

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: P196983

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196983
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-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15145 lumens
Efficiency: N/A
Efficacy: 91.2 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

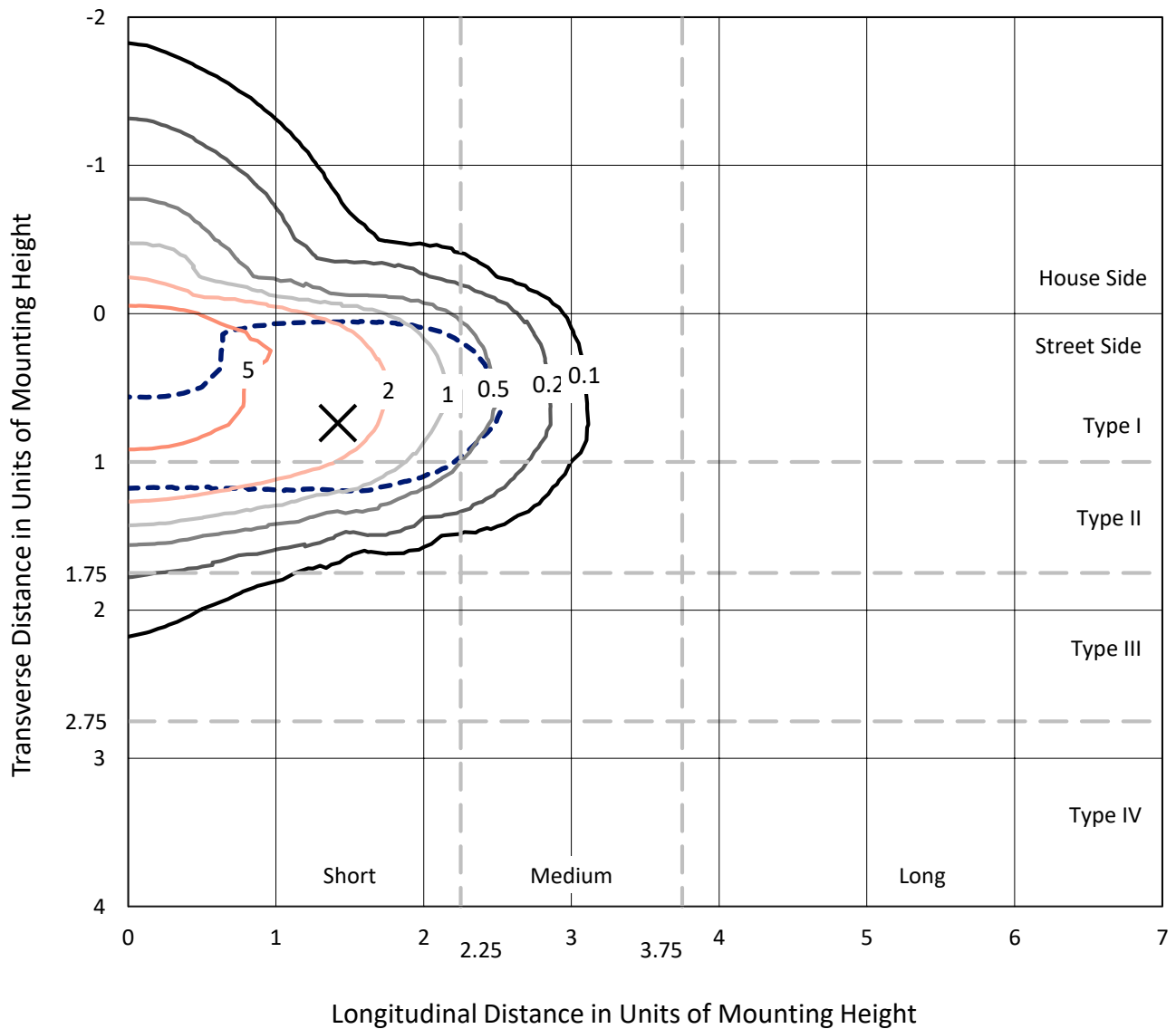
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

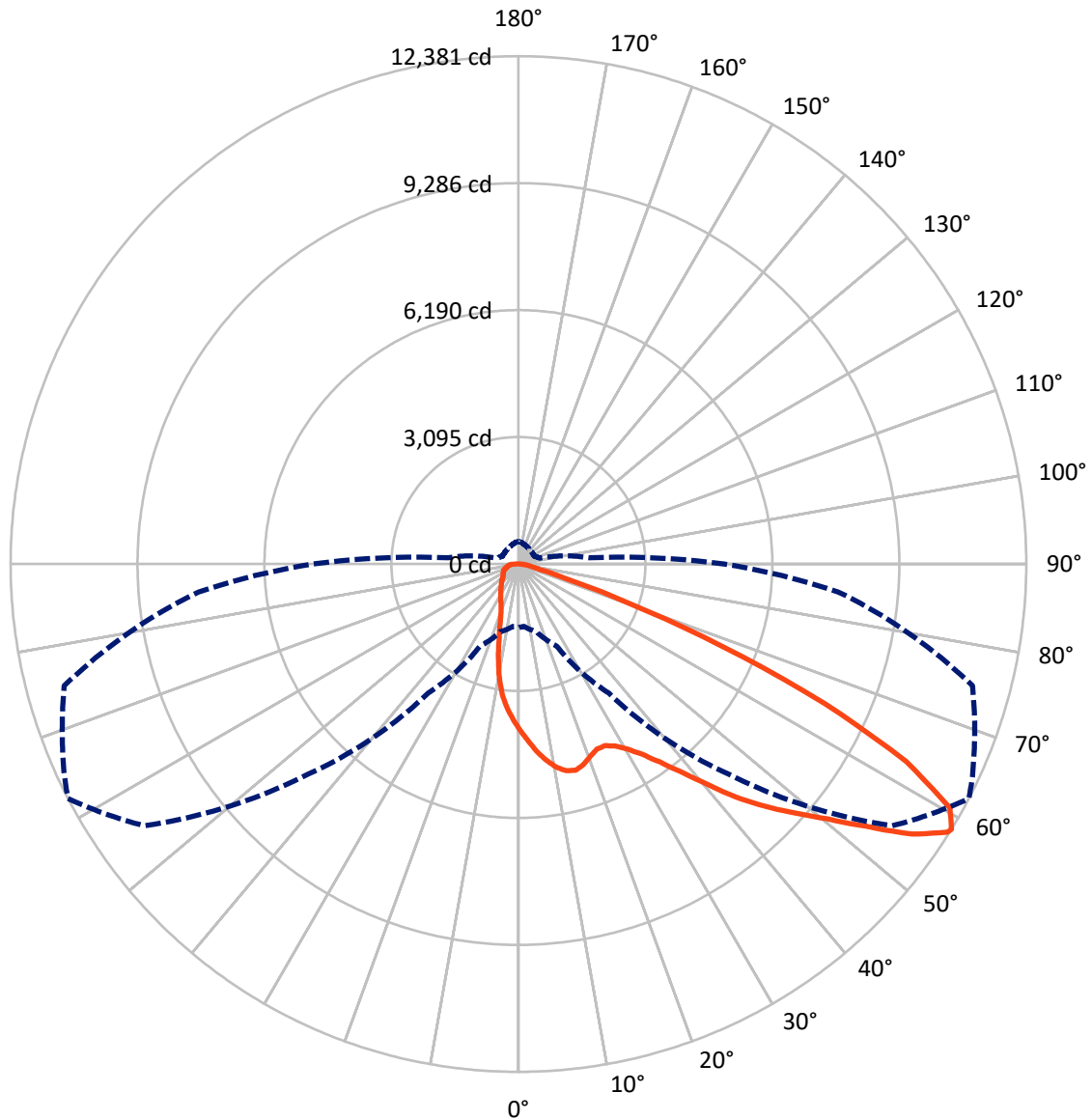
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.6 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	2325.3	0.0	2325.3
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	12819.7	0.0	12819.7
	% Fixture	84.6	0.0	84.6
Total	Lumens	15145.0	0.0	15145.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	361.4	2.4
10°-20°	912.2	6.0
20°-30°	1478.3	9.8
30°-40°	2360.2	15.6
40°-50°	3433.0	22.7
50°-60°	3592.3	23.7
60°-70°	2190.0	14.5
70°-80°	612.4	4.0
80°-90°	205.3	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°	15145.0	100.0
0°-180°	15145.0	100.0

Coefficient of Utilization



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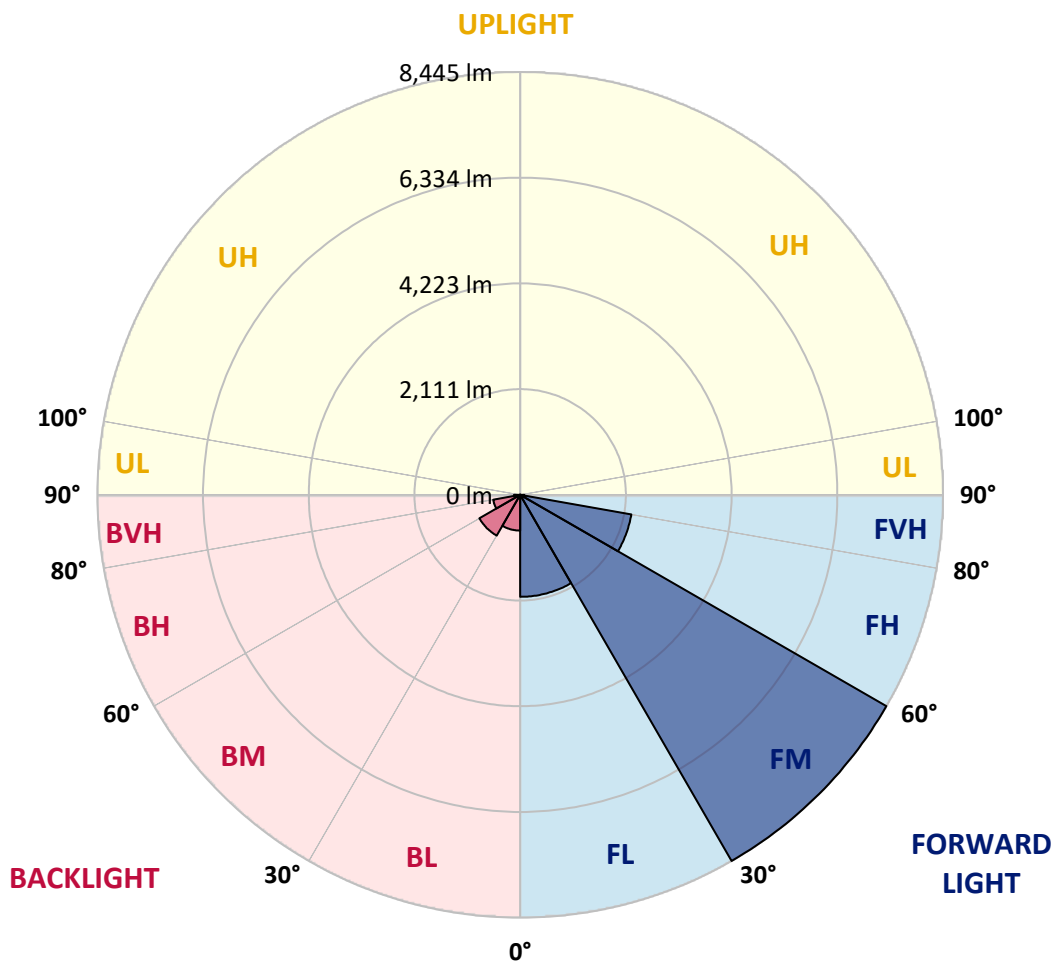
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2037.1	13.5			
FM (30°-60°)	8445.0	55.8			
FH (60°-80°)	2255.0	14.9			G2/5000
FVH (80°-90°)	82.6	0.5			G1/100
BL (0°-30°)	714.8	4.7	B2/1000		
BM (30°-60°)	940.4	6.2	B1/1000		
BH (60°-80°)	547.4	3.6	B2/1000		G2/1000
BVH (80°-90°)	122.7	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°	4043.6	4043.6	4043.6	4043.6	4043.6	4043.6	4043.6	4043.6	4043.6	4043.6	4043.6
2.5°	4589.8	4586.9	4548.1	4522.6	4492.3	4422.2	4352.2	4300.1	4273.6	4172.3	4073.9
5°	4969.3	4958.0	4936.2	4908.8	4869.0	4781.0	4670.2	4574.6	4536.8	4356.9	4176.1
7.5°	4768.7	4786.6	4853.9	4929.6	5009.1	5014.8	4936.2	4822.6	4781.0	4540.5	4275.5
10°	4213.0	4205.5	4289.7	4437.4	4699.6	4958.9	5088.6	5032.7	4989.2	4714.7	4374.9
12.5°	4044.6	4042.7	4056.9	4094.7	4259.4	4615.3	5049.8	5170.9	5155.8	4899.3	4480.9
15°	4095.7	4097.6	4096.6	4101.4	4146.8	4316.2	4833.0	5217.3	5264.7	5082.0	4588.8
17.5°	4259.4	4252.8	4232.0	4209.3	4215.9	4276.5	4599.2	5137.8	5279.8	5244.8	4679.7
20°	4512.2	4512.2	4456.3	4392.9	4351.2	4364.5	4501.7	5001.5	5209.8	5383.0	4747.8
22.5°	4829.2	4834.0	4751.6	4636.1	4541.5	4505.5	4557.6	4900.2	5124.6	5510.8	4808.4
25°	5223.0	5222.1	5101.8	4936.2	4786.6	4700.5	4699.6	4905.0	5098.1	5660.3	4871.8
27.5°	5710.5	5666.0	5525.9	5290.2	5079.1	4947.6	4887.9	5024.2	5153.9	5843.9	4957.0
30°	6260.4	6215.0	6031.3	5728.5	5442.6	5250.5	5152.0	5230.6	5324.3	6077.7	5085.8
32.5°	6804.7	6815.1	6599.3	6257.6	5890.3	5619.6	5473.8	5522.1	5587.4	6363.6	5259.9
35°	7601.7	7600.7	7318.6	6891.8	6455.4	6080.6	5896.0	5921.5	5981.2	6766.8	5504.1
37.5°	8196.1	8186.6	8004.9	7627.2	7136.0	6686.4	6419.4	6423.2	6474.3	7273.2	5825.9
40°	8256.7	8254.8	8253.8	8199.9	7863.8	7439.8	7105.7	7036.6	7057.4	7810.8	6167.6
42.5°	7793.8	7862.9	8061.7	8366.5	8460.2	8237.7	7921.6	7767.3	7721.9	8428.0	6529.2
45°	7134.1	7169.1	7517.4	8202.7	8760.2	8987.4	8749.8	8424.2	8346.6	9028.1	6823.6
47.5°	6827.4	6812.2	7013.9	7760.7	8730.9	9583.7	9600.7	9066.9	8935.3	9545.8	7074.4
50°	6169.5	6149.7	6404.3	7110.4	8410.9	9880.0	10474.4	9767.3	9524.1	10038.0	7301.6
52.5°	4858.6	4839.7	5181.4	6091.0	7695.4	9769.2	11210.8	10626.8	10212.2	10512.3	7513.6
55°	3161.4	3163.3	3488.9	4427.0	6227.3	9123.7	11556.3	11619.7	11155.0	10986.5	7685.0
57.5°	1740.7	1724.6	1956.5	2532.9	4284.0	7657.5	11268.5	12335.3	12093.0	11393.5	7808.9
58°	1547.6	1528.7	1707.6	2204.5	3841.1	7243.9	11123.7	12380.7	12213.2	11460.7	7826.9
60°	1102.7	1070.5	1043.1	1242.8	2213.0	5223.0	10158.3	12086.4	12248.2	11595.1	7809.9
62.5°	929.5	892.6	794.1	786.6	1042.1	2554.7	8033.3	10614.5	11067.9	11285.6	7535.4
65°	863.2	826.3	696.7	650.3	707.1	1102.7	4967.4	8196.1	8801.9	10209.4	6844.4
67.5°	815.9	772.4	633.2	572.7	584.0	659.7	2107.9	5360.3	6062.6	7961.3	5490.9
70°	773.3	725.0	583.1	513.0	503.6	501.7	823.5	2798.9	3475.7	5209.8	3678.3
72.5°	725.0	677.7	538.6	463.8	443.0	407.0	495.0	1156.7	1585.5	2553.8	1685.8
75°	655.0	616.2	489.4	423.1	387.1	330.3	365.4	554.7	683.4	977.8	782.8
77.5°	576.4	545.2	439.2	389.0	340.8	269.8	279.2	375.8	422.2	550.9	453.4
80°	408.0	419.3	383.3	342.6	300.1	217.7	214.9	275.4	302.9	370.1	304.8
82.5°	281.1	289.6	312.4	270.7	242.3	169.4	158.1	191.2	205.4	223.4	147.7
85°	200.7	195.0	216.8	194.0	177.9	107.9	101.3	121.2	129.7	136.3	71.0
87.5°	122.1	121.2	124.9	100.3	92.8	54.9	50.2	57.7	61.5	59.6	34.1
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°	4043.6	4043.6	4043.6	4043.6	4043.6	4043.6	4043.6	4043.6	4043.6	4043.6	4043.6
2.5°	4037.0	3990.6	3889.3	3807.9	3719.9	3652.7	3585.5	3547.6	3506.0	3482.3	3479.5
5°	4081.5	3986.8	3771.0	3570.3	3364.0	3178.5	2996.7	2862.3	2752.5	2690.1	2686.3
7.5°	4130.7	3982.1	3648.9	3301.5	2934.3	2568.9	2246.1	2018.0	1871.3	1803.2	1798.4
10°	4168.6	3962.2	3500.3	2959.8	2377.7	1895.0	1601.5	1467.1	1422.6	1411.3	1409.4
12.5°	4214.0	3948.0	3312.9	2521.6	1817.4	1442.5	1353.6	1345.0	1354.5	1360.2	1361.1
15°	4256.6	3920.6	3060.2	2036.0	1422.6	1289.2	1291.1	1309.1	1328.0	1336.5	1337.5
17.5°	4276.5	3853.4	2727.9	1604.4	1244.7	1220.1	1241.9	1265.5	1282.6	1289.2	1289.2
20°	4276.5	3745.5	2342.7	1299.6	1151.9	1156.7	1183.2	1201.2	1204.9	1199.3	1196.4
22.5°	4258.5	3612.0	1967.9	1134.0	1076.2	1094.2	1115.0	1102.7	1058.2	1024.2	1017.5
25°	4242.4	3453.9	1607.2	1032.7	1010.0	1033.6	1025.1	940.9	872.7	837.7	832.0
27.5°	4215.9	3262.7	1306.2	949.4	945.6	964.5	880.3	798.9	764.8	745.9	742.1
30°	4209.3	3055.4	1093.3	875.5	882.2	855.7	759.1	732.6	725.0	714.6	709.9
32.5°	4231.0	2848.1	959.8	815.0	821.6	734.5	697.6	701.4	700.4	687.2	682.5
35°	4290.7	2646.5	874.6	760.1	741.1	657.8	662.6	673.9	673.9	657.8	652.2
37.5°	4394.8	2459.1	820.6	713.7	648.4	618.1	630.4	645.5	645.5	634.2	629.4
40°	4505.5	2276.4	779.9	676.8	589.7	590.6	602.9	614.3	619.0	620.9	617.1
42.5°	4605.9	2087.1	736.4	637.0	563.2	569.8	575.5	584.0	603.9	617.1	615.3
45°	4664.5	1896.9	689.1	587.8	545.2	548.0	546.2	561.3	585.0	604.8	604.8
47.5°	4718.5	1740.7	650.3	538.6	527.2	527.2	521.5	536.7	558.5	582.1	584.0
50°	4769.6	1639.4	622.8	500.7	504.5	501.7	499.8	514.0	543.3	571.7	576.4
52.5°	4821.7	1605.3	598.2	473.3	480.8	477.1	478.9	498.8	532.0	561.3	566.0
55°	4894.6	1627.1	572.7	454.3	458.1	457.2	464.8	487.5	516.8	546.2	548.0
57.5°	4984.5	1706.6	550.9	440.1	436.4	442.0	454.3	476.1	504.5	539.5	542.4
58°	5002.5	1725.5	547.1	436.4	431.6	440.1	452.4	473.3	502.6	539.5	542.4
60°	5029.9	1792.7	537.6	428.8	415.5	430.7	445.8	466.6	498.8	544.3	549.9
62.5°	4897.4	1806.0	534.8	420.3	398.5	417.4	435.4	459.1	495.0	560.4	572.7
65°	4438.3	1669.7	514.9	406.1	384.3	407.0	425.9	453.4	506.4	608.6	614.3
67.5°	3562.8	1386.7	466.6	384.3	368.2	394.7	418.4	453.4	511.1	616.2	620.0
70°	2449.6	1042.1	406.1	360.6	349.3	379.6	415.5	463.8	495.0	583.1	571.7
72.5°	1279.7	725.0	355.9	333.2	326.6	366.3	443.0	453.4	476.1	544.3	532.9
75°	644.6	493.1	313.3	301.9	301.0	361.6	496.0	436.4	456.2	512.1	536.7
77.5°	380.5	386.2	279.2	272.6	277.3	353.1	496.9	419.3	433.5	471.4	497.9
80°	260.3	319.0	252.7	250.8	254.6	324.7	458.1	398.5	407.0	445.8	474.2
82.5°	146.7	176.1	221.5	233.8	231.9	266.0	395.7	362.5	372.9	527.2	557.5
85°	71.0	106.0	185.5	218.7	197.8	177.0	321.8	321.8	324.7	377.7	382.4
87.5°	26.5	47.3	124.9	173.2	138.2	106.0	218.7	228.1	253.7	261.2	266.9
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)