

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: P270413

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270413
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
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-AFL-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16124.7 lumens
Efficiency: N/A
Efficacy: 97.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

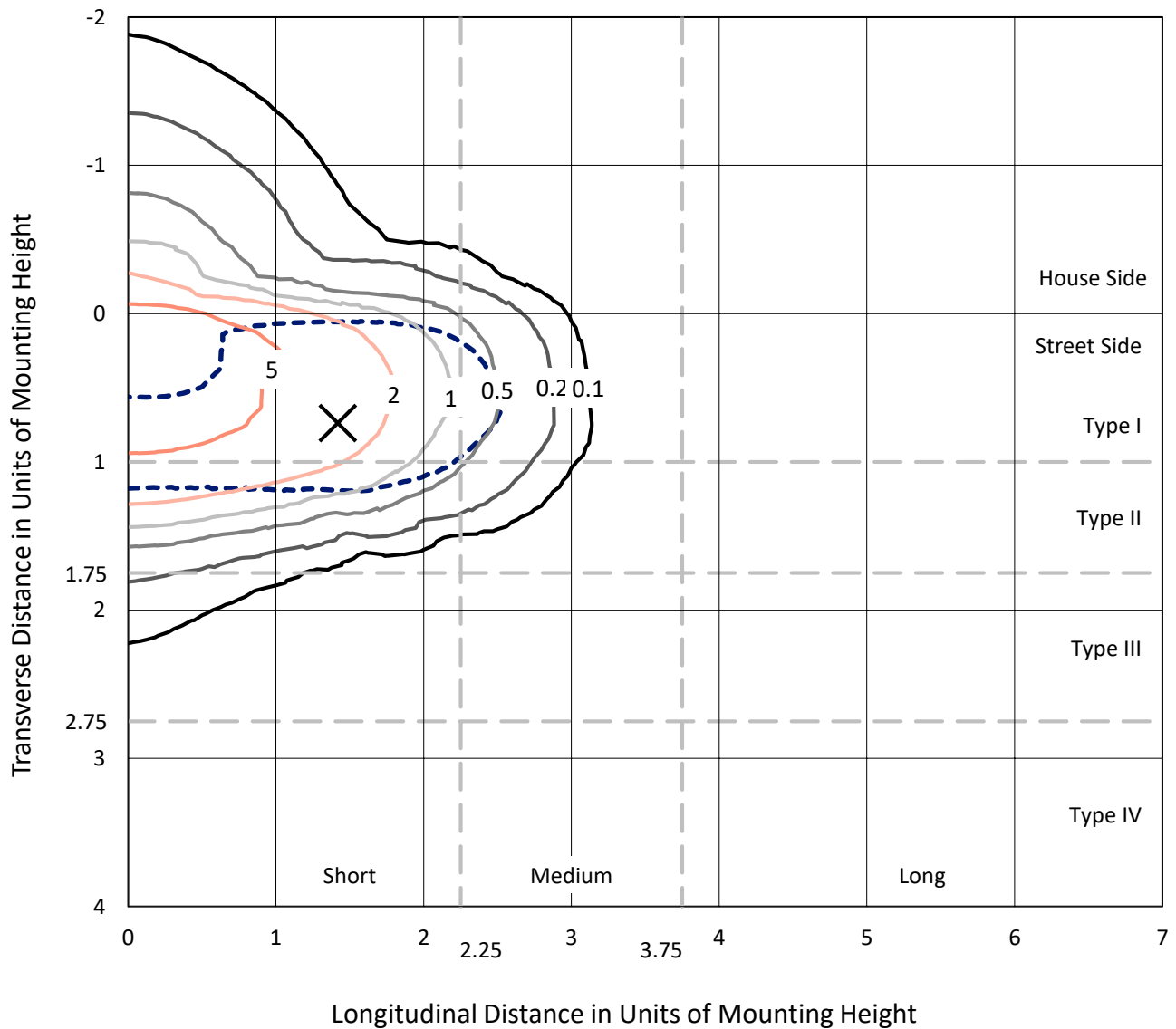
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

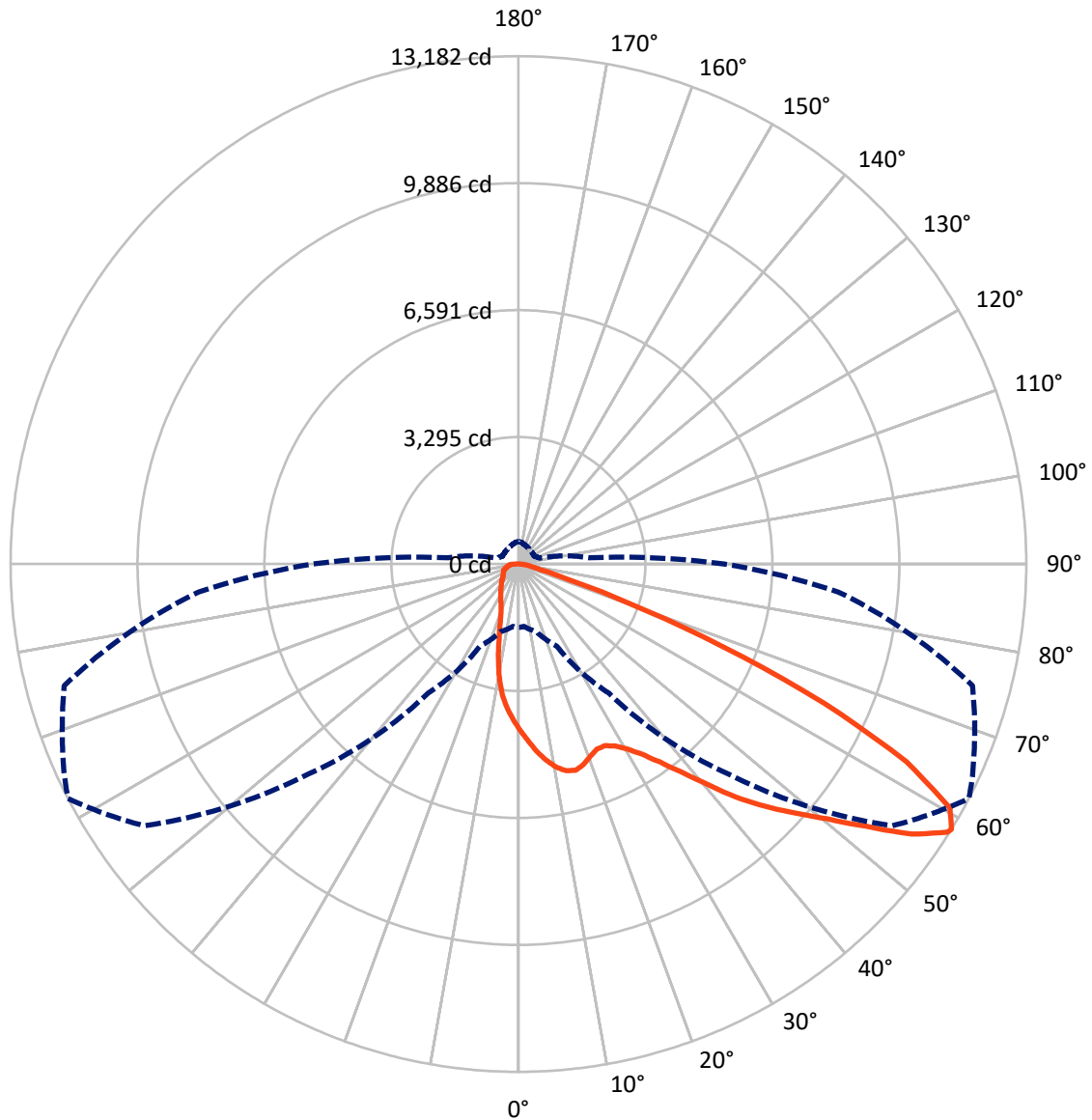
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.1 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2475.8	0.0	2475.8
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	13649.0	0.0	13649.0
	% Fixture	84.6	0.0	84.6
Total	Lumens	16124.7	0.0	16124.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	384.8	2.4
10°-20°	971.2	6.0
20°-30°	1573.9	9.8
30°-40°	2512.9	15.6
40°-50°	3655.0	22.7
50°-60°	3824.7	23.7
60°-70°	2331.7	14.5
70°-80°	652.0	4.0
80°-90°	218.6	1.4
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°	16124.7	100.0
0°-180°	16124.7	100.0

Coefficient of Utilization



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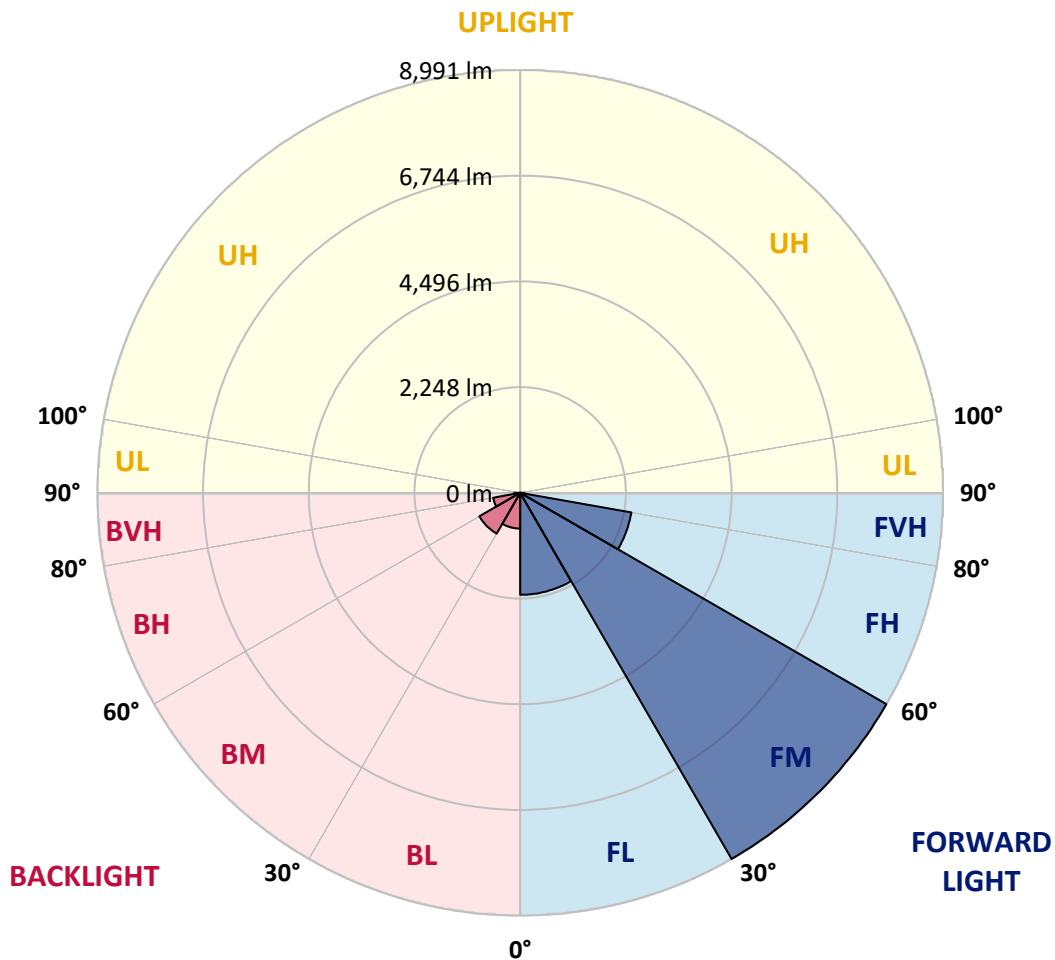
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2168.8	13.5			
FM	(30°-60°)	8991.4	55.8			
FH	(60°-80°)	2400.9	14.9			G2/5000
FVH	(80°-90°)	87.9	0.5			G1/100
BL	(0°-30°)	761.1	4.7	B2/1000		
BM	(30°-60°)	1001.2	6.2	B2/2500		
BH	(60°-80°)	582.8	3.6	B2/1000		G2/1000
BVH	(80°-90°)	130.6	0.8			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	4305.1	4305.1	4305.1	4305.1	4305.1	4305.1	4305.1	4305.1	4305.1	4305.1	4305.1
2.5°	4886.7	4883.6	4842.4	4815.2	4782.8	4708.3	4633.7	4578.3	4550.1	4442.3	4337.5
5°	5290.7	5278.7	5255.5	5226.2	5183.9	5090.2	4972.4	4870.6	4830.2	4638.8	4446.3
7.5°	5077.2	5096.4	5167.9	5248.4	5333.1	5339.2	5255.5	5134.6	5090.2	4834.3	4552.2
10°	4485.5	4477.5	4567.3	4724.5	5003.6	5279.7	5417.8	5358.3	5311.9	5019.6	4657.9
12.5°	4306.3	4304.1	4319.3	4359.7	4535.0	4913.9	5376.4	5505.4	5489.4	5216.3	4770.8
15°	4360.6	4362.7	4361.6	4366.8	4415.1	4595.4	5145.8	5554.8	5605.2	5410.8	4885.7
17.5°	4535.0	4527.9	4505.8	4481.6	4488.7	4553.1	4896.8	5470.1	5621.4	5584.0	4982.4
20°	4804.0	4804.0	4744.6	4677.0	4632.6	4646.8	4792.9	5325.1	5546.8	5731.1	5055.0
22.5°	5141.7	5146.7	5059.1	4936.0	4835.2	4796.9	4852.5	5217.3	5456.0	5867.3	5119.5
25°	5560.9	5559.9	5432.0	5255.5	5096.4	5004.5	5003.6	5222.2	5427.9	6026.5	5187.1
27.5°	6079.9	6032.5	5883.4	5632.5	5407.6	5267.7	5204.2	5349.2	5487.3	6222.0	5277.7
30°	6665.5	6617.1	6421.5	6099.0	5794.6	5590.2	5485.3	5569.0	5668.8	6470.9	5414.8
32.5°	7244.9	7256.0	7026.3	6662.4	6271.3	5983.2	5827.9	5879.3	5948.8	6775.2	5600.3
35°	8093.4	8092.4	7792.1	7337.5	6873.0	6473.9	6277.4	6304.7	6368.2	7204.5	5860.3
37.5°	8726.3	8716.3	8522.7	8120.7	7597.5	7118.9	6834.8	6838.7	6893.1	7743.7	6202.8
40°	8790.9	8788.7	8787.8	8730.4	8372.6	7921.1	7565.3	7491.8	7514.0	8316.1	6566.6
42.5°	8298.1	8371.6	8583.1	8907.8	9007.5	8770.6	8434.0	8269.7	8221.4	8973.2	6951.7
45°	7595.6	7632.9	8003.7	8733.3	9326.9	9568.7	9315.9	8969.1	8886.6	9612.1	7265.0
47.5°	7269.1	7252.9	7467.6	8262.7	9295.8	10203.7	10221.9	9653.5	9513.4	10163.3	7532.1
50°	6568.6	6547.4	6818.6	7570.3	8955.1	10519.2	11152.0	10399.1	10140.2	10687.5	7773.9
52.5°	5172.9	5152.8	5516.5	6485.0	8193.3	10401.3	11936.0	11314.2	10872.8	11192.3	7999.6
55°	3365.9	3367.9	3714.6	4713.3	6630.1	9713.9	12303.8	12371.4	11876.6	11697.2	8182.1
57.5°	1853.4	1836.1	2083.1	2696.8	4561.1	8152.8	11997.6	13133.3	12875.2	12130.5	8314.2
58°	1647.8	1627.5	1818.0	2347.1	4089.5	7712.5	11843.3	13181.6	13003.2	12202.0	8333.2
60°	1174.1	1139.8	1110.6	1323.3	2356.2	5560.9	10815.5	12868.2	13040.5	12345.1	8315.2
62.5°	989.7	950.3	845.6	837.5	1109.5	2720.0	8552.9	11301.1	11783.8	12015.6	8022.9
65°	919.1	879.8	741.7	692.4	752.8	1174.1	5288.9	8726.3	9371.3	10869.9	7287.2
67.5°	868.8	822.4	674.2	609.7	621.7	702.5	2244.3	5707.0	6454.9	8476.3	5846.1
70°	823.3	772.0	620.8	546.2	536.2	534.1	876.7	2979.9	3700.6	5546.8	3916.3
72.5°	772.0	721.6	573.4	493.8	471.6	433.3	527.0	1231.4	1688.1	2719.0	1794.9
75°	697.4	656.0	520.9	450.5	412.2	351.6	389.0	590.5	727.5	1041.0	833.4
77.5°	613.7	580.5	467.6	414.2	362.7	287.2	297.2	400.0	449.4	586.6	482.7
80°	434.3	446.5	408.1	364.8	319.4	231.9	228.8	293.2	322.5	394.0	324.5
82.5°	299.3	308.4	332.6	288.3	258.1	180.4	168.3	203.6	218.6	237.8	157.3
85°	213.6	207.6	230.8	206.6	189.5	115.0	107.8	128.9	138.1	145.2	75.5
87.5°	130.1	128.9	132.9	106.8	98.8	58.5	53.4	61.4	65.4	63.5	36.3
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°	4305.1	4305.1	4305.1	4305.1	4305.1	4305.1	4305.1	4305.1	4305.1	4305.1	4305.1
2.5°	4298.1	4248.8	4140.9	4054.3	3960.5	3889.0	3817.4	3777.2	3732.7	3707.7	3704.6
5°	4345.6	4244.8	4015.0	3801.3	3581.6	3384.2	3190.6	3047.5	2930.6	2864.1	2860.1
7.5°	4397.9	4239.7	3885.0	3515.1	3124.0	2735.1	2391.5	2148.6	1992.4	1919.8	1914.7
10°	4438.3	4218.5	3726.8	3151.3	2531.6	2017.6	1705.2	1562.1	1514.7	1502.5	1500.6
12.5°	4486.7	4203.3	3527.3	2684.8	1934.9	1535.8	1441.2	1432.1	1442.0	1448.2	1449.1
15°	4531.9	4174.2	3258.2	2167.7	1514.7	1372.6	1374.5	1393.7	1413.9	1422.9	1424.1
17.5°	4553.1	4102.6	2904.4	1708.1	1325.2	1298.9	1322.1	1347.4	1365.6	1372.6	1372.6
20°	4553.1	3987.8	2494.2	1383.7	1226.5	1231.4	1259.8	1278.8	1282.9	1276.9	1273.8
22.5°	4533.9	3845.6	2095.1	1207.3	1145.9	1165.0	1187.2	1174.1	1126.7	1090.5	1083.4
25°	4516.9	3677.3	1711.2	1099.4	1075.4	1100.6	1091.4	1001.7	929.1	891.8	885.8
27.5°	4488.7	3473.7	1390.8	1010.9	1006.8	1026.9	937.2	850.5	814.3	794.1	790.1
30°	4481.6	3253.1	1163.9	932.3	939.3	911.1	808.2	780.0	772.0	760.9	755.8
32.5°	4504.7	3032.4	1021.9	867.8	874.8	782.1	742.7	746.8	745.8	731.6	726.5
35°	4568.2	2817.8	931.3	809.3	789.2	700.4	705.4	717.6	717.6	700.4	694.4
37.5°	4679.1	2618.2	873.7	759.8	690.3	658.1	671.2	687.4	687.4	675.2	670.1
40°	4796.9	2423.6	830.5	720.6	627.8	628.9	642.0	654.1	659.0	661.2	657.1
42.5°	4903.8	2222.1	784.0	678.2	599.6	606.6	612.7	621.7	642.9	657.1	655.0
45°	4966.3	2019.6	733.6	625.8	580.5	583.4	581.6	597.6	622.9	643.9	643.9
47.5°	5023.7	1853.4	692.4	573.4	561.4	561.4	555.3	571.4	594.6	619.8	621.7
50°	5078.2	1745.4	663.0	533.1	537.1	534.1	532.1	547.2	578.5	608.7	613.7
52.5°	5133.6	1709.1	636.9	503.9	511.9	507.9	510.0	531.1	566.4	597.6	602.7
55°	5211.2	1732.3	609.7	483.7	487.8	486.7	494.8	519.0	550.2	581.6	583.4
57.5°	5306.9	1817.0	586.6	468.6	464.6	470.6	483.7	507.0	537.1	574.5	577.4
58°	5326.1	1837.2	582.6	464.6	459.6	468.6	481.8	503.9	535.1	574.5	577.4
60°	5355.2	1908.7	572.4	456.5	442.4	458.6	474.7	496.9	531.1	579.4	585.5
62.5°	5214.2	1922.8	569.3	447.4	424.3	444.4	463.5	488.8	527.0	596.7	609.7
65°	4725.4	1777.7	548.2	432.4	409.2	433.3	453.6	482.7	539.2	647.9	654.1
67.5°	3793.3	1476.4	496.9	409.2	392.0	420.2	445.4	482.7	544.3	656.0	660.1
70°	2608.0	1109.5	432.4	383.9	371.9	404.1	442.4	493.8	527.0	620.8	608.7
72.5°	1362.5	772.0	378.9	354.7	347.6	390.0	471.6	482.7	507.0	579.4	567.4
75°	686.2	525.1	333.6	321.5	320.4	385.0	528.1	464.6	485.8	545.2	571.4
77.5°	405.1	411.2	297.2	290.2	295.3	375.9	529.1	446.5	461.5	501.9	530.1
80°	277.1	339.6	269.1	267.1	271.1	345.7	487.8	424.3	433.3	474.7	504.8
82.5°	156.2	187.4	235.9	248.9	246.9	283.1	421.2	386.0	397.1	561.4	593.6
85°	75.5	112.8	197.5	232.8	210.7	188.5	342.7	342.7	345.7	402.1	407.1
87.5°	28.2	50.3	132.9	184.4	147.1	112.8	232.8	242.9	270.1	278.1	284.3
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)