

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: P196134

Luminaire Tested: **NAV-AF-06-D-UNV-SL3-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196134
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-06-D-UNV-SL3-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 615mA 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: 24247 lumens
Efficiency: N/A
Efficacy: 125.6 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

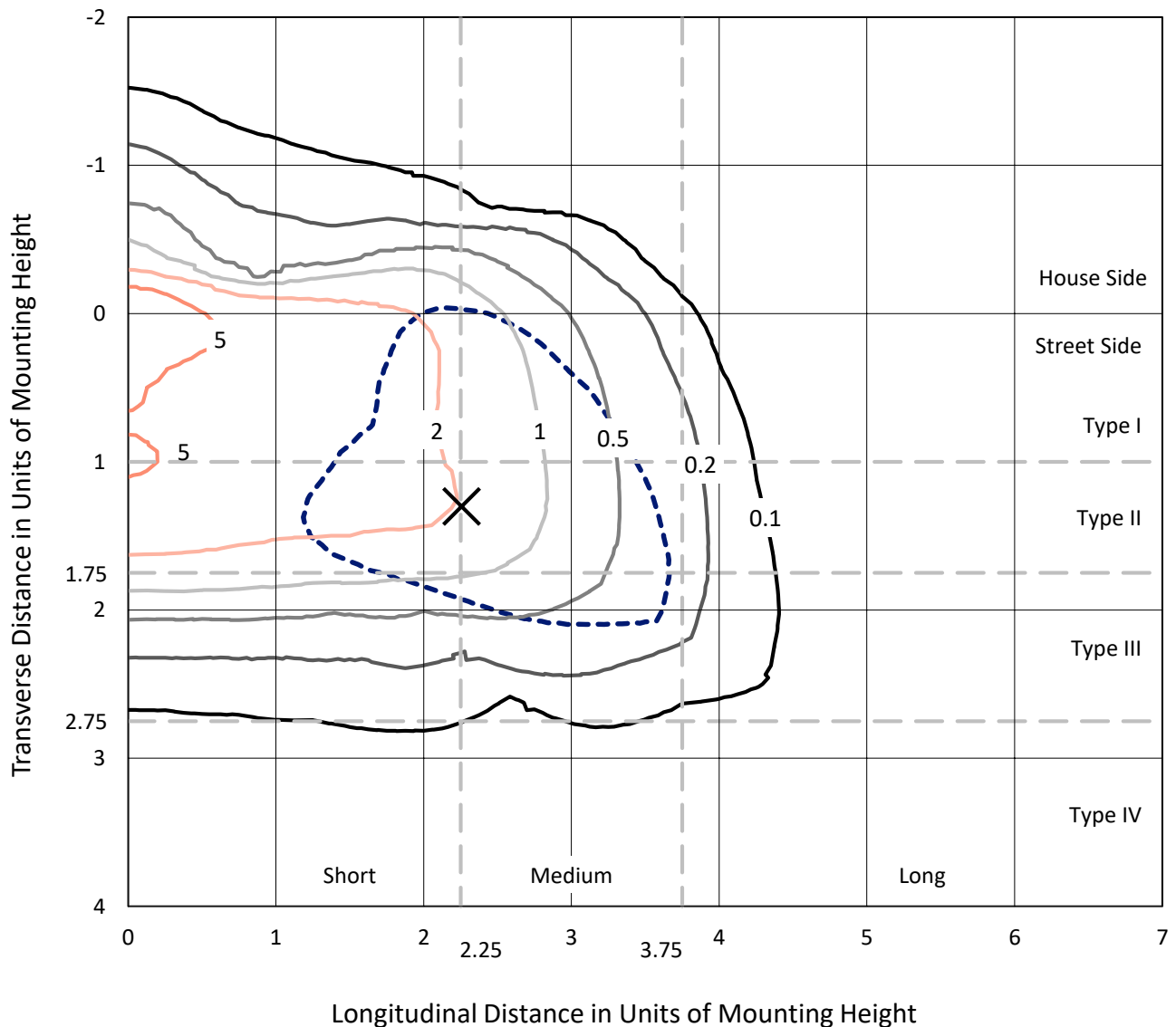
Input Watts (W): 193
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

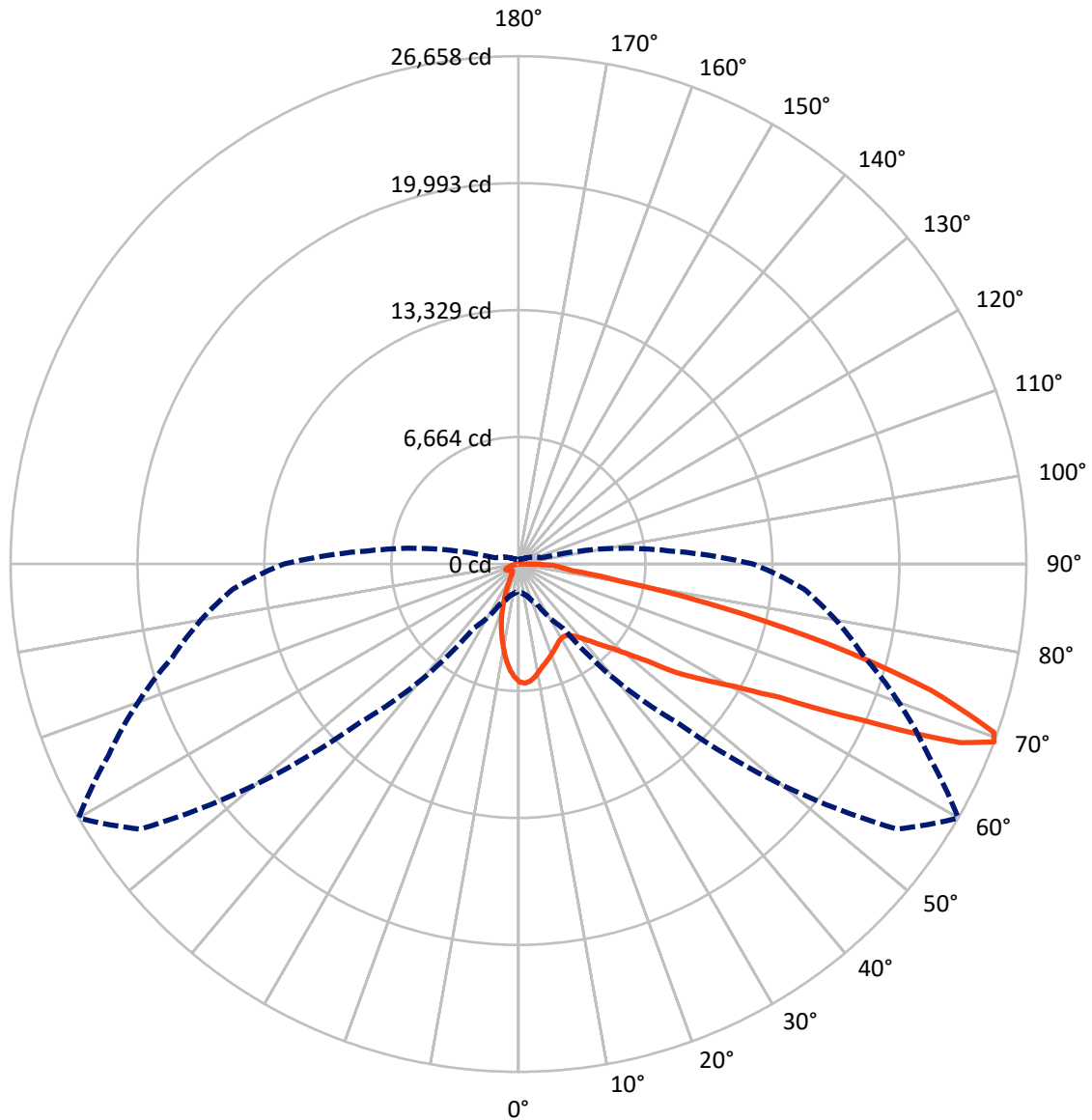
× Max cd
 - - - 1/2 Max cd



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	3458.4	0.0	3458.4
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	20788.6	0.0	20788.6
	% Fixture	85.7	0.0	85.7
Total	Lumens	24247.0	0.0	24247.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	524.8	2.2
10°-20°	1123.8	4.6
20°-30°	1433.6	5.9
30°-40°	1972.7	8.1
40°-50°	3195.4	13.2
50°-60°	5015.0	20.7
60°-70°	6686.0	27.6
70°-80°	3718.9	15.3
80°-90°	576.8	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°	24247.0	100.0
0°-180°	24247.0	100.0

Coefficient of Utilization



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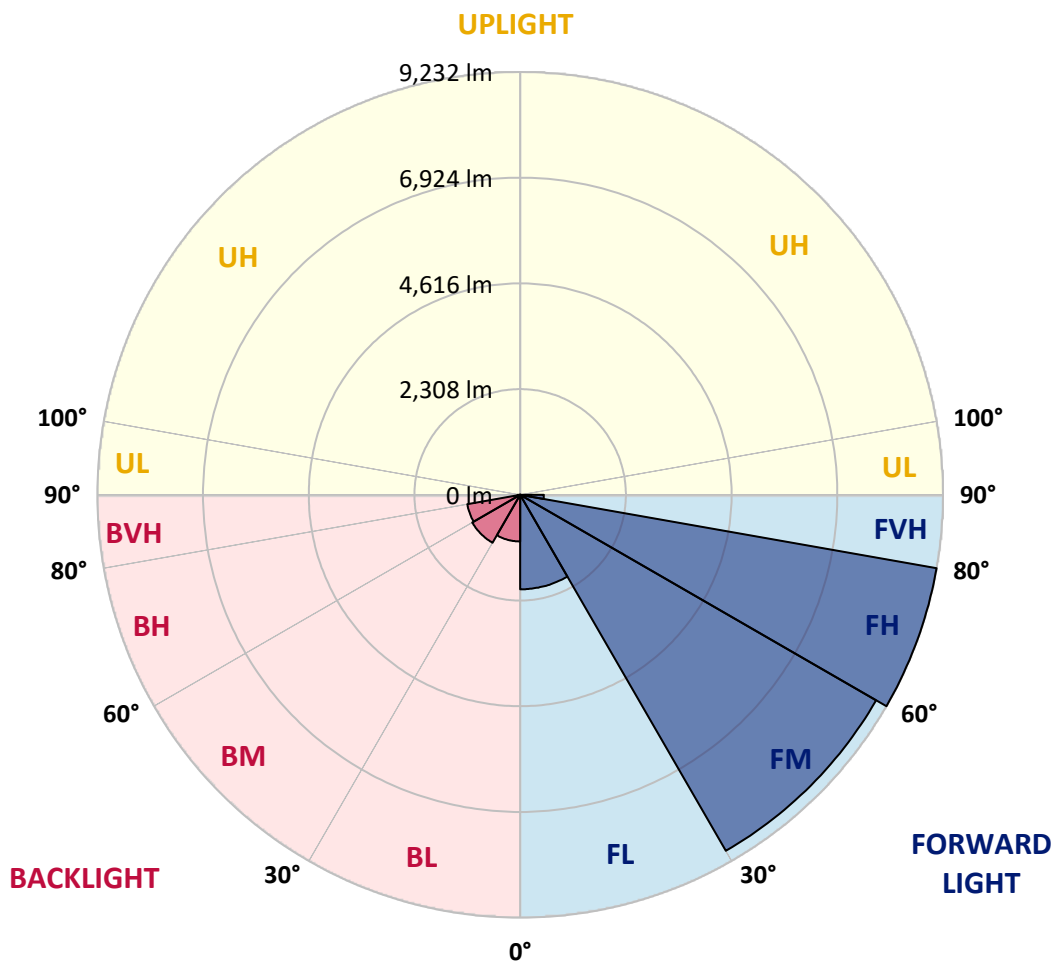
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2062.9	8.5			
FM	(30°-60°)	8975.0	37.0			
FH	(60°-80°)	9232.3	38.1			G4/12000
FVH	(80°-90°)	518.3	2.1			G4/750
BL	(0°-30°)	1019.2	4.2	B3/2500		
BM	(30°-60°)	1208.2	5.0	B2/2500		
BH	(60°-80°)	1172.6	4.8	B3/2500		G3/2500
BVH	(80°-90°)	58.5	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°	6186.7	6186.7	6186.7	6186.7	6186.7	6186.7	6186.7	6186.7	6186.7	6186.7	6186.7
2.5°	6351.5	6368.6	6368.6	6354.7	6346.9	6301.8	6275.3	6256.7	6224.0	6163.4	6109.0
5°	6124.5	6157.1	6171.2	6177.4	6217.8	6203.8	6205.3	6192.9	6164.9	6099.7	6011.0
7.5°	5707.8	5714.0	5738.9	5780.9	5878.8	5947.2	6003.2	6014.1	6007.9	5959.7	5835.3
10°	5297.4	5308.2	5337.8	5409.3	5502.6	5600.6	5721.8	5771.6	5808.8	5793.3	5636.3
12.5°	4956.8	4958.3	4991.1	5073.4	5177.6	5300.4	5465.2	5543.0	5631.7	5667.4	5491.7
15°	4628.8	4650.5	4681.6	4781.2	4910.2	5065.7	5255.3	5362.6	5479.2	5581.8	5379.7
17.5°	4380.0	4397.1	4415.8	4498.1	4647.4	4841.7	5076.5	5191.6	5345.5	5502.6	5264.7
20°	4243.2	4249.3	4235.4	4275.8	4401.8	4611.7	4883.8	5022.2	5205.6	5426.3	5146.5
22.5°	4215.2	4215.2	4163.8	4156.0	4212.1	4389.3	4684.7	4854.2	5078.1	5373.6	5040.8
25°	4345.8	4336.5	4240.0	4151.4	4131.2	4221.4	4495.1	4703.4	4969.3	5371.9	4961.5
27.5°	4592.9	4580.6	4460.8	4311.5	4182.5	4143.7	4348.9	4561.8	4883.8	5424.8	4921.1
30°	4900.9	4896.1	4774.9	4588.3	4375.3	4174.8	4291.4	4488.8	4826.2	5522.8	4919.5
32.5°	5238.2	5216.4	5141.9	4955.3	4678.5	4347.3	4325.5	4491.9	4810.6	5665.8	4955.3
35°	5597.4	5581.8	5563.2	5375.1	5064.1	4652.1	4476.3	4599.2	4886.8	5864.9	5056.3
37.5°	6054.5	6037.5	6068.6	5863.2	5522.8	5051.6	4731.4	4813.8	5042.3	6154.1	5244.5
40°	6867.7	6818.0	6730.9	6415.2	6057.6	5541.4	5099.8	5112.3	5308.2	6541.2	5546.1
42.5°	8203.3	8043.2	7612.5	7032.6	6622.1	6110.5	5580.3	5521.3	5675.1	7052.7	5984.6
45°	9542.1	9361.6	8634.0	7705.8	7206.7	6721.6	6174.2	6032.8	6132.3	7648.3	6548.9
47.5°	10406.5	10317.9	9497.0	8379.0	7819.2	7387.0	6853.8	6620.5	6692.0	8323.0	7245.6
50°	10660.0	10583.8	9938.5	8906.1	8397.7	8190.9	7694.9	7385.5	7397.9	9111.3	8080.5
52.5°	10470.3	10439.2	10011.6	9232.6	8929.4	9038.3	8859.5	8428.8	8326.2	9975.8	8985.4
55°	10216.8	10227.8	10062.9	9560.7	9470.5	9828.1	10383.3	10036.5	9601.1	10876.1	9927.6
57.5°	9419.2	9427.0	9859.2	10185.7	10502.9	10935.1	11569.6	11423.4	10916.5	11847.8	10983.4
60°	7584.5	7645.1	8607.6	10056.7	11683.0	13116.6	13272.1	13020.2	12315.9	12967.3	12356.3
62.5°	5418.6	5473.0	6587.8	8730.4	11544.7	15585.7	16416.0	15414.6	14214.3	14641.9	14287.5
65°	2846.9	2837.6	3700.5	6032.8	9724.0	16157.9	21369.6	19665.6	17412.7	16944.7	16153.2
67.5°	1590.6	1641.9	1976.2	3042.8	6337.5	14220.6	24533.7	25036.0	21859.4	18771.6	16072.4
69°	1470.9	1488.0	1711.9	2352.5	4131.2	11732.8	24261.7	26657.7	23734.6	18779.3	15036.9
70°	1428.9	1447.6	1651.2	2167.4	3470.4	9613.6	23271.2	26468.0	24190.1	18362.7	14094.6
72.5°	1281.1	1306.1	1503.5	1948.2	2924.6	4955.3	18745.2	22654.0	21912.3	16049.1	10929.0
75°	1093.0	1135.1	1433.6	1934.2	2770.8	3150.1	12500.9	16877.8	16308.7	11477.8	6200.7
77.5°	452.5	457.2	626.6	1416.5	2907.5	3014.8	6718.4	10691.1	9464.3	5033.0	1867.4
80°	315.7	309.4	312.5	413.6	2346.2	3035.0	3447.0	5437.3	4226.0	1327.8	873.8
82.5°	265.9	262.8	275.2	259.6	794.5	3444.0	2882.7	2834.5	1990.2	715.2	416.6
85°	175.7	171.0	225.5	236.3	377.8	2735.0	3100.4	2228.1	1483.3	382.5	177.3
87.5°	85.5	87.1	129.1	160.2	200.6	866.0	2969.7	1761.6	1145.9	166.3	71.5
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°	6186.7	6186.7	6186.7	6186.7	6186.7	6186.7	6186.7	6186.7	6186.7	6186.7	6186.7
2.5°	6087.2	6040.5	5998.6	5945.7	5905.3	5871.0	5824.4	5822.8	5815.1	5826.0	5829.1
5°	5951.9	5874.2	5756.0	5623.9	5530.6	5407.7	5288.0	5247.5	5202.5	5197.8	5211.8
7.5°	5748.3	5626.9	5424.8	5222.7	5020.5	4813.8	4617.9	4518.4	4421.9	4392.4	4406.4
10°	5521.3	5367.3	5057.9	4728.3	4443.7	4135.9	3837.3	3644.6	3468.8	3394.3	3412.9
12.5°	5344.0	5148.1	4712.7	4285.1	3859.1	3417.6	3024.1	2643.2	2355.5	2226.6	2234.3
15°	5191.6	4941.3	4389.3	3820.2	3286.9	2682.1	2136.3	1694.7	1442.9	1349.6	1346.5
17.5°	5026.8	4723.6	4051.9	3388.0	2696.1	1948.2	1430.5	1169.2	1069.7	1038.6	1038.6
20°	4851.1	4499.7	3699.0	2916.8	2074.1	1360.5	1075.9	974.9	937.5	928.2	926.7
22.5°	4687.9	4280.4	3344.4	2414.7	1500.5	1032.4	915.8	877.0	870.7	878.5	878.5
25°	4558.8	4087.7	2985.3	1886.0	1091.5	864.5	814.8	810.1	833.4	861.4	866.0
27.5°	4462.4	3915.0	2630.8	1377.6	858.3	752.6	735.4	755.7	810.1	866.0	877.0
30°	4395.5	3767.3	2206.3	990.4	715.2	659.3	667.1	702.8	785.2	870.7	894.1
32.5°	4366.0	3647.6	1778.7	760.4	611.0	579.9	600.2	646.8	732.3	817.8	845.9
35°	4394.0	3560.6	1383.8	631.3	534.9	511.6	534.9	583.1	639.0	681.0	698.2
37.5°	4495.1	3529.5	1041.8	559.8	485.1	461.8	480.5	513.1	538.0	553.5	561.3
40°	4708.0	3562.1	816.3	522.4	457.2	430.7	435.4	450.9	468.0	480.5	482.0
42.5°	5047.0	3669.4	726.1	508.4	440.0	405.8	398.0	408.9	427.6	444.7	447.7
45°	5498.0	3848.2	716.8	513.1	432.2	385.6	370.0	380.9	405.8	433.8	438.4
47.5°	6080.9	4131.2	760.4	538.0	436.9	374.7	351.4	362.2	395.0	432.2	438.4
50°	6771.3	4523.0	841.2	575.3	458.7	374.7	343.6	352.9	387.2	429.1	435.4
52.5°	7584.5	5068.7	925.2	612.6	489.8	388.7	346.7	345.1	376.2	415.1	422.9
55°	8481.6	5746.6	1006.0	645.3	506.9	407.3	354.5	335.8	360.7	391.8	398.0
57.5°	9537.4	6675.0	1147.4	676.4	516.2	421.4	363.9	326.5	340.5	362.2	366.9
60°	10969.4	8038.6	1422.7	729.3	533.3	427.6	365.4	317.2	315.7	331.2	332.8
62.5°	12836.7	9635.4	1685.4	791.5	567.5	429.1	359.2	311.0	295.4	300.1	300.1
65°	14164.6	10223.1	1609.3	844.2	598.6	427.6	352.9	306.3	279.9	272.1	272.1
67.5°	13408.9	9030.5	1366.7	858.3	601.7	410.5	338.9	295.4	265.9	247.2	247.2
69°	12298.7	7915.7	1254.8	833.4	576.8	390.3	323.5	284.6	256.6	234.8	234.8
70°	11393.8	7071.4	1186.3	803.8	547.3	373.2	309.4	273.6	247.2	228.5	227.0
72.5°	8506.6	4719.0	1013.7	693.5	449.4	315.7	270.6	244.1	222.4	209.9	209.9
75°	4488.8	2364.9	830.3	566.0	346.7	251.9	222.4	205.2	192.8	191.3	189.7
77.5°	1470.9	1069.7	597.1	426.1	255.0	195.9	177.3	166.3	164.8	171.0	171.0
80°	794.5	639.0	384.0	287.7	177.3	146.2	136.9	135.2	139.9	149.2	149.2
82.5°	385.6	315.7	228.5	177.3	121.3	107.3	107.3	108.8	115.1	125.9	125.9
85°	166.3	149.2	132.2	99.5	74.7	66.9	76.2	84.0	88.6	96.4	99.5
87.5°	79.3	70.0	60.7	38.9	32.6	34.2	40.4	49.7	59.1	65.3	66.9
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)