

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: P196139

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196139  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)  
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-SL3-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
SPILL LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 24819.8 lumens  
Efficiency: N/A  
Efficacy: 118.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B3 - U0 - G4

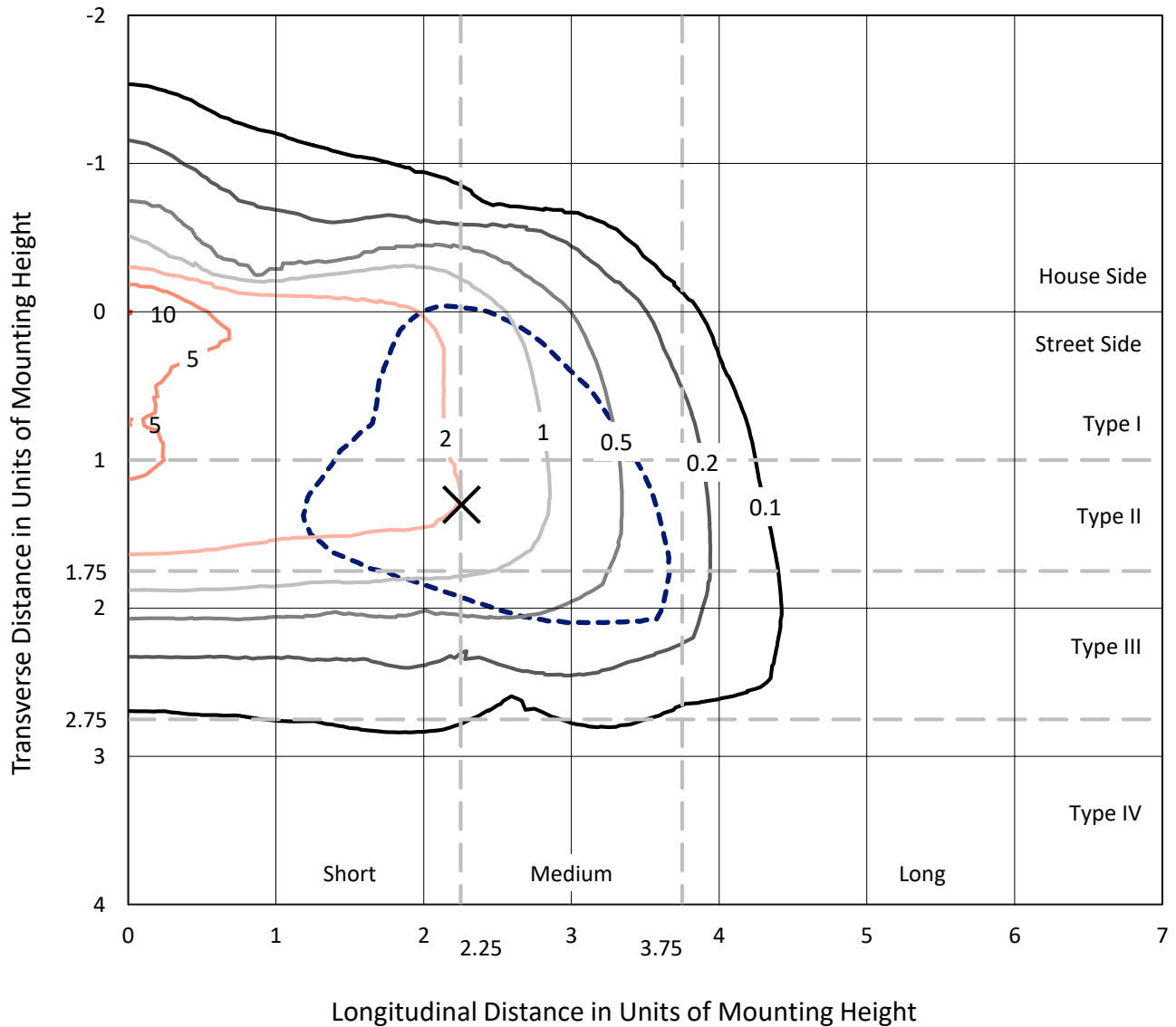
Input Watts (W): 210  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

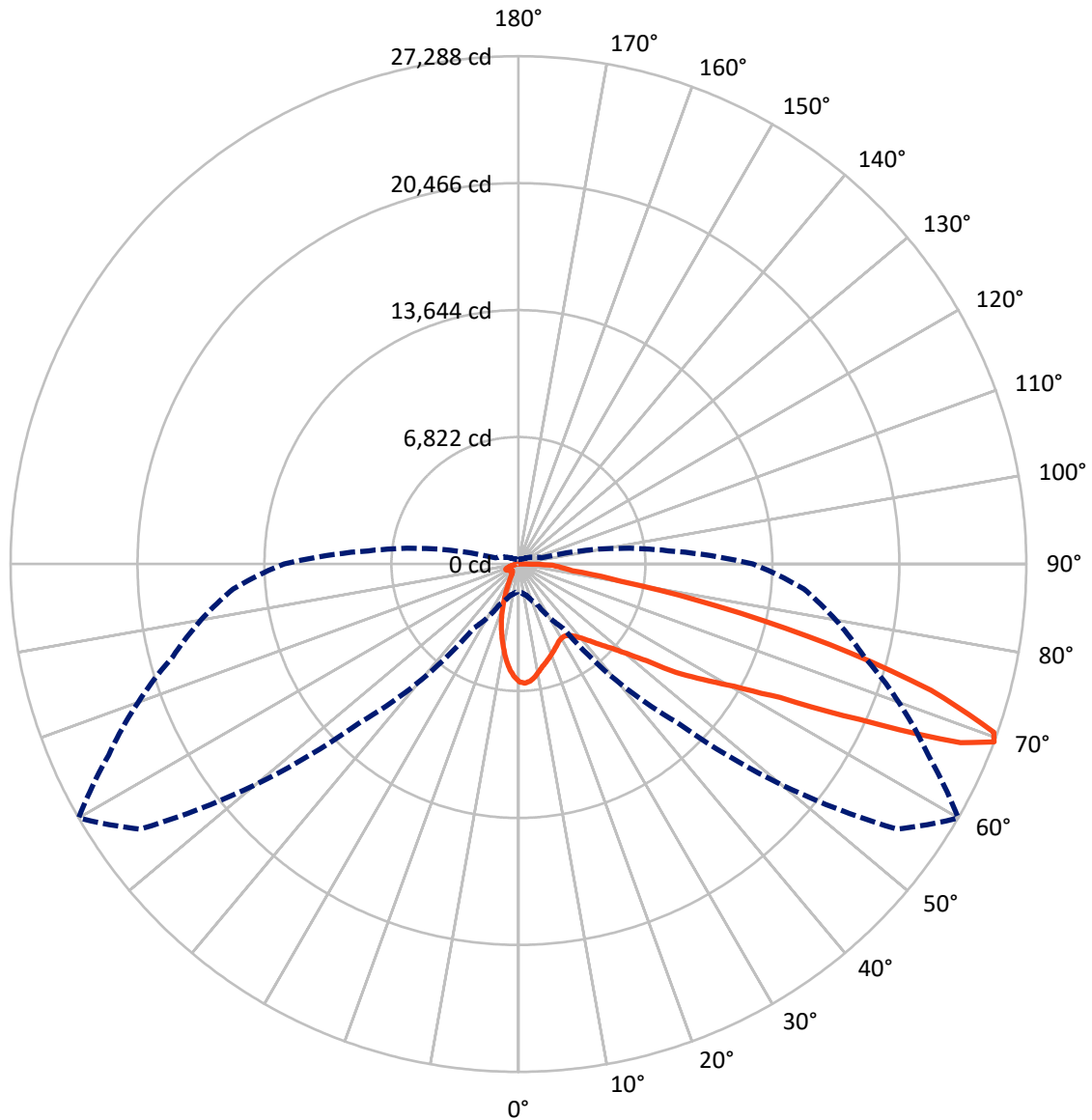
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.1 fc  
 Type III - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3540.1	0.0	3540.1
	% Fixture	14.3	0.0	14.3
<b>Street Side</b>	Lumens	21279.7	0.0	21279.7
	% Fixture	85.7	0.0	85.7
<b>Total</b>	Lumens	24819.8	0.0	24819.8
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	537.2	2.2
10°-20°	1150.3	4.6
20°-30°	1467.4	5.9
30°-40°	2019.3	8.1
40°-50°	3270.9	13.2
50°-60°	5133.5	20.7
60°-70°	6843.9	27.6
70°-80°	3806.8	15.3
80°-90°	590.4	2.4
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°	24819.8	100.0
0°-180°	24819.8	100.0



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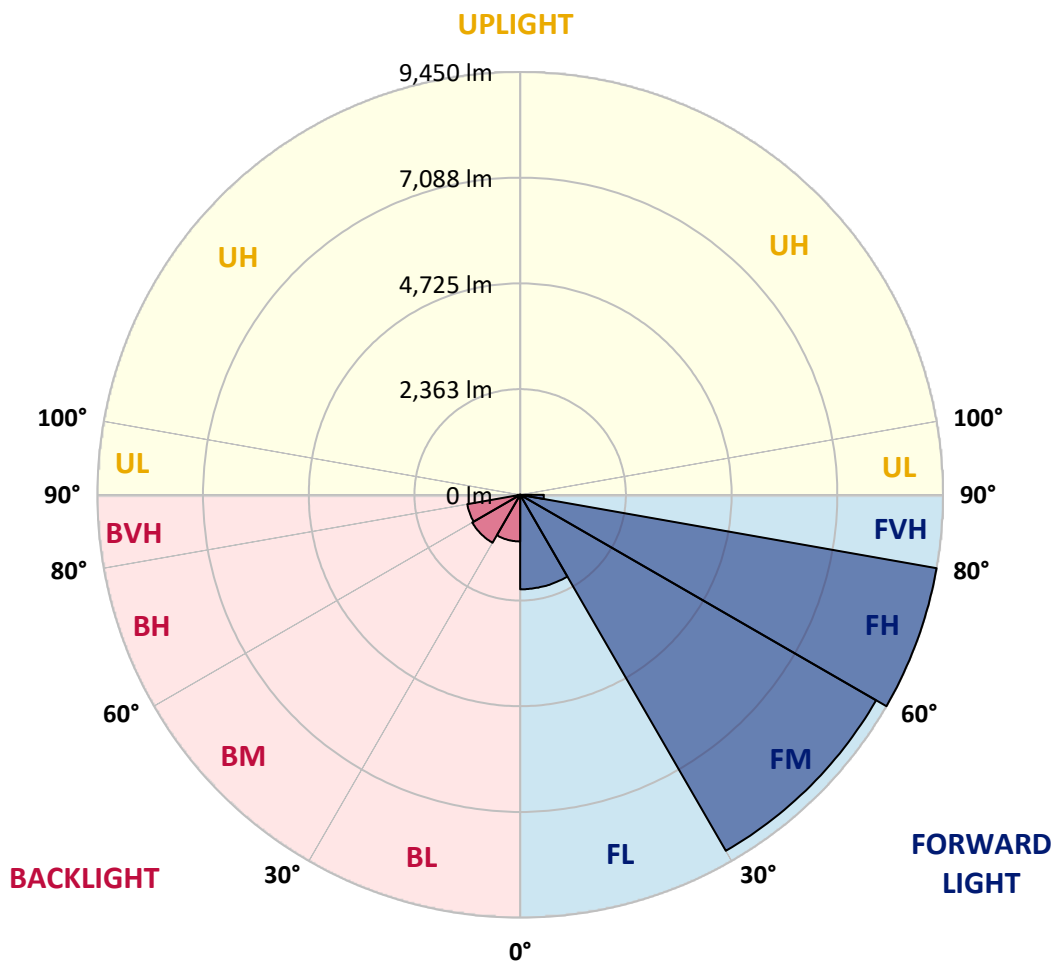
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2111.7	8.5			
FM	(30°-60°)	9187.0	37.0			
FH	(60°-80°)	9450.4	38.1			G4/12000
FVH	(80°-90°)	530.6	2.1			G4/750
BL	(0°-30°)	1043.3	4.2	B3/2500		
BM	(30°-60°)	1236.7	5.0	B2/2500		
BH	(60°-80°)	1200.3	4.8	B3/2500		G3/2500
BVH	(80°-90°)	59.8	0.2			G1/100
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°	60°	65°	75°	85°
0°	6332.9	6332.9	6332.9	6332.9	6332.9	6332.9	6332.9	6332.9	6332.9	6332.9	6332.9
2.5°	6501.6	6519.1	6519.1	6504.7	6496.8	6450.6	6423.6	6404.5	6371.0	6308.9	6253.3
5°	6269.2	6302.6	6316.9	6323.3	6364.7	6350.4	6352.0	6339.2	6310.6	6243.8	6153.0
7.5°	5842.7	5849.0	5874.5	5917.5	6017.7	6087.8	6145.1	6156.2	6149.9	6100.5	5973.2
10°	5422.5	5433.6	5463.9	5537.0	5632.6	5732.8	5857.0	5908.0	5946.1	5930.1	5769.4
12.5°	5073.9	5075.5	5108.9	5193.3	5299.9	5425.6	5594.4	5674.0	5764.6	5801.3	5621.4
15°	4738.1	4760.4	4792.2	4894.1	5026.2	5185.3	5379.5	5489.4	5608.7	5713.8	5506.9
17.5°	4483.5	4501.0	4520.1	4604.4	4757.2	4956.2	5196.5	5314.2	5471.9	5632.6	5389.1
20°	4343.4	4349.8	4335.5	4376.8	4505.7	4720.6	4999.2	5140.7	5328.6	5554.6	5268.1
22.5°	4314.7	4314.7	4262.2	4254.2	4311.5	4493.0	4795.4	4968.9	5198.1	5500.5	5159.9
25°	4448.4	4438.9	4340.2	4249.5	4228.8	4321.1	4601.2	4814.5	5086.6	5498.9	5078.7
27.5°	4701.5	4688.8	4566.2	4413.4	4281.4	4241.6	4451.7	4669.7	4999.2	5553.0	5037.3
30°	5016.7	5011.8	4887.8	4696.8	4478.7	4273.4	4392.8	4594.9	4940.2	5653.2	5035.8
32.5°	5362.0	5339.7	5263.3	5072.3	4789.0	4450.0	4427.7	4598.1	4924.3	5799.7	5072.3
35°	5729.6	5713.8	5694.7	5502.0	5183.7	4761.9	4582.1	4707.8	5002.3	6003.4	5175.8
37.5°	6197.5	6180.1	6211.9	6001.9	5653.2	5171.0	4843.2	4927.6	5161.5	6299.4	5368.3
40°	7029.9	6979.1	6889.9	6566.8	6200.7	5672.4	5220.3	5233.1	5433.6	6695.7	5677.2
42.5°	8397.1	8233.2	7792.3	7198.7	6778.5	6254.8	5712.2	5651.7	5809.2	7219.4	6125.9
45°	9767.4	9582.9	8838.0	7887.9	7376.9	6880.4	6320.1	6175.3	6277.1	7828.9	6703.7
47.5°	10652.4	10561.7	9721.3	8576.9	8004.0	7561.6	7015.6	6776.9	6850.1	8519.6	7416.7
50°	10911.8	10833.9	10173.3	9116.5	8596.1	8384.4	7876.7	7560.0	7572.7	9326.7	8271.4
52.5°	10717.7	10685.8	10248.1	9450.7	9140.4	9251.8	9068.8	8627.9	8522.8	10211.5	9197.7
55°	10458.2	10469.4	10300.6	9786.6	9694.3	10060.3	10628.6	10273.6	9828.0	11133.1	10162.2
57.5°	9641.7	9649.7	10092.1	10426.4	10751.1	11193.5	11842.9	11693.2	11174.4	12127.8	11242.8
60°	7763.7	7825.8	8811.0	10294.3	11959.1	13426.5	13585.7	13327.8	12606.8	13273.7	12648.2
62.5°	5546.6	5602.3	6743.5	8936.7	11817.4	15953.9	16803.8	15778.8	14550.1	14987.9	14624.9
65°	2914.2	2904.7	3788.0	6175.3	9953.7	16539.6	21874.6	20130.2	17824.0	17344.9	16534.9
67.5°	1628.1	1680.7	2022.9	3114.7	6487.2	14556.5	25113.4	25627.5	22375.9	19215.0	16452.1
69°	1505.6	1523.2	1752.3	2408.0	4228.8	12010.0	24834.9	27287.5	24295.4	19223.0	15392.1
70°	1462.6	1481.7	1690.2	2218.7	3552.4	9840.7	23821.0	27093.4	24761.6	18796.4	14427.6
72.5°	1311.4	1336.9	1539.0	1994.2	2993.8	5072.3	19188.0	23189.2	22430.0	16428.2	11187.2
75°	1118.9	1161.9	1467.4	1979.9	2836.1	3224.5	12796.2	17276.5	16694.0	11749.0	6347.2
77.5°	463.2	467.9	641.4	1449.9	2976.3	3086.0	6877.2	10943.6	9687.9	5151.9	1911.5
80°	323.0	316.7	319.9	423.4	2401.7	3106.7	3528.5	5565.8	4325.9	1359.2	894.5
82.5°	272.2	268.9	281.7	265.8	813.2	3525.3	2950.8	2901.4	2037.2	732.1	426.6
85°	179.8	175.0	230.8	241.9	386.8	2799.6	3173.6	2280.8	1518.4	391.5	181.5
87.5°	87.6	89.1	132.1	164.0	205.3	886.5	3039.9	1803.3	1173.0	170.3	73.2
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°	6332.9	6332.9	6332.9	6332.9	6332.9	6332.9	6332.9	6332.9	6332.9	6332.9	6332.9
2.5°	6231.0	6183.2	6140.3	6086.1	6044.8	6009.7	5962.1	5960.4	5952.4	5963.6	5966.8
5°	6092.5	6013.0	5892.0	5756.8	5661.2	5535.5	5412.9	5371.5	5325.4	5320.7	5335.0
7.5°	5884.0	5759.9	5553.0	5346.0	5139.2	4927.6	4727.0	4625.1	4526.5	4496.2	4510.5
10°	5651.7	5494.1	5177.4	4840.0	4548.8	4233.6	3928.0	3730.6	3550.8	3474.5	3493.5
12.5°	5470.2	5269.7	4824.0	4386.4	3950.3	3498.3	3095.7	2705.7	2411.2	2279.1	2287.1
15°	5314.2	5058.0	4493.0	3910.5	3364.6	2745.5	2186.9	1734.8	1476.9	1381.5	1378.3
17.5°	5145.5	4835.2	4147.7	3468.0	2759.8	1994.2	1464.3	1196.9	1095.0	1063.2	1063.2
20°	4965.7	4606.0	3786.4	2985.8	2123.1	1392.6	1101.4	997.9	959.7	950.2	948.6
22.5°	4798.6	4381.6	3423.5	2471.8	1535.9	1056.8	937.4	897.6	891.3	899.3	899.3
25°	4666.5	4184.3	3055.9	1930.6	1117.3	885.0	834.0	829.2	853.0	881.7	886.5
27.5°	4567.8	4007.6	2692.9	1410.1	878.5	770.3	752.8	773.5	829.2	886.5	897.6
30°	4499.3	3856.4	2258.5	1013.8	732.1	674.8	682.8	719.4	803.7	891.3	915.1
32.5°	4469.2	3733.9	1820.8	778.3	625.5	593.6	614.4	662.1	749.6	837.2	865.8
35°	4497.8	3644.7	1416.5	646.2	547.5	523.6	547.5	596.8	654.2	697.1	714.6
37.5°	4601.2	3612.9	1066.3	573.0	496.5	472.7	491.8	525.2	550.7	566.6	574.6
40°	4819.3	3646.3	835.5	534.8	467.9	440.9	445.6	461.6	479.0	491.8	493.4
42.5°	5166.2	3756.1	743.3	520.5	450.4	415.4	407.4	418.6	437.7	455.2	458.4
45°	5627.8	3939.2	733.8	525.2	442.4	394.8	378.8	389.9	415.4	444.1	448.9
47.5°	6224.7	4228.8	778.3	550.7	447.2	383.6	359.7	370.8	404.3	442.4	448.9
50°	6931.3	4629.9	861.0	588.9	469.5	383.6	351.7	361.3	396.3	439.3	445.6
52.5°	7763.7	5188.5	946.9	627.1	501.3	397.9	355.0	353.3	385.1	424.9	432.9
55°	8682.0	5882.5	1029.7	660.5	518.8	417.0	362.8	343.8	369.3	401.1	407.4
57.5°	9762.7	6832.6	1174.6	692.3	528.4	431.3	372.5	334.2	348.5	370.8	375.6
60°	11228.5	8228.4	1456.3	746.4	545.9	437.7	374.0	324.7	323.0	339.0	340.6
62.5°	13140.0	9863.0	1725.3	810.1	580.9	439.3	367.6	318.3	302.4	307.2	307.2
65°	14499.2	10464.6	1647.3	864.2	612.7	437.7	361.3	313.5	286.5	278.5	278.5
67.5°	13725.7	9243.9	1399.0	878.5	615.9	420.1	347.0	302.4	272.2	253.1	253.1
69°	12589.4	8102.7	1284.4	853.0	590.4	399.5	331.0	291.2	262.6	240.3	240.3
70°	11663.1	7238.5	1214.3	822.9	560.3	382.0	316.7	280.1	253.1	233.9	232.4
72.5°	8707.5	4830.4	1037.7	709.8	459.9	323.0	276.9	249.9	227.6	214.8	214.8
75°	4594.9	2420.8	849.9	579.3	355.0	257.8	227.6	210.1	197.3	195.8	194.2
77.5°	1505.6	1095.0	611.2	436.1	261.1	200.5	181.5	170.3	168.7	175.0	175.0
80°	813.2	654.2	393.1	294.4	181.5	149.7	140.0	138.5	143.2	152.8	152.8
82.5°	394.8	323.0	233.9	181.5	124.2	109.9	109.9	111.4	117.7	128.9	128.9
85°	170.3	152.8	135.2	101.9	76.4	68.4	77.9	85.9	90.7	98.7	101.9
87.5°	81.1	71.6	62.1	39.8	33.5	35.0	41.4	50.9	60.5	66.8	68.4
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)