

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: P197099

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197099
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-SL3-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 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: 19799 lumens
Efficiency: N/A
Efficacy: 94.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G4

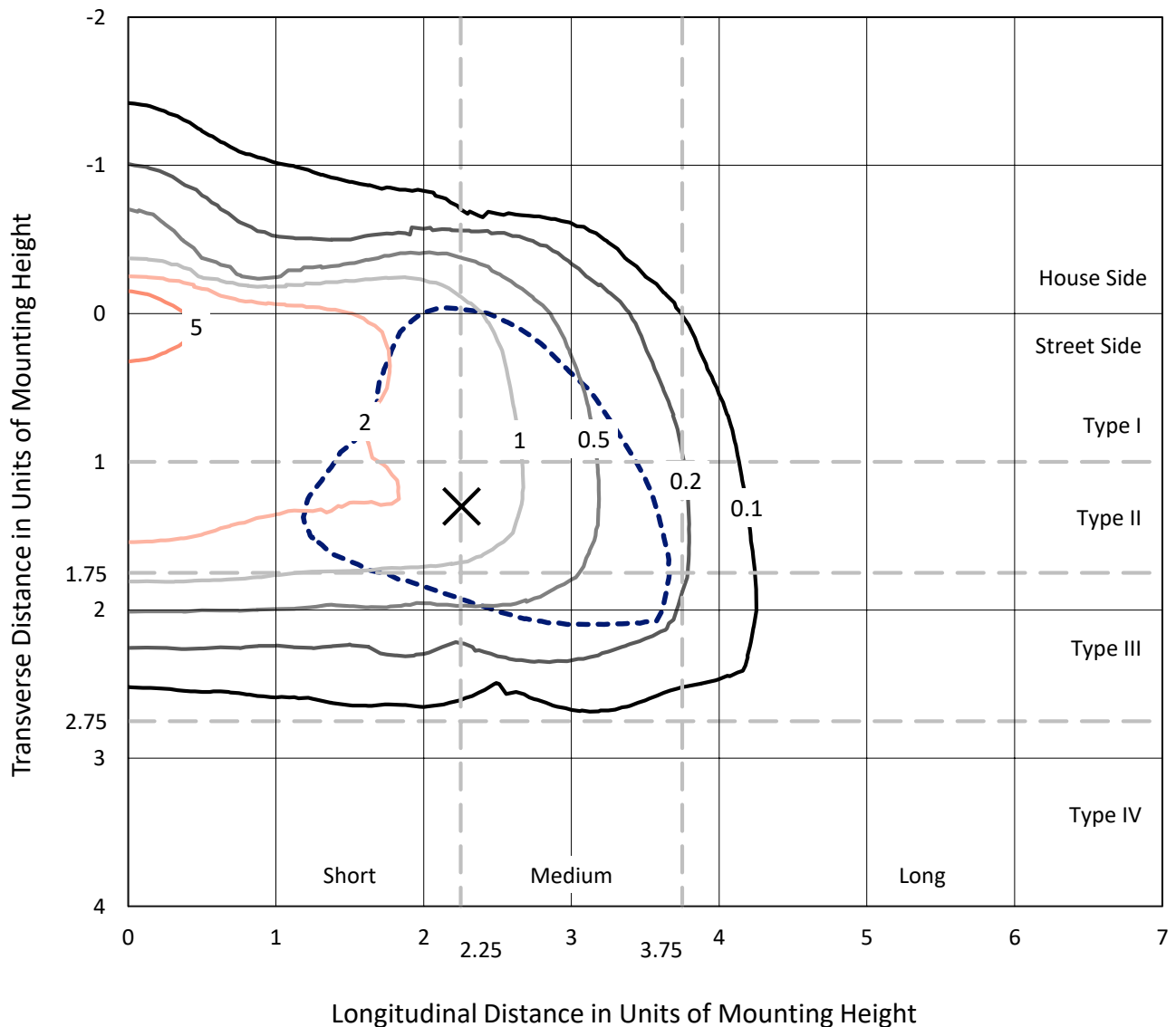
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

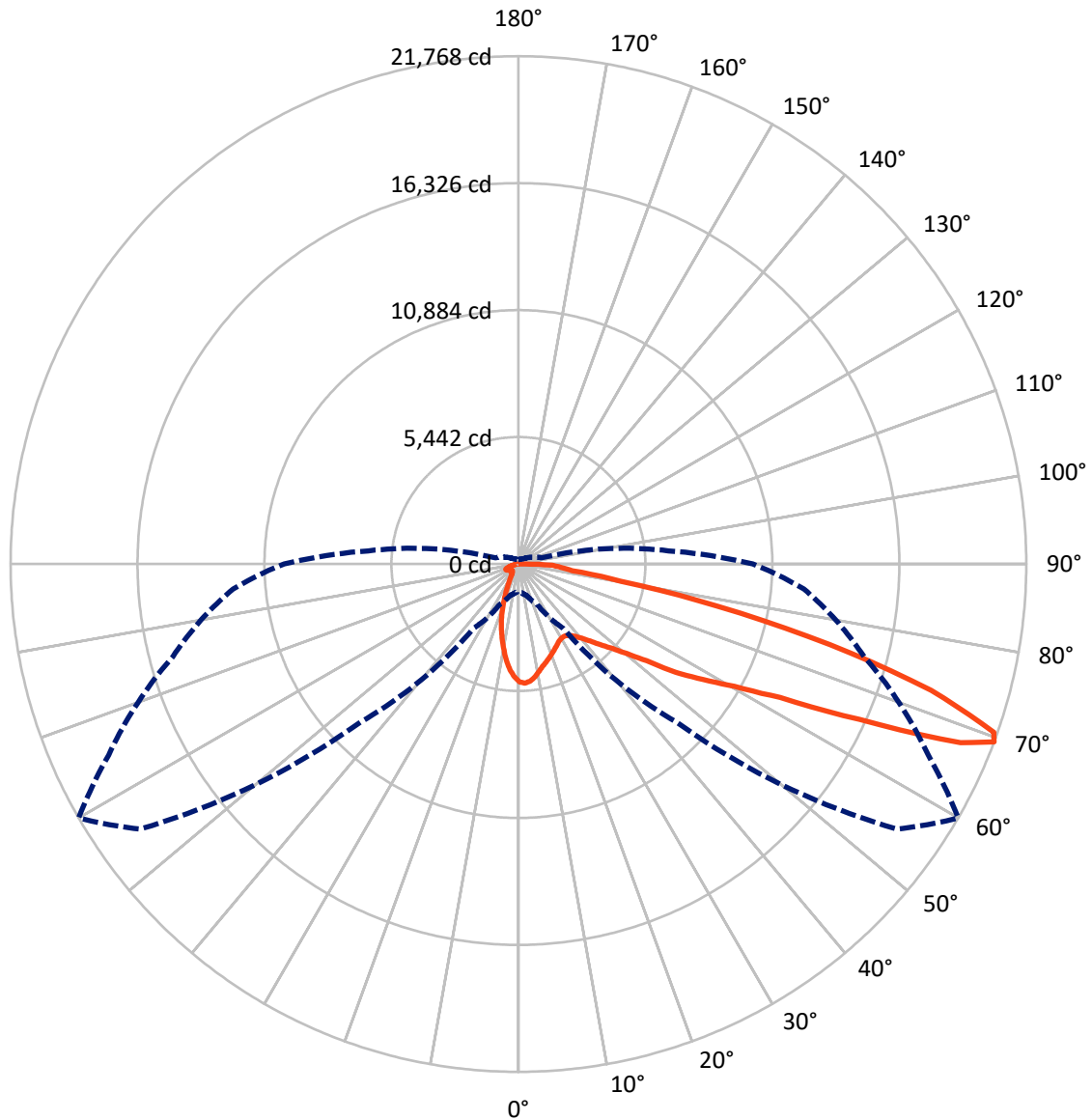
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.1 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
House Side	Lumens	2824.0	0.0	2824.0
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	16975.0	0.0	16975.0
	% Fixture	85.7	0.0	85.7
Total	Lumens	19799.0	0.0	19799.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	428.6	2.2
10°-20°	917.6	4.6
20°-30°	1170.6	5.9
30°-40°	1610.8	8.1
40°-50°	2609.2	13.2
50°-60°	4095.1	20.7
60°-70°	5459.5	27.6
70°-80°	3036.7	15.3
80°-90°	471.0	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°	19799.0	100.0
0°-180°	19799.0	100.0

Coefficient of Utilization



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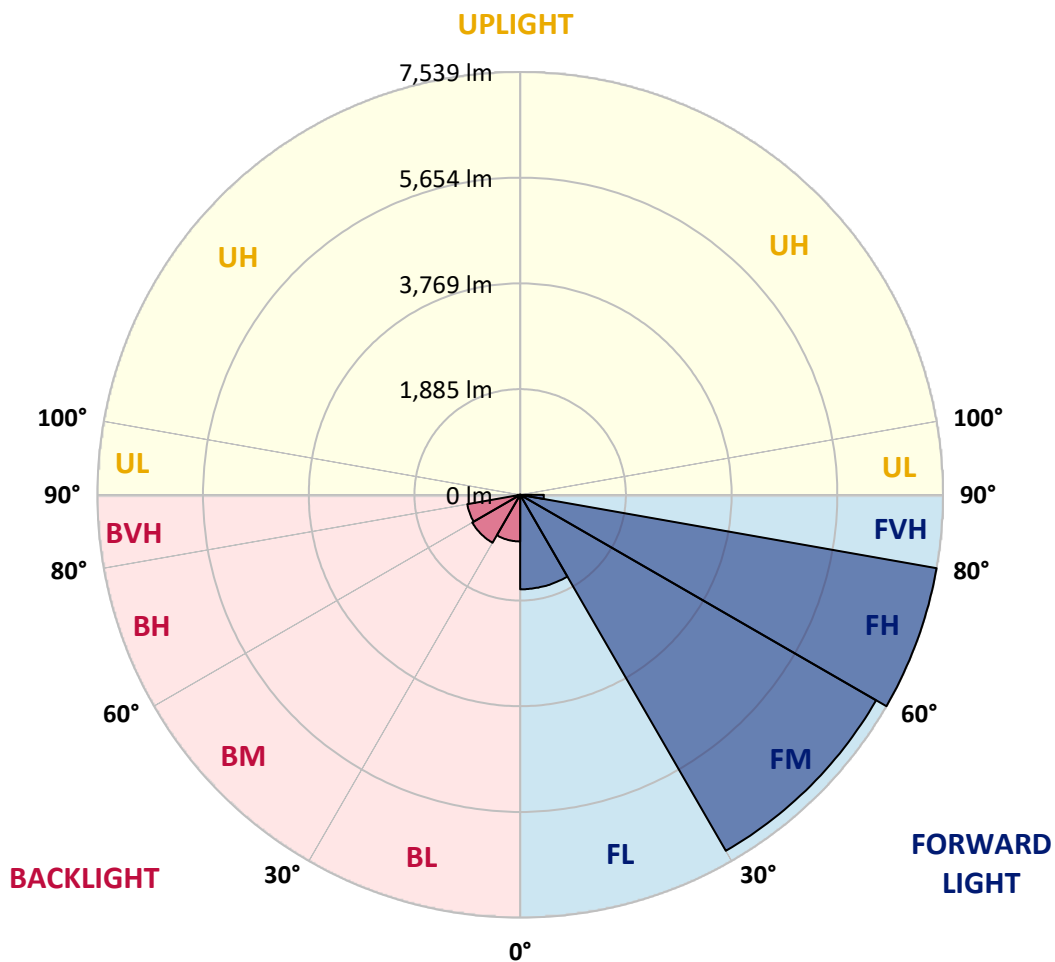
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1684.5	8.5			
FM (30°-60°)	7328.6	37.0			
FH (60°-80°)	7538.7	38.1			G4/12000
FVH (80°-90°)	423.3	2.1			G3/500
BL (0°-30°)	832.2	4.2	B2/1000		
BM (30°-60°)	986.5	5.0	B1/1000		
BH (60°-80°)	957.5	4.8	B2/1000		G2/1000
BVH (80°-90°)	47.7	0.2			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	5051.8	5051.8	5051.8	5051.8	5051.8	5051.8	5051.8	5051.8	5051.8	5051.8	5051.8
2.5°	5186.4	5200.3	5200.3	5188.9	5182.5	5145.7	5124.1	5108.9	5082.2	5032.7	4988.3
5°	5001.0	5027.7	5039.1	5044.2	5077.2	5065.7	5067.0	5056.9	5034.0	4980.7	4908.3
7.5°	4660.7	4665.8	4686.1	4720.4	4800.4	4856.3	4902.0	4910.9	4905.8	4866.4	4764.8
10°	4325.6	4334.4	4358.6	4417.0	4493.1	4573.1	4672.2	4712.8	4743.3	4730.6	4602.3
12.5°	4047.5	4048.8	4075.4	4142.7	4227.8	4328.1	4462.7	4526.2	4598.5	4627.7	4484.3
15°	3779.6	3797.4	3822.8	3904.1	4009.4	4136.4	4291.3	4378.9	4474.1	4557.9	4392.9
17.5°	3576.5	3590.5	3605.7	3673.0	3794.9	3953.6	4145.3	4239.2	4364.9	4493.1	4298.9
20°	3464.8	3469.8	3458.4	3491.4	3594.3	3765.7	3987.8	4100.8	4250.7	4430.9	4202.4
22.5°	3441.9	3441.9	3400.0	3393.7	3439.4	3584.1	3825.3	3963.7	4146.5	4387.8	4116.1
25°	3548.6	3540.9	3462.2	3389.9	3373.4	3447.0	3670.4	3840.6	4057.7	4386.5	4051.3
27.5°	3750.4	3740.3	3642.5	3520.6	3415.3	3383.5	3551.1	3725.0	3987.8	4429.7	4018.3
30°	4001.8	3998.0	3899.0	3746.6	3572.7	3408.9	3504.1	3665.4	3940.9	4509.7	4017.0
32.5°	4277.3	4259.5	4198.6	4046.2	3820.3	3549.8	3532.1	3667.9	3928.2	4626.5	4046.2
35°	4570.6	4557.9	4542.7	4389.0	4135.1	3798.7	3655.2	3755.5	3990.4	4789.0	4128.8
37.5°	4943.9	4929.9	4955.3	4787.7	4509.7	4125.0	3863.4	3930.7	4117.3	5025.1	4282.4
40°	5607.9	5567.2	5496.1	5238.4	4946.4	4524.9	4164.3	4174.5	4334.4	5341.2	4528.7
42.5°	6698.5	6567.7	6216.0	5742.4	5407.3	4989.6	4556.6	4508.4	4634.1	5759.0	4886.7
45°	7791.6	7644.3	7050.1	6292.2	5884.6	5488.5	5041.6	4926.1	5007.3	6245.2	5347.6
47.5°	8497.5	8425.1	7754.8	6841.9	6384.9	6031.9	5596.4	5406.0	5464.4	6796.2	5916.4
50°	8704.4	8642.2	8115.3	7272.3	6857.2	6688.3	6283.3	6030.6	6040.8	7439.9	6598.2
52.5°	8549.6	8524.2	8175.0	7538.9	7291.4	7380.2	7234.2	6882.6	6798.8	8145.8	7337.1
55°	8342.6	8351.5	8216.9	7806.8	7733.2	8025.2	8478.5	8195.3	7839.8	8880.9	8106.5
57.5°	7691.3	7697.6	8050.6	8317.2	8576.2	8929.2	9447.2	9327.8	8913.9	9674.4	8968.5
60°	6193.2	6242.7	7028.6	8211.8	9539.8	10710.4	10837.4	10631.7	10056.6	10588.5	10089.6
62.5°	4424.6	4469.0	5379.3	7128.9	9426.9	12726.6	13404.5	12586.9	11606.8	11955.9	11666.4
65°	2324.7	2317.0	3021.7	4926.1	7940.1	13193.8	17449.5	16058.0	14218.4	13836.2	13190.0
67.5°	1298.8	1340.7	1613.7	2484.6	5174.9	11611.9	20033.2	20443.3	17849.4	15328.0	13124.0
69°	1201.1	1215.0	1397.8	1920.9	3373.4	9580.5	19811.0	21767.5	19380.6	15334.3	12278.4
70°	1166.8	1182.0	1348.3	1769.8	2833.8	7850.0	19002.3	21612.6	19752.6	14994.1	11509.0
72.5°	1046.2	1066.5	1227.7	1590.8	2388.1	4046.2	15306.4	18498.2	17892.6	13104.9	8924.1
75°	892.5	926.8	1170.6	1579.4	2262.4	2572.2	10207.7	13781.6	13316.9	9372.3	5063.2
77.5°	369.5	373.3	511.7	1156.6	2374.2	2461.8	5486.0	8729.8	7728.1	4109.7	1524.8
80°	257.7	252.7	255.2	337.7	1915.8	2478.3	2814.7	4439.8	3450.8	1084.2	713.5
82.5°	217.1	214.6	224.7	212.0	648.8	2812.2	2353.9	2314.5	1625.1	584.0	340.3
85°	143.5	139.7	184.1	193.0	308.5	2233.2	2531.6	1819.4	1211.2	312.3	144.7
87.5°	69.8	71.1	105.4	130.8	163.8	707.2	2425.0	1438.5	935.7	135.8	58.4
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°	5051.8	5051.8	5051.8	5051.8	5051.8	5051.8	5051.8	5051.8	5051.8	5051.8	5051.8
2.5°	4970.5	4932.4	4898.2	4855.0	4822.0	4794.0	4756.0	4754.7	4748.3	4757.2	4759.8
5°	4860.1	4796.6	4700.1	4592.2	4516.0	4415.7	4317.9	4284.9	4248.1	4244.3	4255.7
7.5°	4693.7	4594.7	4429.7	4264.6	4099.6	3930.7	3770.7	3689.5	3610.8	3586.6	3598.1
10°	4508.4	4382.7	4130.0	3860.9	3628.5	3377.2	3133.4	2976.0	2832.5	2771.6	2786.8
12.5°	4363.6	4203.7	3848.2	3499.0	3151.2	2790.6	2469.4	2158.3	1923.5	1818.1	1824.4
15°	4239.2	4034.8	3584.1	3119.4	2684.0	2190.1	1744.4	1383.9	1178.2	1102.0	1099.5
17.5°	4104.6	3857.1	3308.6	2766.5	2201.5	1590.8	1168.0	954.7	873.5	848.1	848.1
20°	3961.2	3674.3	3020.4	2381.8	1693.7	1110.9	878.6	796.0	765.6	758.0	756.7
22.5°	3827.9	3495.2	2730.9	1971.7	1225.2	843.0	747.8	716.1	711.0	717.3	717.3
25°	3722.5	3337.8	2437.7	1540.0	891.3	705.9	665.3	661.5	680.5	703.4	707.2
27.5°	3643.8	3196.9	2148.2	1124.9	700.8	614.5	600.5	617.0	661.5	707.2	716.1
30°	3589.2	3076.3	1801.6	808.7	584.0	538.3	544.7	573.9	641.2	711.0	730.0
32.5°	3565.1	2978.5	1452.4	620.8	499.0	473.6	490.1	528.2	598.0	667.8	690.7
35°	3587.9	2907.4	1130.0	515.5	436.7	417.7	436.7	476.1	521.8	556.1	570.1
37.5°	3670.4	2882.0	850.6	457.1	396.1	377.1	392.3	419.0	439.3	452.0	458.3
40°	3844.4	2908.7	666.5	426.6	373.3	351.7	355.5	368.2	382.2	392.3	393.6
42.5°	4121.2	2996.3	592.9	415.2	359.3	331.4	325.0	333.9	349.1	363.1	365.6
45°	4489.3	3142.3	585.3	419.0	353.0	314.9	302.2	311.1	331.4	354.2	358.0
47.5°	4965.4	3373.4	620.8	439.3	356.8	306.0	286.9	295.8	322.5	353.0	358.0
50°	5529.2	3693.3	686.9	469.8	374.5	306.0	280.6	288.2	316.1	350.4	355.5
52.5°	6193.2	4138.9	755.4	500.2	399.9	317.4	283.1	281.9	307.2	339.0	345.3
55°	6925.7	4692.5	821.4	526.9	413.9	332.6	289.5	274.2	294.5	319.9	325.0
57.5°	7787.8	5450.4	937.0	552.3	421.5	344.1	297.1	266.6	278.0	295.8	299.6
60°	8957.1	6563.9	1161.7	595.4	435.5	349.1	298.4	259.0	257.7	270.4	271.7
62.5°	10481.9	7867.8	1376.3	646.2	463.4	350.4	293.3	253.9	241.2	245.0	245.0
65°	11566.1	8347.7	1314.0	689.4	488.8	349.1	288.2	250.1	228.5	222.2	222.2
67.5°	10949.1	7373.9	1116.0	700.8	491.3	335.2	276.8	241.2	217.1	201.9	201.9
69°	10042.6	6463.6	1024.6	680.5	471.0	318.7	264.1	232.3	209.5	191.7	191.7
70°	9303.7	5774.2	968.7	656.4	446.9	304.7	252.7	223.5	201.9	186.6	185.4
72.5°	6946.0	3853.3	827.8	566.2	366.9	257.7	220.9	199.3	181.6	171.4	171.4
75°	3665.4	1931.1	678.0	462.1	283.1	205.7	181.6	167.6	157.4	156.2	154.9
77.5°	1201.1	873.5	487.5	347.9	208.2	160.0	144.7	135.8	134.6	139.7	139.7
80°	648.8	521.8	313.6	234.9	144.7	119.3	111.7	110.5	114.3	121.9	121.9
82.5°	314.9	257.7	186.6	144.7	99.0	87.6	87.6	88.9	94.0	102.8	102.8
85°	135.8	121.9	107.9	81.3	60.9	54.6	62.2	68.6	72.4	78.7	81.3
87.5°	64.8	57.1	49.5	31.7	26.7	27.9	33.0	40.6	48.2	53.3	54.6
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)