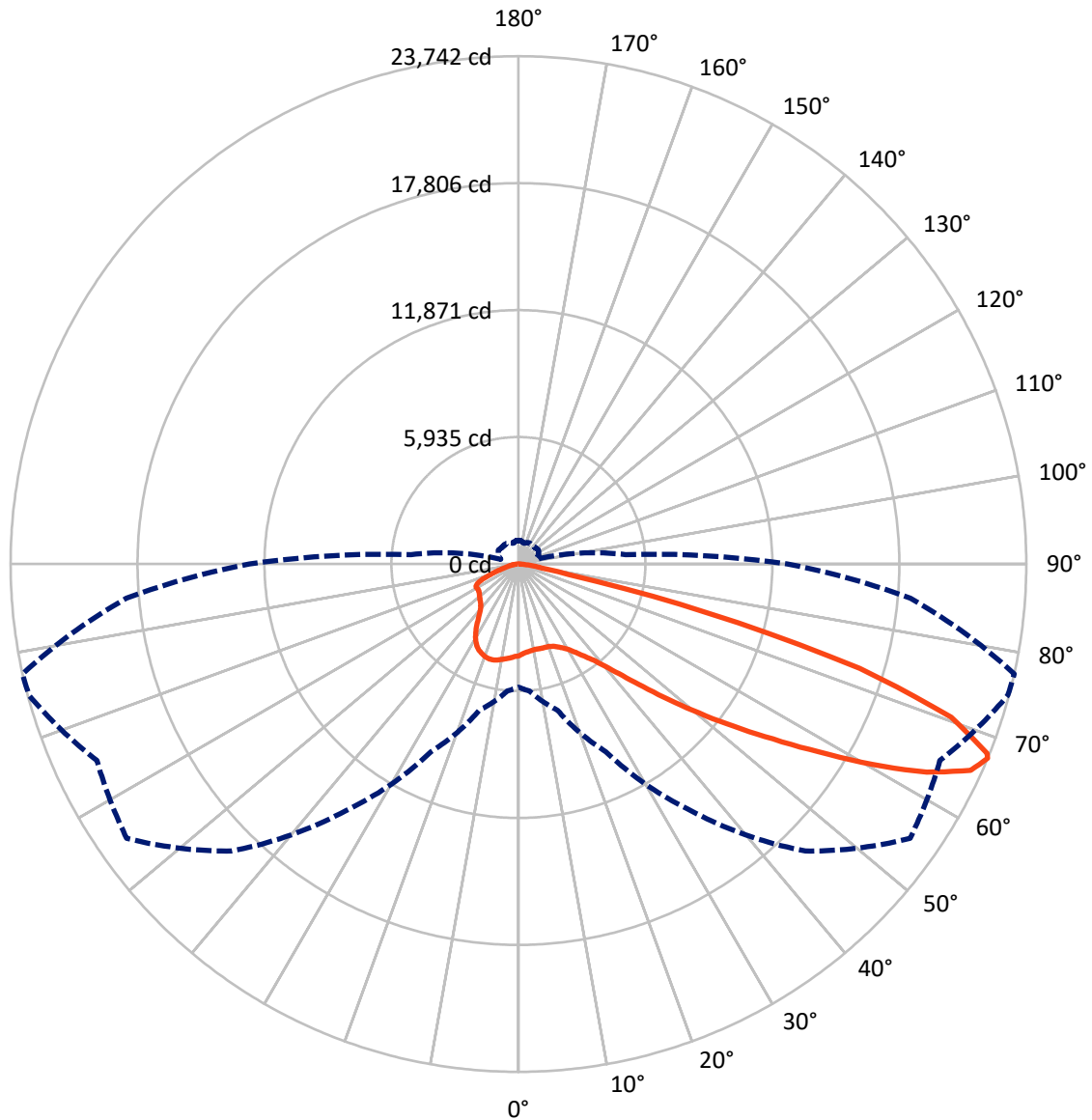
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.3 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5009.3	0.0	5009.3
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	24139.8	0.0	24139.8
	% Fixture	82.8	0.0	82.8
Total	Lumens	29149.0	0.0	29149.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	382.1	1.3
10°-20°	1058.1	3.6
20°-30°	1797.9	6.2
30°-40°	2876.2	9.9
40°-50°	4427.9	15.2
50°-60°	6143.2	21.1
60°-70°	8194.6	28.1
70°-80°	3899.8	13.4
80°-90°	369.3	1.3
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°	29149.0	100.0
0°-180°	29149.0	100.0

Coefficient of Utilization



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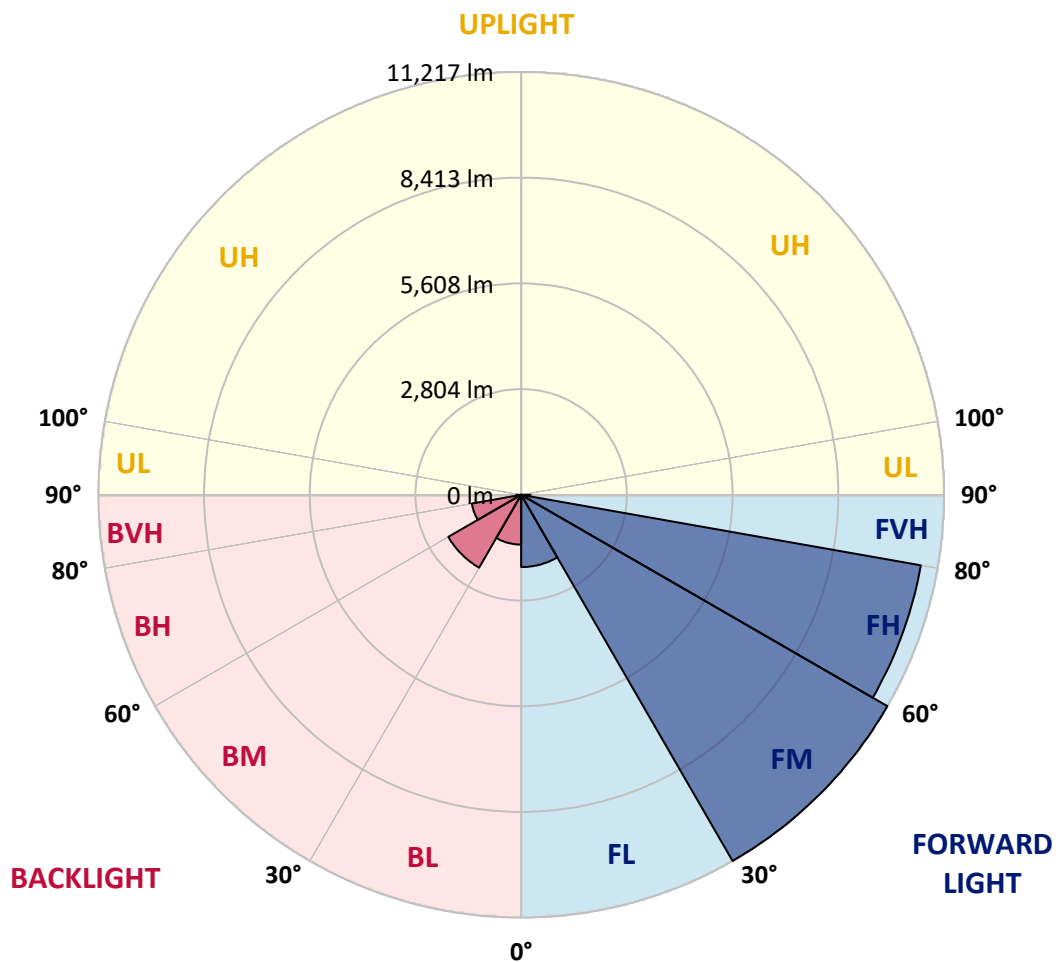
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1916.8	6.6			
FM	(30°-60°)	11216.9	38.5			
FH	(60°-80°)	10766.3	36.9			G4/12000
FVH	(80°-90°)	239.8	0.8			G3/500
BL	(0°-30°)	1321.2	4.5	B3/2500		
BM	(30°-60°)	2230.4	7.7	B2/2500		
BH	(60°-80°)	1328.2	4.6	B3/2500		G3/2500
BVH	(80°-90°)	129.4	0.4			G2/225
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 Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	4289.9	4289.9	4289.9	4289.9	4289.9	4289.9	4289.9	4289.9	4289.9	4289.9	4289.9
2.5°	3846.7	3864.8	3866.6	3918.8	3942.2	4001.7	4066.5	4124.2	4174.7	4192.7	4225.1
5°	3461.2	3461.2	3466.6	3500.9	3567.4	3663.0	3798.2	3945.9	4100.9	4138.6	4234.2
7.5°	3259.4	3263.0	3266.5	3300.8	3353.1	3437.8	3572.9	3774.7	4032.3	4095.5	4262.9
10°	3277.3	3271.9	3254.0	3246.7	3268.4	3322.4	3439.5	3646.8	3974.7	4071.9	4315.2
12.5°	3560.3	3549.5	3489.9	3403.5	3324.3	3304.4	3385.5	3581.9	3947.6	4071.9	4403.5
15°	4045.0	4052.2	3935.0	3754.8	3547.6	3407.1	3396.3	3558.5	3938.6	4082.7	4506.2
17.5°	4675.6	4679.1	4516.9	4255.7	3911.6	3621.5	3470.2	3558.5	3938.6	4093.5	4605.3
20°	5345.9	5320.7	5136.8	4808.8	4362.0	3918.8	3605.3	3580.0	3949.5	4109.7	4698.9
22.5°	5920.5	5897.2	5704.3	5360.1	4848.5	4270.2	3787.3	3652.1	4008.9	4176.5	4830.5
25°	6423.2	6437.7	6250.2	5862.9	5333.1	4666.5	4059.4	3817.8	4133.2	4297.2	4992.7
27.5°	7034.1	7007.0	6790.7	6421.4	5832.2	5077.3	4399.9	4026.9	4281.0	4443.1	5190.9
30°	7740.3	7727.7	7435.8	7055.6	6381.7	5536.8	4736.9	4252.1	4473.7	4643.1	5439.4
32.5°	8597.9	8596.2	8282.6	7816.1	6999.9	6055.7	5135.0	4560.2	4754.8	4925.9	5769.3
35°	9569.0	9567.3	9243.0	8626.9	7711.5	6630.4	5603.4	4935.0	5102.6	5282.8	6162.1
37.5°	10243.0	10232.1	10062.8	9464.6	8498.9	7298.9	6189.1	5439.4	5497.2	5698.9	6635.9
40°	10372.6	10437.5	10583.6	10230.3	9358.4	8041.2	6776.4	5981.9	6035.9	6295.3	7232.3
42.5°	10232.1	10316.9	10801.5	10900.7	10217.7	8940.3	7511.4	6733.2	6801.5	7124.1	7933.1
45°	10109.6	10183.5	10790.7	11271.8	11066.4	9920.4	8428.5	7650.2	7780.0	8180.0	8733.1
47.5°	9900.6	9969.1	10578.1	11338.4	11551.0	10864.6	9533.1	8752.9	8976.4	9460.9	9644.8
50°	9889.8	9920.4	10288.0	11115.0	11718.6	11581.7	10756.5	10043.1	10385.2	10943.8	10653.8
52.5°	9615.9	9830.3	10163.7	10758.2	11722.3	11999.6	11961.8	11457.3	11985.2	12603.2	11760.0
55°	7940.3	8187.2	9749.2	10583.6	11700.6	12358.3	13062.8	12961.9	13786.9	14437.4	12999.6
57.5°	7414.3	7518.8	8552.9	10635.8	11880.8	12951.0	14163.5	14578.0	15848.2	16558.1	14486.1
60°	7270.1	7379.9	8313.3	10660.9	12369.0	14030.3	15657.2	16403.1	18271.5	19024.7	16174.3
62.5°	7109.7	7252.0	8331.3	10684.4	13226.6	15626.6	17639.2	18383.3	20759.8	21431.9	17756.3
65°	6641.3	6830.4	7998.0	10536.6	14165.4	17630.1	20258.8	20448.1	22815.6	23242.6	18711.2
67°	5752.9	5960.2	7082.6	9682.7	14078.9	18979.7	22354.3	21739.9	23689.5	23741.7	18401.3
67.5°	5471.9	5686.4	6772.9	9327.7	13832.0	19156.3	22725.5	21918.4	23682.2	23624.5	18113.1
70°	3684.6	3926.0	4796.3	6848.5	11095.1	17828.3	22635.4	21368.8	22129.0	21467.9	15561.7
72.5°	1828.8	1836.0	2392.7	3751.2	6722.3	12787.1	18882.4	18280.6	17938.3	16689.6	11419.6
75°	881.1	897.2	1129.7	1657.6	2834.2	6601.6	12877.2	12334.7	10502.4	9093.5	5715.1
77.5°	672.0	688.3	877.5	1079.3	1181.9	2153.1	6378.1	5154.8	3043.2	2430.5	1610.8
80°	519.0	549.6	740.6	828.7	782.0	863.0	2005.3	1578.3	1183.7	1086.5	798.1
82.5°	405.3	423.5	628.9	628.9	540.5	578.4	933.2	911.7	735.2	663.0	428.9
85°	286.5	322.5	506.3	468.5	354.9	358.6	558.6	535.1	378.4	304.4	167.5
87.5°	127.9	164.0	360.3	306.3	189.3	146.0	228.8	196.4	149.6	115.3	77.4
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°	4289.9	4289.9	4289.9	4289.9	4289.9	4289.9	4289.9	4289.9	4289.9	4289.9	4289.9
2.5°	4261.1	4289.9	4335.0	4362.0	4398.1	4412.5	4426.8	4452.1	4471.9	4466.6	4457.5
5°	4300.7	4349.5	4405.3	4423.3	4423.3	4405.3	4394.5	4396.2	4390.8	4387.2	4376.5
7.5°	4358.4	4425.1	4464.8	4446.7	4390.8	4320.6	4254.0	4214.3	4176.5	4153.0	4160.2
10°	4439.6	4513.4	4515.2	4435.9	4302.6	4149.5	4017.8	3933.1	3852.1	3816.1	3826.9
12.5°	4556.7	4630.6	4567.4	4396.2	4162.0	3922.4	3681.0	3506.3	3349.5	3311.6	3300.8
15°	4682.8	4740.4	4600.0	4311.5	3960.3	3565.6	3160.2	2899.0	2724.2	2693.6	2682.8
17.5°	4792.6	4825.1	4583.6	4160.2	3641.3	3019.7	2547.7	2371.0	2335.1	2353.1	2353.1
20°	4890.0	4879.1	4513.4	3926.0	3138.7	2414.4	2140.5	2138.7	2187.4	2232.4	2236.1
22.5°	5012.5	4927.8	4401.6	3578.3	2538.7	2014.4	1967.5	2014.4	2068.3	2118.8	2124.2
25°	5158.3	4981.8	4252.1	3082.9	2041.4	1828.8	1848.6	1888.2	1922.5	1962.1	1964.0
27.5°	5304.3	5023.3	4041.4	2500.8	1771.1	1709.8	1731.6	1747.7	1756.7	1782.0	1782.0
30°	5473.7	5055.8	3736.8	2003.6	1646.9	1605.5	1592.8	1585.6	1592.8	1627.0	1628.7
32.5°	5686.4	5113.3	3320.7	1718.8	1589.1	1531.5	1466.7	1430.6	1455.9	1517.1	1527.8
35°	5927.7	5181.9	2821.5	1605.5	1569.2	1495.5	1376.6	1320.7	1329.8	1385.5	1394.6
37.5°	6230.5	5270.1	2329.7	1578.3	1589.1	1491.8	1335.2	1255.8	1216.1	1218.0	1216.1
40°	6617.9	5358.4	1940.5	1585.6	1632.4	1500.9	1315.3	1191.0	1108.1	1111.7	1118.8
42.5°	7023.2	5416.2	1693.7	1607.2	1684.6	1513.5	1308.1	1127.9	1055.8	1117.1	1172.9
45°	7497.1	5399.8	1565.7	1627.0	1724.2	1518.9	1281.1	1120.6	1061.3	1245.1	1349.6
47.5°	8041.2	5329.6	1493.6	1636.1	1735.0	1517.1	1261.2	1144.1	1106.3	1425.3	1544.0
50°	8632.3	5219.7	1436.0	1621.6	1729.6	1510.0	1282.9	1172.9	1124.3	1464.9	1556.8
52.5°	9279.0	5118.8	1376.6	1589.1	1702.6	1488.2	1309.9	1160.3	1073.8	1349.6	1419.9
55°	10044.8	5095.4	1309.9	1533.2	1657.6	1464.9	1295.4	1120.6	1018.0	1196.4	1239.7
57.5°	10920.4	5241.3	1223.4	1464.9	1596.4	1418.0	1261.2	1099.0	998.1	1088.2	1111.7
60°	12032.1	5563.8	1131.4	1392.7	1520.7	1347.6	1230.6	1104.5	1003.5	1072.0	1077.4
62.5°	12900.5	5853.9	1048.6	1304.5	1419.9	1263.0	1198.2	1109.9	1019.8	1093.6	1084.7
65°	13215.9	5711.6	945.9	1172.9	1277.4	1169.4	1153.2	1113.4	1019.8	1106.3	1086.5
67°	12569.1	5032.2	848.5	1041.5	1142.4	1086.5	1109.9	1099.0	1001.8	1104.5	1070.2
67.5°	12261.0	4792.6	823.3	1019.8	1106.3	1061.3	1099.0	1091.9	996.4	1100.9	1061.3
70°	10111.4	3437.8	695.5	855.8	926.2	935.1	1032.4	1045.0	953.1	1034.2	962.2
72.5°	7194.3	2151.4	600.0	663.0	747.7	800.0	942.3	981.9	895.5	899.1	839.6
75°	3560.3	1155.0	535.1	511.8	581.9	666.6	821.6	895.5	810.8	749.5	729.8
77.5°	1201.8	654.1	452.2	412.6	452.2	535.1	681.0	782.0	715.3	634.3	621.5
80°	621.5	475.7	353.2	331.6	356.7	414.4	533.4	650.5	610.8	614.4	506.3
82.5°	387.3	290.2	254.0	252.2	270.3	317.1	392.7	527.9	524.3	448.7	326.2
85°	180.2	167.5	162.1	167.5	173.0	180.2	255.8	376.6	398.2	241.5	214.4
87.5°	75.6	73.9	64.9	70.2	77.4	75.6	102.6	160.3	223.4	151.4	138.8
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)