

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: P195658

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195658
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-SL3-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 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: 19685 lumens
Efficiency: N/A
Efficacy: 115.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G3

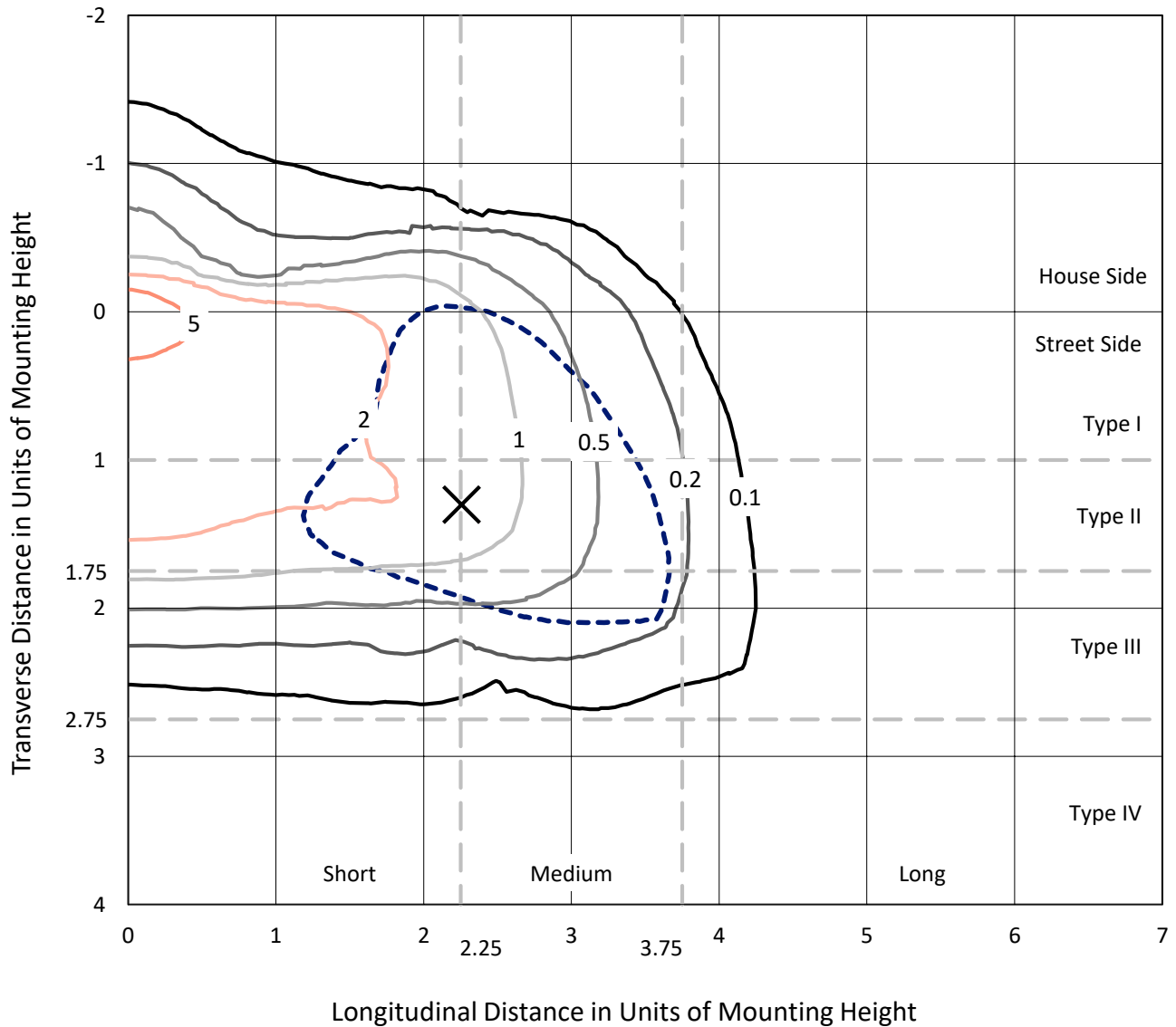
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

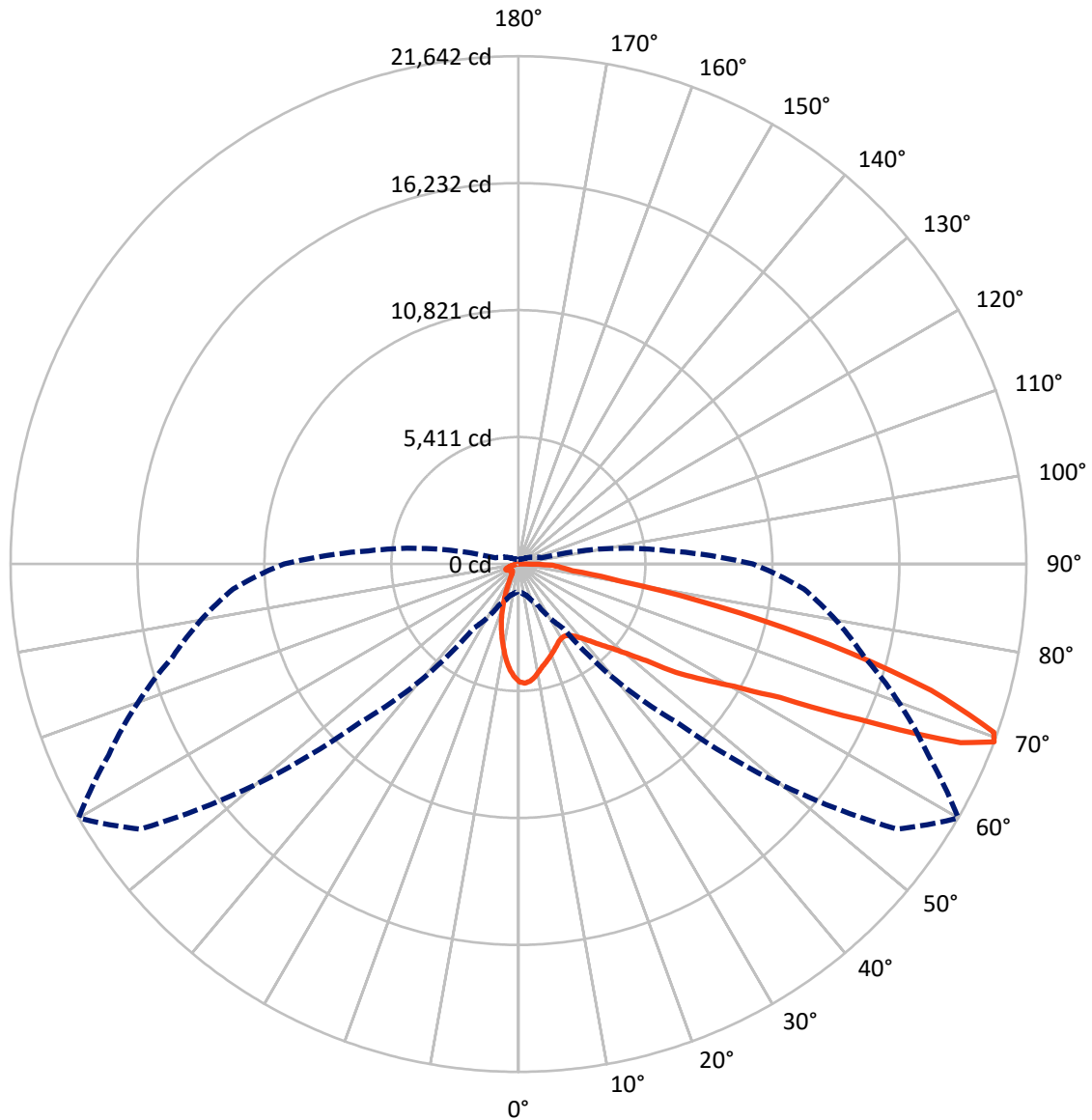
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8 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	2807.7	0.0	2807.7
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	16877.3	0.0	16877.3
	% Fixture	85.7	0.0	85.7
Total	Lumens	19685.0	0.0	19685.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	426.1	2.2
10°-20°	912.3	4.6
20°-30°	1163.8	5.9
30°-40°	1601.5	8.1
40°-50°	2594.2	13.2
50°-60°	4071.5	20.7
60°-70°	5428.0	27.6
70°-80°	3019.2	15.3
80°-90°	468.3	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°	19685.0	100.0
0°-180°	19685.0	100.0

Coefficient of Utilization



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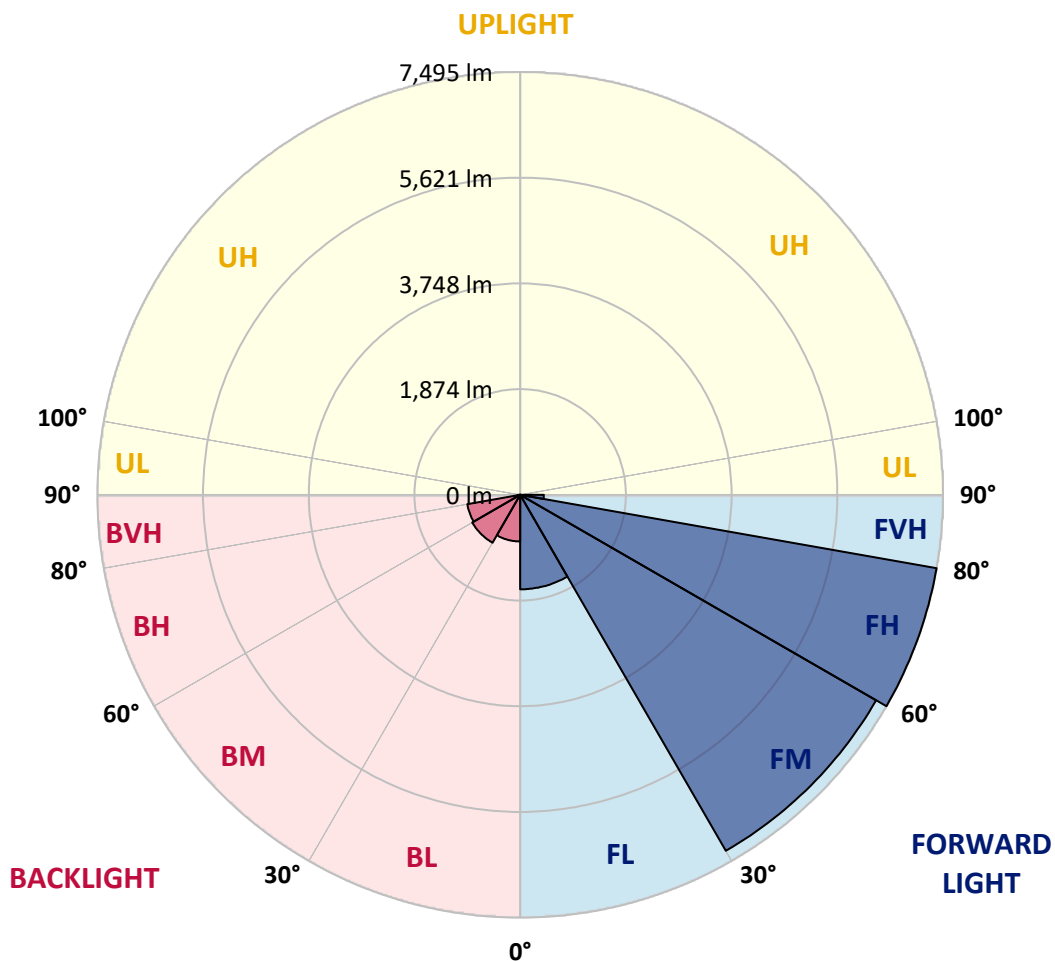
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1674.8	8.5			
FM	(30°-60°)	7286.4	37.0			
FH	(60°-80°)	7495.3	38.1			G3/7500
FVH	(80°-90°)	420.8	2.1			G3/500
BL	(0°-30°)	827.4	4.2	B2/1000		
BM	(30°-60°)	980.9	5.0	B1/1000		
BH	(60°-80°)	952.0	4.8	B2/1000		G2/1000
BVH	(80°-90°)	47.5	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	5022.7	5022.7	5022.7	5022.7	5022.7	5022.7	5022.7	5022.7	5022.7	5022.7	5022.7
2.5°	5156.5	5170.4	5170.4	5159.0	5152.7	5116.1	5094.6	5079.5	5053.0	5003.8	4959.6
5°	4972.2	4998.7	5010.1	5015.1	5047.9	5036.6	5037.8	5027.7	5005.0	4952.0	4880.1
7.5°	4633.9	4639.0	4659.1	4693.2	4772.8	4828.3	4873.7	4882.6	4877.5	4838.4	4737.4
10°	4300.7	4309.5	4333.5	4391.5	4467.3	4546.8	4645.3	4685.7	4716.0	4703.3	4575.8
12.5°	4024.2	4025.5	4052.0	4118.9	4203.5	4303.2	4437.0	4500.1	4572.0	4601.1	4458.4
15°	3757.9	3775.5	3800.8	3881.6	3986.3	4112.6	4266.6	4353.7	4448.3	4531.7	4367.6
17.5°	3555.9	3569.8	3584.9	3651.8	3773.0	3930.8	4121.4	4214.8	4339.8	4467.3	4274.1
20°	3444.8	3449.9	3438.5	3471.3	3573.6	3744.0	3964.9	4077.2	4226.2	4405.4	4178.2
22.5°	3422.1	3422.1	3380.4	3374.1	3419.6	3563.5	3803.3	3940.9	4122.7	4362.5	4092.4
25°	3528.1	3520.6	3442.3	3370.3	3353.9	3427.1	3649.3	3818.5	4034.3	4361.2	4028.0
27.5°	3728.8	3718.7	3621.5	3500.4	3395.6	3364.0	3530.7	3703.6	3964.9	4404.2	3995.2
30°	3978.8	3975.0	3876.5	3725.0	3552.1	3389.3	3483.9	3644.3	3918.2	4483.7	3993.9
32.5°	4252.7	4235.0	4174.4	4022.9	3798.3	3529.4	3511.7	3646.8	3905.6	4599.8	4022.9
35°	4544.3	4531.7	4516.5	4363.8	4111.3	3776.8	3634.2	3733.9	3967.4	4761.4	4105.0
37.5°	4915.4	4901.5	4926.8	4760.1	4483.7	4101.2	3841.2	3908.1	4093.6	4996.2	4257.7
40°	5575.6	5535.2	5464.5	5208.2	4917.9	4498.8	4140.3	4150.4	4309.5	5310.5	4502.6
42.5°	6659.9	6529.9	6180.2	5709.4	5376.1	4960.8	4530.4	4482.4	4607.4	5725.8	4858.6
45°	7746.7	7600.3	7009.5	6256.0	5850.8	5456.9	5012.6	4897.7	4978.5	6209.3	5316.8
47.5°	8448.6	8376.6	7710.1	6802.5	6348.1	5997.2	5564.2	5374.9	5432.9	6757.1	5882.3
50°	8654.3	8592.5	8068.6	7230.5	6817.7	6649.8	6247.1	5995.9	6006.0	7397.1	6560.2
52.5°	8500.3	8475.1	8127.9	7495.5	7249.4	7337.7	7192.6	6842.9	6759.6	8098.9	7294.8
55°	8294.6	8303.4	8169.6	7761.9	7688.7	7979.0	8429.6	8148.1	7794.7	8829.8	8059.8
57.5°	7647.0	7653.3	8004.2	8269.3	8526.8	8877.8	9392.8	9274.1	8862.6	9618.7	8916.9
60°	6157.5	6206.7	6988.1	8164.6	9484.9	10648.8	10775.0	10570.5	9998.7	10527.6	10031.5
62.5°	4399.1	4443.3	5348.4	7087.8	9372.6	12653.3	13327.4	12514.4	11539.9	11887.1	11599.3
65°	2311.3	2303.7	3004.3	4897.7	7894.4	13117.8	17349.0	15965.6	14136.5	13756.5	13114.0
67.5°	1291.3	1333.0	1604.4	2470.3	5145.1	11545.0	19917.8	20325.5	17746.7	15239.7	13048.4
69°	1194.1	1208.0	1389.8	1909.9	3353.9	9525.3	19696.9	21642.1	19269.0	15246.1	12207.7
70°	1160.1	1175.2	1340.6	1759.6	2817.5	7804.8	18892.8	21488.1	19638.9	14907.8	11442.7
72.5°	1040.1	1060.3	1220.6	1581.7	2374.4	4022.9	15218.3	18391.7	17789.6	13029.5	8872.7
75°	887.4	921.5	1163.8	1570.3	2249.4	2557.4	10148.9	13702.3	13240.3	9318.3	5034.1
77.5°	367.3	371.1	508.7	1150.0	2360.5	2447.6	5454.4	8679.6	7683.6	4086.1	1516.0
80°	256.2	251.2	253.7	335.8	1904.8	2464.0	2798.5	4414.3	3430.9	1078.0	709.4
82.5°	215.9	213.3	223.4	210.8	645.0	2796.0	2340.3	2301.2	1615.7	580.7	338.3
85°	142.6	138.9	183.0	191.9	306.7	2220.4	2517.0	1808.9	1204.2	310.5	143.9
87.5°	69.4	70.7	104.8	130.0	162.8	703.1	2411.0	1430.2	930.3	135.1	58.1
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°	5022.7	5022.7	5022.7	5022.7	5022.7	5022.7	5022.7	5022.7	5022.7	5022.7	5022.7
2.5°	4941.9	4904.0	4870.0	4827.0	4794.2	4766.4	4728.6	4727.3	4721.0	4729.8	4732.4
5°	4832.1	4769.0	4673.0	4565.7	4490.0	4390.3	4293.1	4260.3	4223.7	4219.9	4231.2
7.5°	4666.7	4568.3	4404.2	4240.1	4076.0	3908.1	3749.0	3668.2	3590.0	3566.0	3577.4
10°	4482.4	4357.5	4106.3	3838.7	3607.7	3357.7	3115.4	2958.8	2816.2	2755.6	2770.7
12.5°	4338.5	4179.5	3826.0	3478.9	3133.0	2774.5	2455.2	2145.9	1912.4	1807.6	1813.9
15°	4214.8	4011.6	3563.5	3101.5	2668.5	2177.5	1734.4	1375.9	1171.4	1095.7	1093.2
17.5°	4081.0	3834.9	3289.6	2750.6	2188.8	1581.7	1161.3	949.2	868.5	843.2	843.2
20°	3938.4	3653.1	3003.0	2368.1	1683.9	1104.5	873.5	791.5	761.2	753.6	752.3
22.5°	3805.8	3475.1	2715.2	1960.4	1218.1	838.2	743.5	711.9	706.9	713.2	713.2
25°	3701.1	3318.6	2423.6	1531.2	886.1	701.8	661.4	657.7	676.6	699.3	703.1
27.5°	3622.8	3178.5	2135.8	1118.4	696.8	611.0	597.1	613.5	657.7	703.1	711.9
30°	3568.5	3058.6	1791.2	804.1	580.7	535.2	541.5	570.6	637.5	706.9	725.8
32.5°	3544.5	2961.4	1444.1	617.3	496.1	470.8	487.2	525.1	594.5	664.0	686.7
35°	3567.3	2890.7	1123.4	512.5	434.2	415.3	434.2	473.4	518.8	552.9	566.8
37.5°	3649.3	2865.4	845.7	454.4	393.8	374.9	390.1	416.6	436.8	449.4	455.7
40°	3822.2	2891.9	662.7	424.1	371.1	349.7	353.4	366.1	380.0	390.1	391.3
42.5°	4097.4	2979.0	589.5	412.8	357.2	329.5	323.1	332.0	347.1	361.0	363.5
45°	4463.5	3124.2	581.9	416.6	350.9	313.1	300.4	309.3	329.5	352.2	356.0
47.5°	4936.9	3353.9	617.3	436.8	354.7	304.2	285.3	294.1	320.6	350.9	356.0
50°	5497.3	3672.0	682.9	467.1	372.4	304.2	279.0	286.5	314.3	348.4	353.4
52.5°	6157.5	4115.1	751.1	497.3	397.6	315.6	281.5	280.2	305.5	337.0	343.3
55°	6885.8	4665.5	816.7	523.9	411.5	330.7	287.8	272.7	292.9	318.1	323.1
57.5°	7742.9	5419.1	931.6	549.1	419.1	342.1	295.4	265.1	276.4	294.1	297.9
60°	8905.5	6526.1	1155.0	592.0	433.0	347.1	296.6	257.5	256.2	268.9	270.1
62.5°	10421.5	7822.5	1368.3	642.5	460.7	348.4	291.6	252.5	239.8	243.6	243.6
65°	11499.5	8299.6	1306.5	685.4	486.0	347.1	286.5	248.7	227.2	220.9	220.9
67.5°	10886.1	7331.4	1109.6	696.8	488.5	333.2	275.2	239.8	215.9	200.7	200.7
69°	9984.8	6426.4	1018.7	676.6	468.3	316.8	262.6	231.0	208.3	190.6	190.6
70°	9250.1	5740.9	963.1	652.6	444.3	303.0	251.2	222.2	200.7	185.6	184.3
72.5°	6906.0	3831.1	823.0	563.0	364.8	256.2	219.6	198.2	180.5	170.4	170.4
75°	3644.3	1920.0	674.1	459.5	281.5	204.5	180.5	166.6	156.5	155.3	154.0
77.5°	1194.1	868.5	484.7	345.9	207.0	159.0	143.9	135.1	133.8	138.9	138.9
80°	645.0	518.8	311.8	233.5	143.9	118.7	111.1	109.8	113.6	121.2	121.2
82.5°	313.1	256.2	185.6	143.9	98.5	87.1	87.1	88.4	93.4	102.2	102.2
85°	135.1	121.2	107.3	80.8	60.6	54.3	61.9	68.2	72.0	78.3	80.8
87.5°	64.4	56.8	49.2	31.6	26.5	27.8	32.8	40.4	48.0	53.0	54.3
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)