

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: P195664

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195664
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-04-D-UNV-SL3-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 1050mA 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: 24365 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B3 - U0 - G4

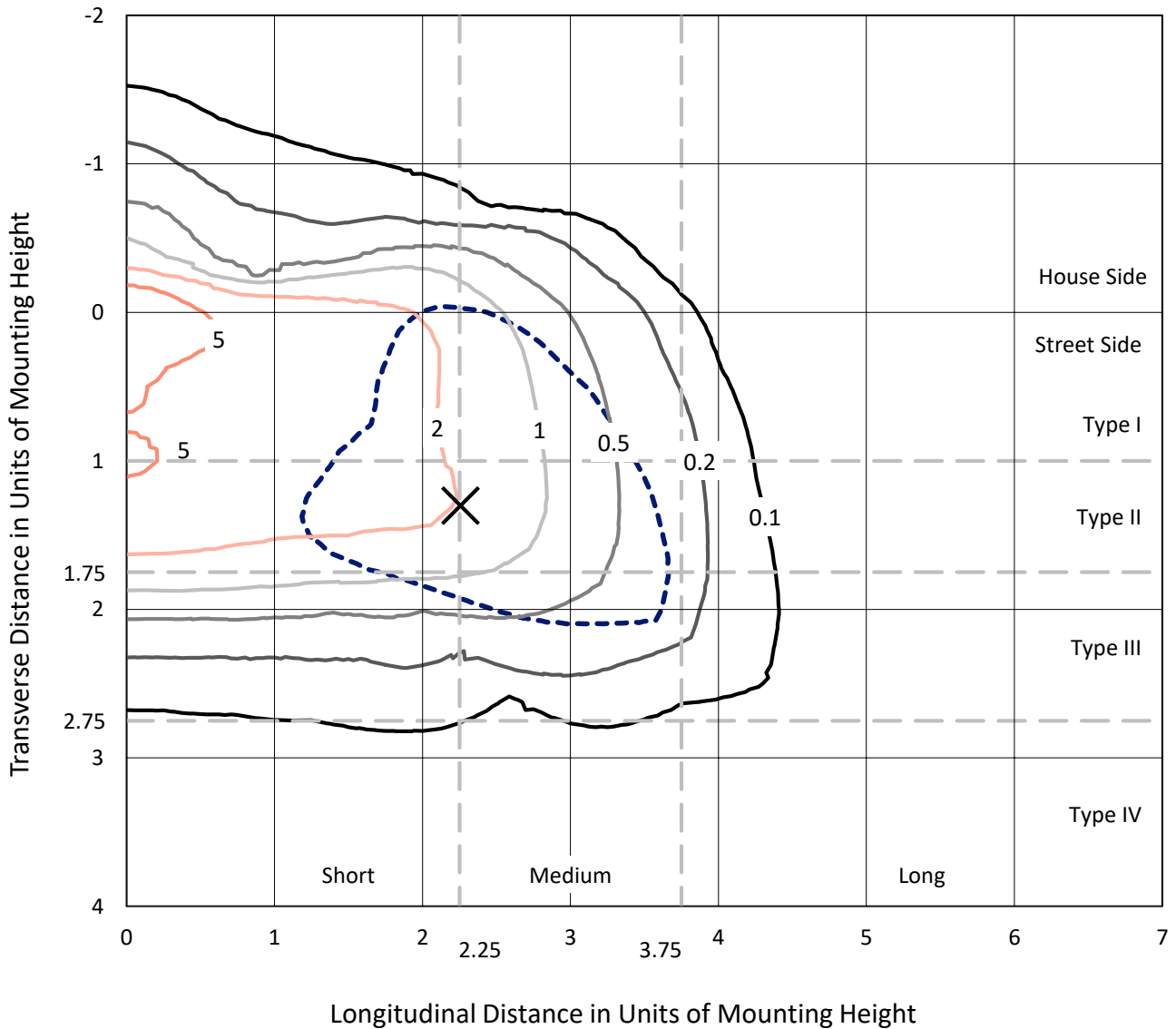
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

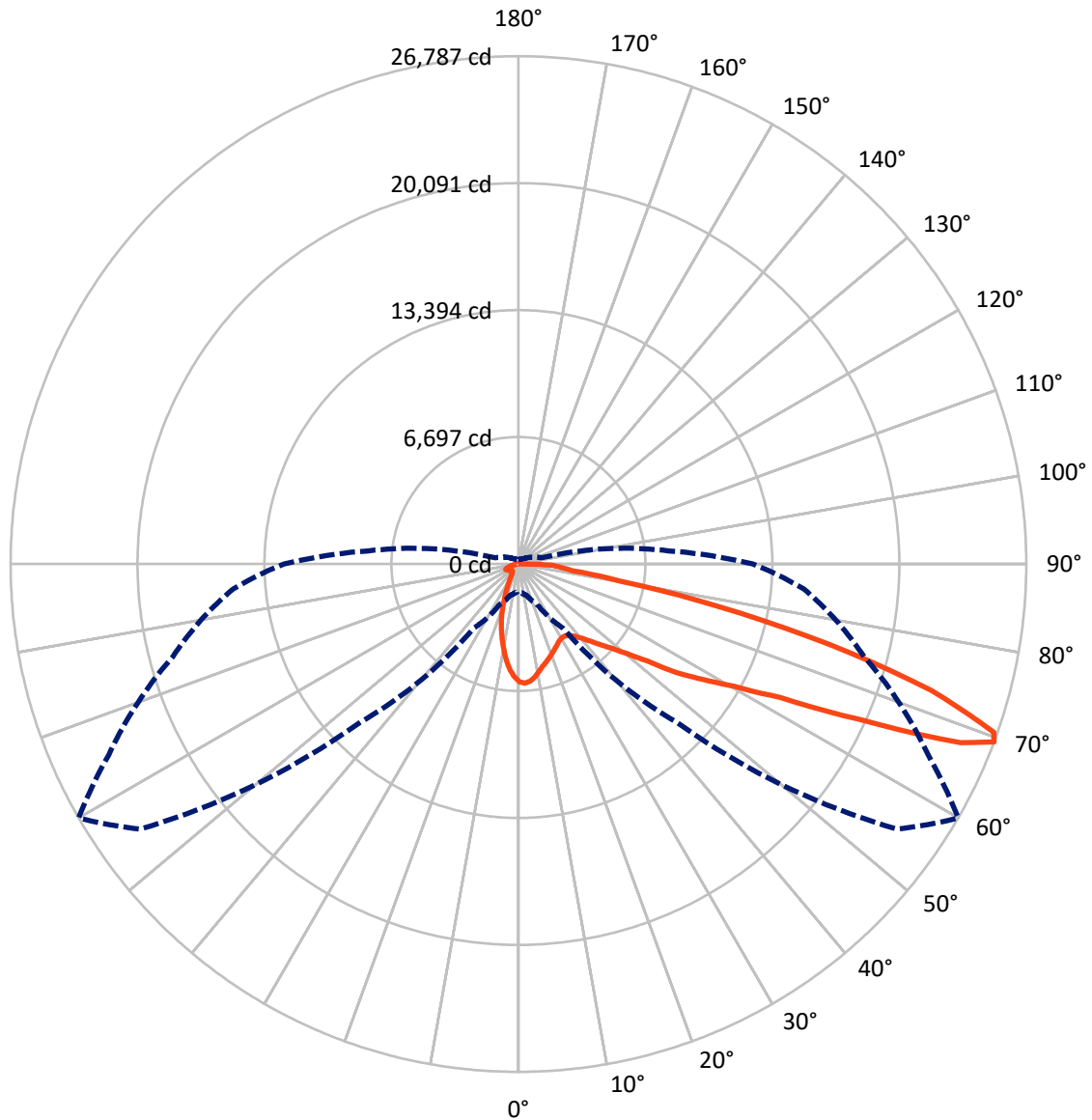
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.9 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
House Side	Lumens	3475.3	0.0	3475.3
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	20889.7	0.0	20889.7
	% Fixture	85.7	0.0	85.7
Total	Lumens	24365.0	0.0	24365.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	527.4	2.2
10°-20°	1129.2	4.6
20°-30°	1440.5	5.9
30°-40°	1982.3	8.1
40°-50°	3211.0	13.2
50°-60°	5039.5	20.7
60°-70°	6718.5	27.6
70°-80°	3737.0	15.3
80°-90°	579.6	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°	24365.0	100.0
0°-180°	24365.0	100.0



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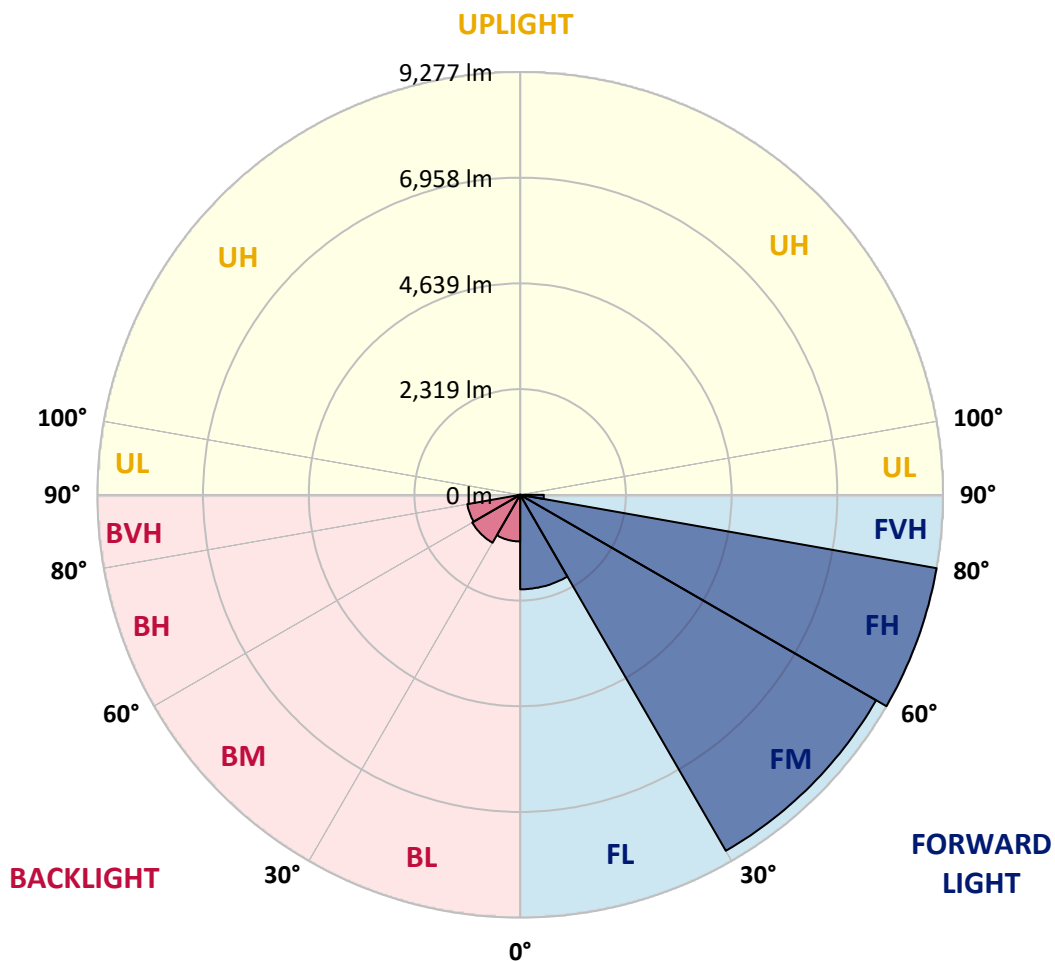
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2073.0	8.5			
FM	(30°-60°)	9018.7	37.0			
FH	(60°-80°)	9277.3	38.1			G4/12000
FVH	(80°-90°)	520.9	2.1			G4/750
BL	(0°-30°)	1024.2	4.2	B3/2500		
BM	(30°-60°)	1214.1	5.0	B2/2500		
BH	(60°-80°)	1178.3	4.8	B3/2500		G3/2500
BVH	(80°-90°)	58.7	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°	6216.8	6216.8	6216.8	6216.8	6216.8	6216.8	6216.8	6216.8	6216.8	6216.8	6216.8
2.5°	6382.4	6399.6	6399.6	6385.5	6377.7	6332.4	6305.9	6287.1	6254.3	6193.4	6138.7
5°	6154.3	6187.1	6201.2	6207.4	6248.1	6234.0	6235.6	6223.1	6194.9	6129.3	6040.3
7.5°	5735.6	5741.8	5766.8	5809.0	5907.5	5976.2	6032.4	6043.4	6037.1	5988.7	5863.7
10°	5323.1	5334.0	5363.7	5435.6	5529.3	5627.8	5749.6	5799.6	5837.1	5821.5	5663.7
12.5°	4980.9	4982.5	5015.3	5098.1	5202.8	5326.2	5491.9	5570.0	5659.0	5695.0	5518.4
15°	4651.3	4673.2	4704.4	4804.4	4934.1	5090.3	5280.9	5388.7	5505.9	5609.0	5405.9
17.5°	4401.3	4418.5	4437.2	4520.0	4670.0	4865.3	5101.3	5216.9	5371.5	5529.3	5290.3
20°	4263.8	4270.1	4256.0	4296.6	4423.2	4634.1	4907.5	5046.6	5230.9	5452.8	5171.6
22.5°	4235.7	4235.7	4184.1	4176.3	4232.6	4410.7	4707.5	4877.8	5102.8	5399.7	5065.3
25°	4366.9	4357.5	4260.7	4171.6	4151.3	4241.9	4516.9	4726.3	4993.4	5398.1	4985.6
27.5°	4615.3	4602.8	4482.5	4332.5	4202.9	4163.8	4370.0	4584.1	4907.5	5451.2	4945.0
30°	4924.7	4920.0	4798.1	4610.7	4396.6	4195.1	4312.2	4510.7	4849.7	5549.7	4943.4
32.5°	5263.7	5241.9	5166.9	4979.4	4701.3	4368.5	4346.6	4513.8	4834.1	5693.4	4979.4
35°	5624.7	5609.0	5590.3	5401.2	5088.8	4674.7	4498.2	4621.6	4910.6	5893.4	5080.9
37.5°	6084.0	6066.8	6098.1	5891.8	5549.7	5076.3	4754.4	4837.2	5066.9	6184.0	5270.0
40°	6901.1	6851.1	6763.6	6446.5	6087.1	5568.4	5124.7	5137.2	5334.0	6573.0	5573.1
42.5°	8243.2	8082.3	7649.5	7066.8	6654.3	6140.2	5607.5	5548.1	5702.8	7087.1	6013.7
45°	9588.5	9407.2	8676.0	7743.3	7241.7	6754.3	6204.3	6062.1	6162.1	7685.5	6580.8
47.5°	10457.2	10368.1	9543.2	8419.8	7857.3	7423.0	6887.1	6652.7	6724.6	8363.6	7280.8
50°	10711.8	10635.3	9986.9	8949.5	8438.5	8230.7	7732.3	7421.4	7433.9	9155.7	8119.8
52.5°	10521.2	10490.0	10060.3	9277.6	8972.9	9082.3	8902.6	8469.8	8366.7	10024.4	9029.1
55°	10266.6	10277.5	10111.9	9607.2	9516.6	9876.0	10433.7	10085.3	9647.8	10929.0	9976.0
57.5°	9465.0	9472.9	9907.2	10235.3	10554.0	10988.4	11625.9	11479.0	10969.6	11905.5	11036.8
60°	7621.4	7682.3	8649.5	10105.6	11739.9	13180.4	13336.7	13083.6	12375.8	13030.5	12416.4
62.5°	5445.0	5499.7	6619.9	8772.9	11600.9	15661.5	16495.9	15489.7	14283.5	14713.2	14356.9
65°	2860.8	2851.4	3718.5	6062.1	9771.3	16236.5	21473.7	19761.3	17497.4	17027.1	16231.8
67.5°	1598.3	1649.9	1985.8	3057.6	6368.4	14289.8	24653.2	25157.8	21965.8	18862.9	16150.6
69°	1478.0	1495.2	1720.2	2363.9	4151.3	11789.9	24379.8	26787.4	23850.1	18870.7	15110.0
70°	1435.8	1454.6	1659.3	2178.0	3487.3	9660.3	23384.5	26596.8	24307.9	18452.0	14163.2
72.5°	1287.4	1312.4	1510.8	1957.7	2938.9	4979.4	18836.3	22764.2	22019.0	16127.1	10982.1
75°	1098.4	1140.6	1440.5	1943.6	2784.2	3165.4	12561.7	16959.9	16388.1	11533.7	6230.9
77.5°	454.7	459.3	629.6	1423.4	2921.7	3029.5	6751.1	10743.1	9510.4	5057.5	1876.4
80°	317.2	310.9	314.0	415.6	2357.7	3049.8	3463.9	5463.7	4246.6	1334.3	878.1
82.5°	267.2	264.0	276.5	260.9	798.4	3460.7	2896.7	2848.3	1999.9	718.7	418.7
85°	176.6	171.9	226.5	237.5	379.7	2748.3	3115.4	2238.9	1490.5	384.4	178.1
87.5°	85.9	87.5	129.7	160.9	201.6	870.3	2984.2	1770.2	1151.5	167.2	71.9
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°	6216.8	6216.8	6216.8	6216.8	6216.8	6216.8	6216.8	6216.8	6216.8	6216.8	6216.8
2.5°	6116.8	6069.9	6027.8	5974.6	5934.0	5899.6	5852.8	5851.2	5843.4	5854.3	5857.5
5°	5980.9	5902.8	5784.0	5651.2	5557.5	5434.0	5313.7	5273.1	5227.8	5223.1	5237.2
7.5°	5776.2	5654.3	5451.2	5248.1	5045.0	4837.2	4640.3	4540.3	4443.5	4413.8	4427.9
10°	5548.1	5393.4	5082.5	4751.3	4465.4	4156.0	3856.0	3662.3	3485.7	3410.7	3429.5
12.5°	5370.0	5173.1	4735.6	4306.0	3877.9	3434.2	3038.9	2656.1	2367.0	2237.4	2245.2
15°	5216.9	4965.3	4410.7	3838.8	3302.9	2695.1	2146.7	1703.0	1449.9	1356.2	1353.0
17.5°	5051.3	4746.6	4071.6	3404.5	2709.2	1957.7	1437.4	1174.9	1074.9	1043.7	1043.7
20°	4874.7	4521.6	3717.0	2931.1	2084.2	1367.1	1081.2	979.6	942.1	932.8	931.2
22.5°	4710.6	4301.3	3360.7	2426.4	1507.7	1037.4	920.3	881.2	874.9	882.8	882.8
25°	4581.0	4107.6	2999.8	1895.2	1096.8	868.7	818.7	814.0	837.4	865.6	870.3
27.5°	4484.1	3934.1	2643.6	1384.3	862.4	756.2	739.0	759.3	814.0	870.3	881.2
30°	4416.9	3785.7	2217.1	995.3	718.7	662.5	670.3	706.2	789.0	874.9	898.4
32.5°	4387.2	3665.4	1787.4	764.0	614.0	582.8	603.1	650.0	735.9	821.8	849.9
35°	4415.4	3577.9	1390.5	634.3	537.5	514.0	537.5	585.9	642.1	684.3	701.5
37.5°	4516.9	3546.7	1046.8	562.5	487.5	464.0	482.8	515.6	540.6	556.2	564.0
40°	4731.0	3579.5	820.3	525.0	459.3	432.8	437.5	453.1	470.3	482.8	484.3
42.5°	5071.6	3687.3	729.6	510.9	442.2	407.8	400.0	410.9	429.7	446.8	450.0
45°	5524.7	3867.0	720.3	515.6	434.3	387.5	371.9	382.8	407.8	435.9	440.6
47.5°	6110.6	4151.3	764.0	540.6	439.0	376.5	353.1	364.0	396.9	434.3	440.6
50°	6804.3	4545.0	845.3	578.1	460.9	376.5	345.3	354.7	389.0	431.2	437.5
52.5°	7621.4	5093.4	929.6	615.6	492.2	390.6	348.4	346.9	378.1	417.2	425.0
55°	8522.9	5774.6	1010.9	648.4	509.3	409.3	356.2	337.5	362.5	393.7	400.0
57.5°	9583.8	6707.4	1153.1	679.6	518.7	423.4	365.6	328.1	342.2	364.0	368.7
60°	11022.8	8077.6	1429.6	732.8	535.9	429.7	367.2	318.7	317.2	332.8	334.4
62.5°	12899.2	9682.2	1693.6	795.3	570.3	431.2	360.9	312.5	296.9	301.5	301.5
65°	14233.5	10272.8	1617.1	848.4	601.5	429.7	354.7	307.8	281.2	273.4	273.4
67.5°	13474.2	9074.4	1373.4	862.4	604.7	412.5	340.6	296.9	267.2	248.4	248.4
69°	12358.6	7954.2	1260.9	837.4	579.7	392.2	325.0	285.9	257.8	235.9	235.9
70°	11449.3	7105.8	1192.1	807.8	550.0	375.0	310.9	275.0	248.4	229.7	228.1
72.5°	8547.9	4741.9	1018.7	696.8	451.5	317.2	271.9	245.3	223.4	210.9	210.9
75°	4510.7	2376.4	834.3	568.7	348.4	253.1	223.4	206.2	193.7	192.2	190.6
77.5°	1478.0	1074.9	600.0	428.1	256.2	196.9	178.1	167.2	165.6	171.9	171.9
80°	798.4	642.1	385.9	289.0	178.1	146.9	137.5	135.9	140.6	150.0	150.0
82.5°	387.5	317.2	229.7	178.1	121.9	107.8	107.8	109.4	115.6	126.6	126.6
85°	167.2	150.0	132.8	100.0	75.0	67.2	76.6	84.4	89.1	96.9	100.0
87.5°	79.7	70.3	60.9	39.1	32.8	34.4	40.6	50.0	59.4	65.6	67.2
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)