

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: P195669

Luminaire Tested: **NAV-AF-03-D-UNV-SL3-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195669
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-03-D-UNV-SL3-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 1200mA 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: 19845 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G4

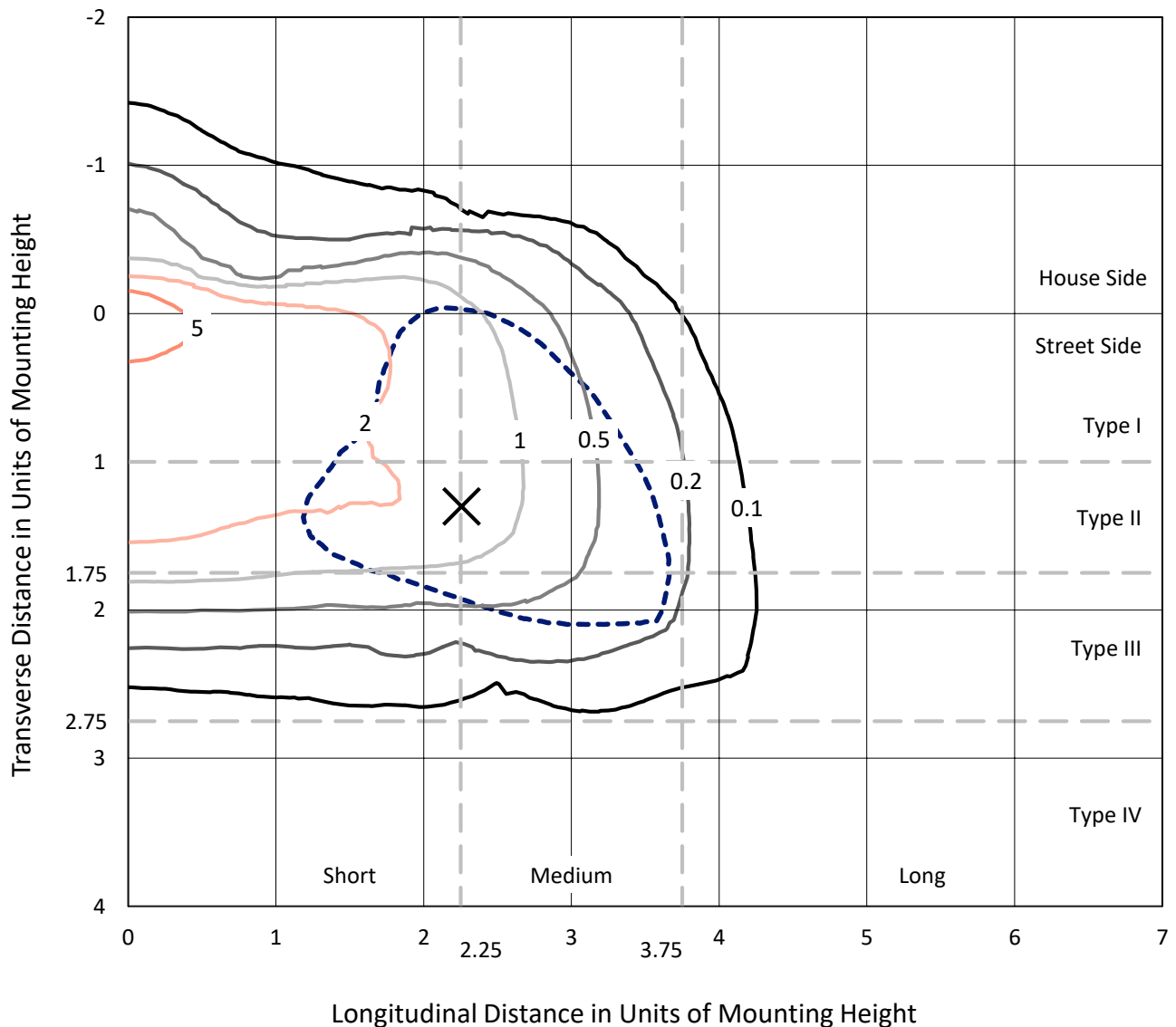
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

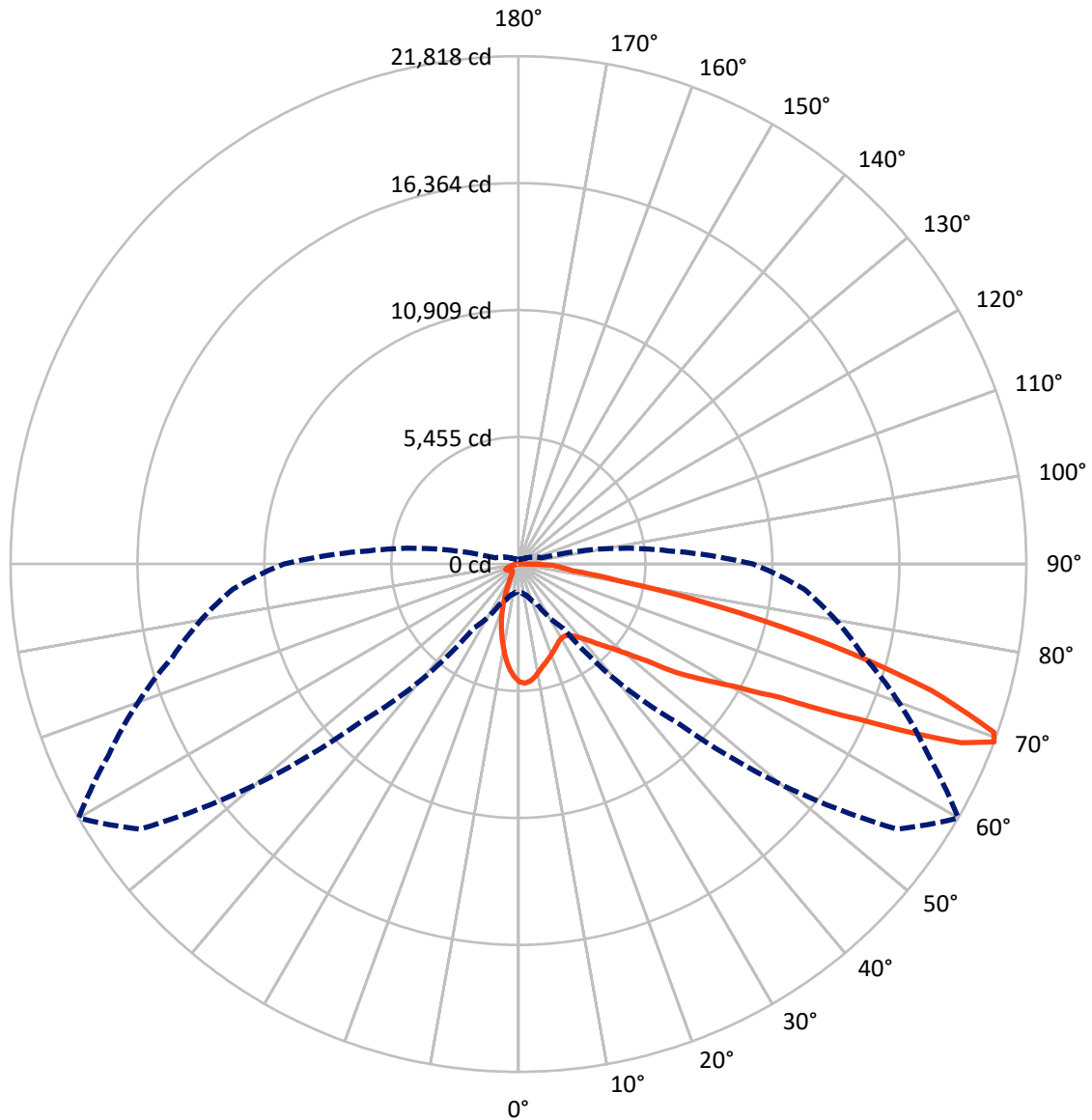
× Max cd
 - - - 1/2 Max cd



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	2830.6	0.0	2830.6
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	17014.4	0.0	17014.4
	% Fixture	85.7	0.0	85.7
Total	Lumens	19845.0	0.0	19845.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	429.6	2.2
10°-20°	919.7	4.6
20°-30°	1173.3	5.9
30°-40°	1614.6	8.1
40°-50°	2615.3	13.2
50°-60°	4104.6	20.7
60°-70°	5472.1	27.6
70°-80°	3043.8	15.3
80°-90°	472.1	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°	19845.0	100.0
0°-180°	19845.0	100.0

Coefficient of Utilization



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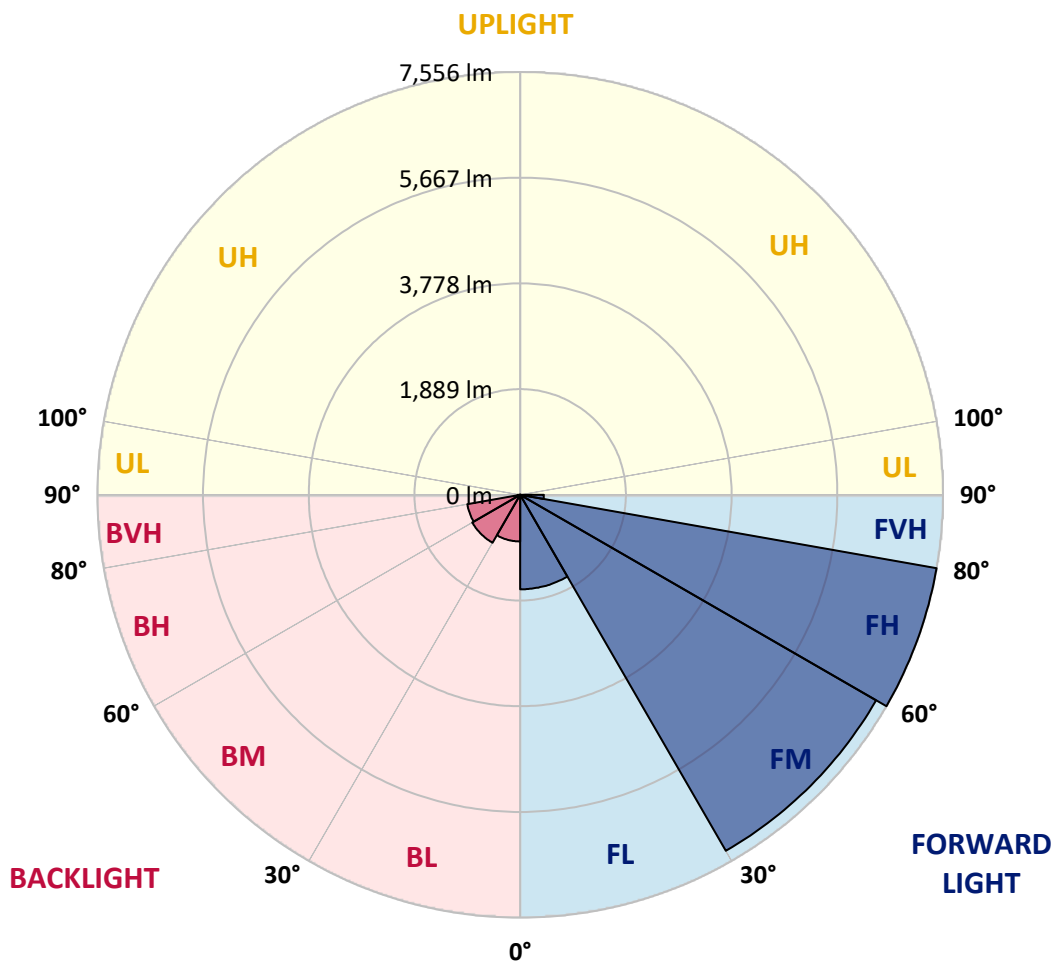
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1688.4	8.5			
FM	(30°-60°)	7345.6	37.0			
FH	(60°-80°)	7556.2	38.1			G4/12000
FVH	(80°-90°)	424.2	2.1			G3/500
BL	(0°-30°)	834.2	4.2	B2/1000		
BM	(30°-60°)	988.8	5.0	B1/1000		
BH	(60°-80°)	959.7	4.8	B2/1000		G2/1000
BVH	(80°-90°)	47.8	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	5063.5	5063.5	5063.5	5063.5	5063.5	5063.5	5063.5	5063.5	5063.5	5063.5	5063.5
2.5°	5198.4	5212.4	5212.4	5201.0	5194.6	5157.7	5136.1	5120.8	5094.1	5044.4	4999.9
5°	5012.6	5039.3	5050.8	5055.9	5089.0	5077.5	5078.8	5068.6	5045.7	4992.3	4919.7
7.5°	4671.6	4676.7	4697.0	4731.4	4811.5	4867.5	4913.4	4922.3	4917.2	4877.7	4775.9
10°	4335.6	4344.5	4368.7	4427.2	4503.6	4583.8	4683.0	4723.7	4754.3	4741.6	4613.0
12.5°	4056.9	4058.2	4084.9	4152.4	4237.6	4338.2	4473.0	4536.7	4609.2	4638.5	4494.7
15°	3788.4	3806.2	3831.7	3913.1	4018.7	4146.0	4301.3	4389.1	4484.5	4568.5	4403.1
17.5°	3584.8	3598.8	3614.1	3681.5	3803.7	3962.8	4154.9	4249.1	4375.1	4503.6	4308.9
20°	3472.8	3477.9	3466.5	3499.5	3602.6	3774.4	3997.1	4110.4	4260.5	4441.2	4212.2
22.5°	3449.9	3449.9	3407.9	3401.6	3447.4	3592.4	3834.2	3972.9	4156.2	4398.0	4125.6
25°	3556.8	3549.2	3470.3	3397.7	3381.2	3455.0	3679.0	3849.5	4067.1	4396.7	4060.7
27.5°	3759.1	3749.0	3651.0	3528.8	3423.2	3391.4	3559.3	3733.7	3997.1	4440.0	4027.7
30°	4011.1	4007.3	3908.0	3755.3	3581.0	3416.8	3512.3	3673.9	3950.0	4520.1	4026.4
32.5°	4287.3	4269.4	4208.4	4055.6	3829.1	3558.1	3540.3	3676.4	3937.3	4637.2	4055.6
35°	4581.2	4568.5	4553.2	4399.2	4144.7	3807.5	3663.7	3764.2	3999.7	4800.1	4138.4
37.5°	4955.3	4941.3	4966.8	4798.8	4520.1	4134.5	3872.4	3939.8	4126.9	5036.8	4292.3
40°	5620.9	5580.2	5508.9	5250.6	4957.9	4535.4	4174.0	4184.2	4344.5	5353.7	4539.2
42.5°	6714.0	6583.0	6230.5	5755.8	5419.8	5001.2	4567.2	4518.9	4644.8	5772.3	4898.1
45°	7809.7	7662.1	7066.5	6306.8	5898.3	5501.3	5053.3	4937.5	5019.0	6259.7	5360.0
47.5°	8517.2	8444.7	7772.8	6857.8	6399.7	6045.9	5609.4	5418.6	5477.1	6812.0	5930.1
50°	8724.7	8662.3	8134.2	7289.2	6873.1	6703.8	6297.9	6044.7	6054.8	7457.2	6613.5
52.5°	8569.4	8544.0	8194.0	7556.5	7308.3	7397.4	7251.0	6898.5	6814.6	8164.7	7354.1
55°	8362.0	8370.9	8236.0	7825.0	7751.2	8043.8	8498.2	8214.4	7858.1	8901.6	8125.3
57.5°	7709.2	7715.5	8069.3	8336.5	8596.1	8949.9	9469.1	9349.5	8934.6	9696.9	8989.4
60°	6207.5	6257.2	7044.9	8230.9	9562.0	10735.3	10862.6	10656.4	10079.9	10613.1	10113.0
62.5°	4434.9	4479.4	5391.8	7145.4	9448.8	12756.1	13435.7	12616.2	11633.7	11983.7	11693.6
65°	2330.1	2322.4	3028.7	4937.5	7958.6	13224.4	17490.1	16095.3	14251.4	13868.4	13220.6
67.5°	1301.8	1343.8	1617.4	2490.4	5187.0	11638.8	20079.7	20490.8	17890.9	15363.6	13154.4
69°	1203.8	1217.8	1401.1	1925.4	3381.2	9602.7	19857.0	21818.0	19425.6	15370.0	12306.9
70°	1169.5	1184.8	1351.5	1773.9	2840.4	7868.2	19046.4	21662.8	19798.5	15028.9	11535.8
72.5°	1048.6	1069.0	1230.6	1594.5	2393.7	4055.6	15342.0	18541.2	17934.2	13135.4	8944.8
75°	894.6	929.0	1173.3	1583.1	2267.7	2578.2	10231.4	13813.6	13347.9	9394.0	5075.0
77.5°	370.3	374.1	512.8	1159.3	2379.7	2467.5	5498.7	8750.1	7746.1	4119.3	1528.3
80°	258.3	253.2	255.8	338.5	1920.3	2484.0	2821.3	4450.1	3458.8	1086.8	715.2
82.5°	217.6	215.1	225.2	212.5	650.3	2818.7	2359.3	2319.9	1628.9	585.4	341.0
85°	143.8	140.0	184.5	193.4	309.2	2238.4	2537.5	1823.6	1214.0	313.0	145.1
87.5°	70.0	71.3	105.6	131.1	164.2	708.8	2430.6	1441.8	937.9	136.2	58.5
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°	5063.5	5063.5	5063.5	5063.5	5063.5	5063.5	5063.5	5063.5	5063.5	5063.5	5063.5
2.5°	4982.1	4943.9	4909.5	4866.3	4833.2	4805.2	4767.0	4765.7	4759.4	4768.3	4770.8
5°	4871.4	4807.7	4711.0	4602.8	4526.5	4426.0	4328.0	4294.9	4258.0	4254.2	4265.6
7.5°	4704.7	4605.4	4440.0	4274.5	4109.1	3939.8	3779.5	3698.1	3619.2	3595.0	3606.4
10°	4518.9	4392.9	4139.6	3869.9	3637.0	3385.0	3140.7	2982.9	2839.1	2778.0	2793.3
12.5°	4373.8	4213.4	3857.1	3507.2	3158.5	2797.1	2475.1	2163.4	1927.9	1822.3	1828.7
15°	4249.1	4044.2	3592.4	3126.7	2690.2	2195.2	1748.5	1387.1	1180.9	1104.6	1102.0
17.5°	4114.2	3866.0	3316.3	2772.9	2206.6	1594.5	1170.8	957.0	875.5	850.1	850.1
20°	3970.4	3682.8	3027.4	2387.3	1697.6	1113.5	880.6	797.9	767.4	759.7	758.4
22.5°	3836.8	3503.4	2737.3	1976.3	1228.0	845.0	749.5	717.7	712.6	719.0	719.0
25°	3731.1	3345.6	2443.3	1543.6	893.3	707.5	666.8	663.0	682.1	705.0	708.8
27.5°	3652.2	3204.3	2153.2	1127.5	702.5	615.9	601.9	618.5	663.0	708.8	717.7
30°	3597.5	3083.4	1805.8	810.6	585.4	539.6	545.9	575.2	642.6	712.6	731.7
32.5°	3573.3	2985.4	1455.8	622.3	500.1	474.7	491.2	529.4	599.4	669.4	692.3
35°	3596.3	2914.2	1132.6	516.7	437.8	418.7	437.8	477.2	523.0	557.4	571.4
37.5°	3679.0	2888.7	852.6	458.1	397.0	378.0	393.2	419.9	440.3	453.0	459.4
40°	3853.3	2915.4	668.1	427.6	374.1	352.5	356.3	369.0	383.0	393.2	394.5
42.5°	4130.7	3003.2	594.3	416.1	360.1	332.1	325.8	334.7	350.0	364.0	366.5
45°	4499.8	3149.6	586.6	419.9	353.8	315.6	302.9	311.8	332.1	355.0	358.9
47.5°	4977.0	3381.2	622.3	440.3	357.6	306.7	287.6	296.5	323.2	353.8	358.9
50°	5542.0	3701.9	688.5	470.8	375.4	306.7	281.2	288.9	316.9	351.2	356.3
52.5°	6207.5	4148.5	757.2	501.4	400.9	318.1	283.8	282.5	308.0	339.8	346.1
55°	6941.8	4703.4	823.3	528.1	414.9	333.4	290.1	274.9	295.2	320.7	325.8
57.5°	7805.9	5463.1	939.1	553.6	422.5	344.9	297.8	267.2	278.7	296.5	300.3
60°	8977.9	6579.1	1164.4	596.8	436.5	350.0	299.1	259.6	258.3	271.1	272.3
62.5°	10506.3	7886.1	1379.5	647.7	464.5	351.2	294.0	254.5	241.8	245.6	245.6
65°	11593.0	8367.1	1317.1	691.0	489.9	350.0	288.9	250.7	229.1	222.7	222.7
67.5°	10974.6	7391.0	1118.6	702.5	492.5	336.0	277.4	241.8	217.6	202.3	202.3
69°	10065.9	6478.6	1027.0	682.1	472.1	319.4	264.7	232.9	210.0	192.2	192.2
70°	9325.3	5787.6	971.0	657.9	447.9	305.4	253.2	224.0	202.3	187.1	185.8
72.5°	6962.2	3862.2	829.7	567.6	367.8	258.3	221.4	199.8	182.0	171.8	171.8
75°	3673.9	1935.6	679.5	463.2	283.8	206.2	182.0	168.0	157.8	156.5	155.3
77.5°	1203.8	875.5	488.7	348.7	208.7	160.3	145.1	136.2	134.9	140.0	140.0
80°	650.3	523.0	314.3	235.4	145.1	119.6	112.0	110.7	114.5	122.2	122.2
82.5°	315.6	258.3	187.1	145.1	99.3	87.8	87.8	89.1	94.2	103.1	103.1
85°	136.2	122.2	108.2	81.4	61.1	54.7	62.4	68.7	72.5	78.9	81.4
87.5°	64.9	57.3	49.6	31.8	26.7	28.0	33.1	40.7	48.4	53.4	54.7
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)