

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: P270496

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270496
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-04-D-UNV-AFL-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17546.9 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

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

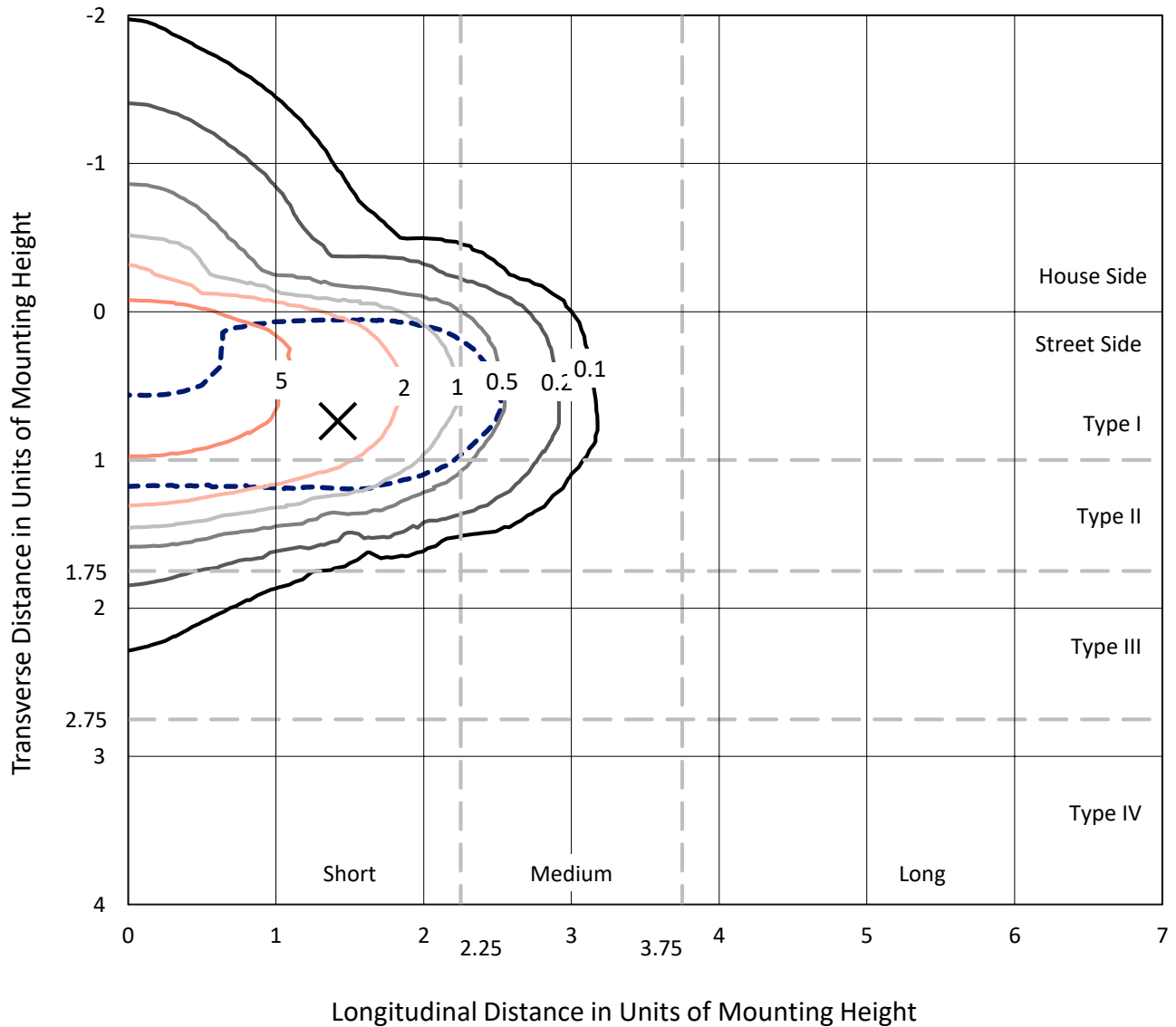


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Iso-Footcandle Lines of Horizontal Illumination

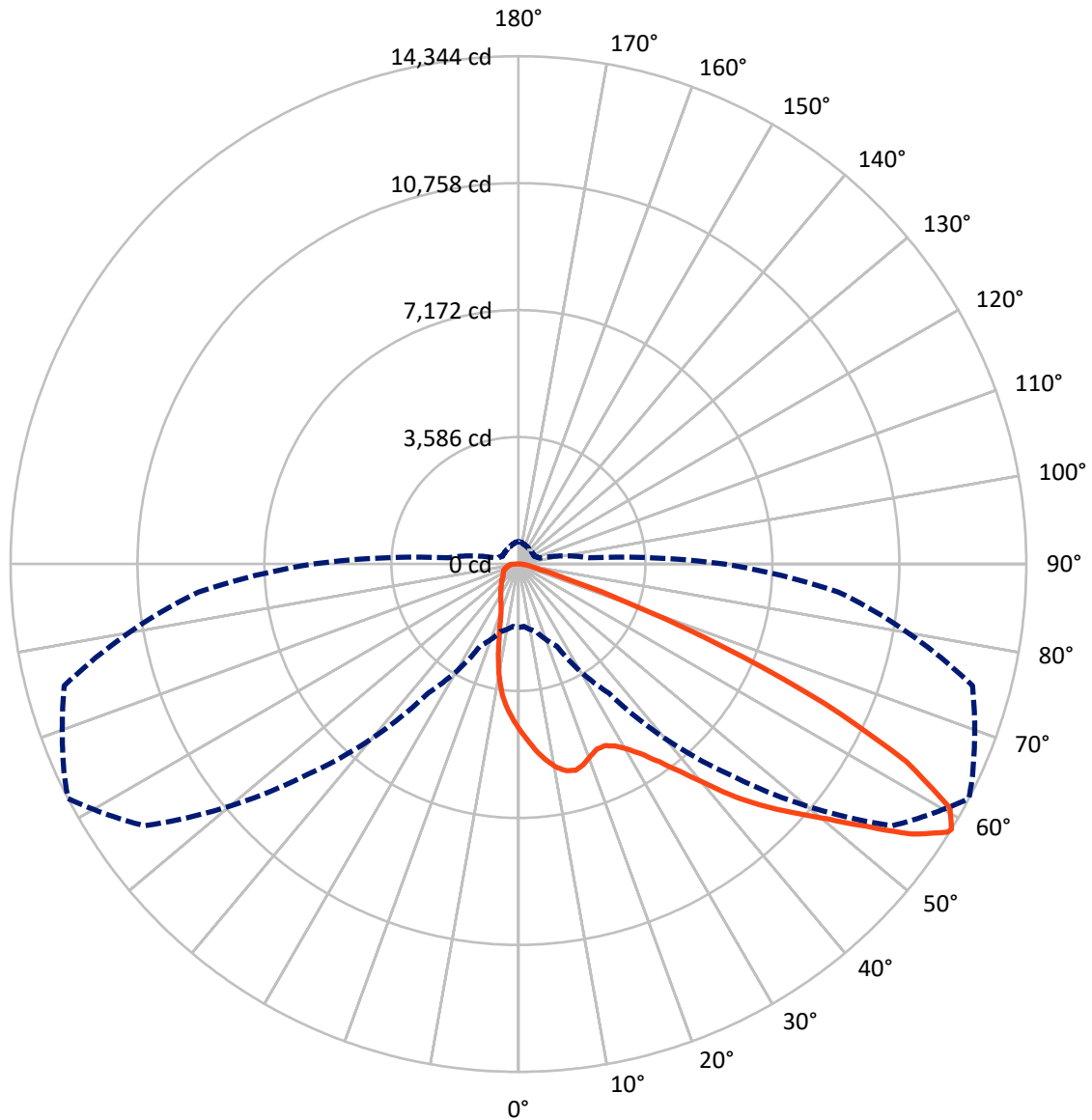
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.8 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	2694.1	0.0	2694.1
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	14852.8	0.0	14852.8
	% Fixture	84.6	0.0	84.6
Total	Lumens	17546.9	0.0	17546.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	418.8	2.4
10°-20°	1056.8	6.0
20°-30°	1712.7	9.8
30°-40°	2734.5	15.6
40°-50°	3977.4	22.7
50°-60°	4162.0	23.7
60°-70°	2537.3	14.5
70°-80°	709.6	4.0
80°-90°	237.8	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°	17546.9	100.0
0°-180°	17546.9	100.0



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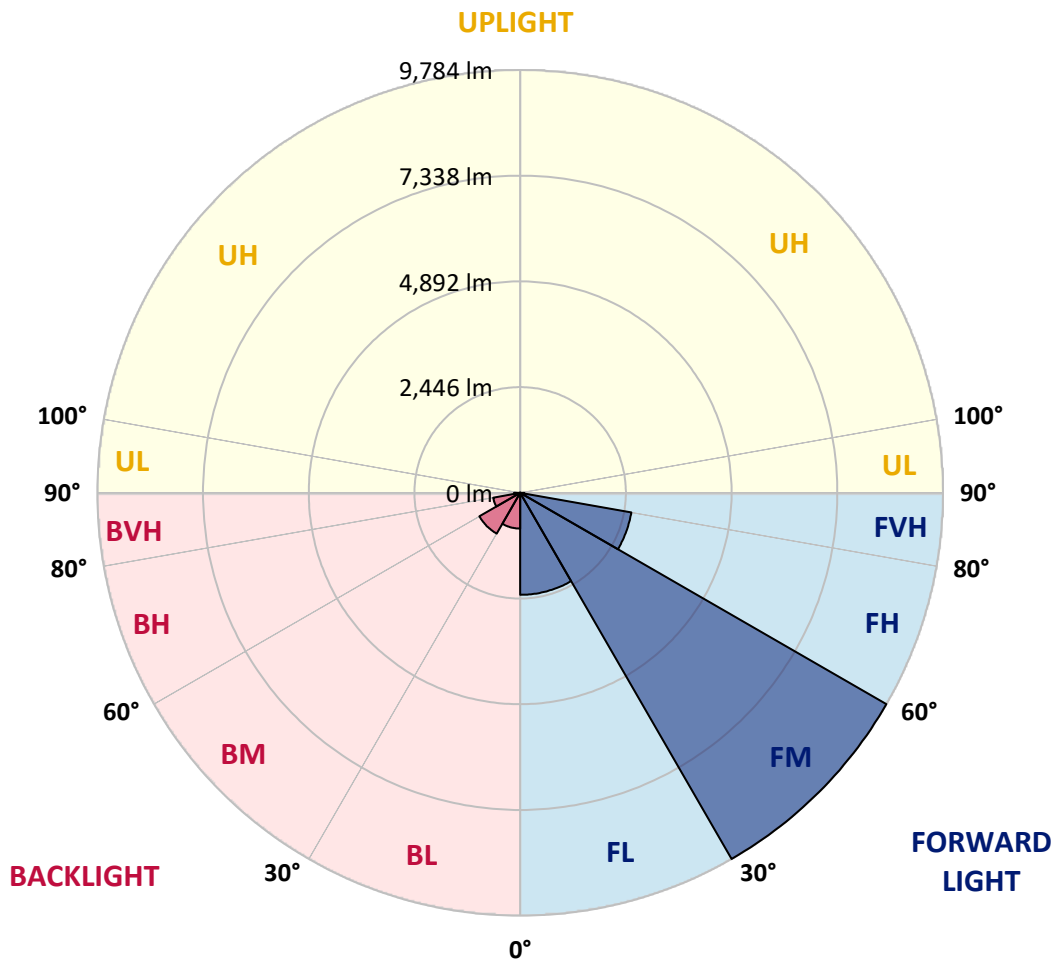
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2360.1	13.5			
FM	(30°-60°)	9784.4	55.8			
FH	(60°-80°)	2612.6	14.9			G2/5000
FVH	(80°-90°)	95.7	0.5			G1/100
BL	(0°-30°)	828.2	4.7	B2/1000		
BM	(30°-60°)	1089.5	6.2	B2/2500		
BH	(60°-80°)	634.2	3.6	B2/1000		G2/1000
BVH	(80°-90°)	142.2	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°	4684.9	4684.9	4684.9	4684.9	4684.9	4684.9	4684.9	4684.9	4684.9	4684.9	4684.9
2.5°	5317.6	5314.5	5269.5	5239.9	5204.7	5123.6	5042.5	4982.1	4951.4	4834.0	4720.1
5°	5757.4	5744.3	5719.1	5687.3	5641.1	5539.2	5410.9	5300.1	5256.3	5047.9	4838.5
7.5°	5524.9	5545.7	5623.7	5711.3	5803.5	5810.1	5719.1	5587.5	5539.2	5260.7	4953.7
10°	4881.2	4872.4	4970.1	5141.1	5444.8	5745.4	5895.7	5830.9	5780.5	5462.5	5068.7
12.5°	4686.0	4683.9	4700.3	4744.0	4935.0	5347.3	5850.7	5991.1	5973.5	5676.3	5191.6
15°	4745.2	4747.5	4746.4	4751.9	4804.4	5000.8	5599.6	6044.8	6099.6	5887.9	5316.6
17.5°	4935.0	4927.3	4903.2	4876.8	4884.5	4954.7	5328.7	5952.7	6117.2	6076.6	5421.9
20°	5227.7	5227.7	5163.1	5089.5	5041.3	5056.6	5215.6	5794.7	6036.0	6236.8	5500.9
22.5°	5595.2	5600.7	5505.3	5371.4	5261.7	5220.1	5280.3	5677.4	5937.3	6384.8	5571.0
25°	6051.3	6050.3	5910.9	5719.1	5545.7	5446.0	5444.8	5682.9	5906.5	6557.9	5644.5
27.5°	6616.1	6564.5	6402.3	6129.2	5884.6	5732.3	5663.2	5821.0	5971.4	6770.7	5743.1
30°	7253.3	7200.6	6987.8	6636.9	6305.7	6083.1	5969.1	6060.1	6168.8	7041.6	5892.3
32.5°	7883.9	7895.9	7645.8	7250.0	6824.6	6510.8	6341.9	6397.9	6473.5	7372.7	6094.1
35°	8807.3	8806.2	8479.3	7984.8	7479.2	7044.9	6831.2	6860.6	6929.7	7840.0	6377.1
37.5°	9496.0	9484.9	9274.5	8836.8	8267.7	7746.8	7437.5	7441.9	7501.1	8426.7	6750.0
40°	9566.1	9564.0	9562.8	9500.4	9111.0	8619.7	8232.5	8152.6	8176.6	9049.6	7145.7
42.5°	9029.9	9109.9	9340.1	9693.3	9801.9	9544.2	9178.0	8999.2	8946.5	9764.7	7564.7
45°	8265.5	8306.1	8709.6	9503.6	10149.6	10412.8	10137.6	9760.3	9670.3	10460.0	7905.9
47.5°	7910.1	7892.7	8126.2	8991.5	10115.5	11103.6	11123.4	10504.9	10352.4	11059.8	8196.5
50°	7148.1	7124.9	7420.0	8238.0	9745.0	11446.9	12135.7	11316.4	11034.6	11630.0	8459.6
52.5°	5629.0	5607.2	6003.2	7056.9	8915.8	11318.6	12988.9	12312.2	11831.8	12179.5	8705.3
55°	3662.7	3665.1	4042.3	5129.1	7214.8	10570.6	13389.1	13462.5	12924.0	12729.0	8903.7
57.5°	2016.8	1998.1	2266.9	2934.7	4963.4	8871.9	13055.6	14291.7	14010.9	13200.5	9047.4
58°	1793.0	1771.1	1978.3	2554.2	4450.3	8392.8	12888.0	14344.2	14150.1	13278.2	9068.2
60°	1277.6	1240.3	1208.5	1440.0	2564.0	6051.3	11769.4	14003.1	14190.7	13434.1	9048.4
62.5°	1076.9	1034.2	920.1	911.3	1207.4	2959.8	9307.2	12297.8	12823.1	13075.4	8730.4
65°	1000.2	957.4	807.1	753.4	819.3	1277.6	5755.3	9496.0	10197.7	11828.5	7929.9
67.5°	945.3	894.9	733.6	663.5	676.7	764.4	2442.2	6210.3	7024.0	9223.9	6361.6
70°	896.0	840.0	675.5	594.4	583.4	581.3	954.1	3242.8	4026.9	6036.0	4261.6
72.5°	840.0	785.2	624.1	537.4	513.2	471.6	573.6	1340.1	1836.9	2958.7	1953.2
75°	758.9	714.0	567.0	490.3	448.6	382.8	423.3	642.6	791.8	1132.9	906.8
77.5°	667.9	631.7	508.8	450.7	394.7	312.5	323.5	435.4	489.0	638.2	525.2
80°	472.7	485.9	444.1	397.1	347.6	252.2	248.9	319.1	351.0	428.9	353.2
82.5°	325.7	335.5	361.8	313.7	280.7	196.3	183.2	221.5	238.1	258.8	171.0
85°	232.5	226.0	251.2	224.8	206.3	125.0	117.4	140.3	150.2	157.9	82.3
87.5°	141.5	140.3	144.7	116.2	107.4	63.6	58.1	67.0	71.2	69.1	39.4
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°	4684.9	4684.9	4684.9	4684.9	4684.9	4684.9	4684.9	4684.9	4684.9	4684.9	4684.9
2.5°	4677.3	4623.4	4506.2	4411.8	4309.9	4231.9	4154.1	4110.3	4062.0	4034.6	4031.4
5°	4728.8	4619.2	4369.0	4136.5	3897.6	3682.6	3471.9	3316.4	3189.1	3116.7	3112.3
7.5°	4785.8	4613.6	4227.7	3825.2	3399.6	2976.4	2602.4	2338.1	2168.1	2089.1	2083.7
10°	4829.6	4590.6	4055.5	3429.2	2754.8	2195.5	1855.5	1699.9	1648.3	1635.2	1632.8
12.5°	4882.3	4574.2	3838.3	2921.5	2105.5	1671.2	1568.3	1558.4	1569.2	1575.8	1577.0
15°	4931.6	4542.4	3545.5	2358.9	1648.3	1493.6	1495.9	1516.7	1538.5	1548.5	1549.5
17.5°	4954.7	4464.4	3160.5	1858.9	1442.0	1413.7	1438.8	1466.3	1485.9	1493.6	1493.6
20°	4954.7	4339.4	2714.1	1505.6	1334.6	1340.1	1370.9	1391.7	1396.1	1389.5	1386.2
22.5°	4933.9	4184.8	2280.0	1313.9	1246.8	1267.8	1291.9	1277.6	1226.0	1186.7	1178.8
25°	4915.3	4001.7	1862.1	1196.5	1170.1	1197.5	1187.6	1090.1	1011.1	970.6	963.9
27.5°	4884.5	3780.2	1513.4	1100.0	1095.6	1117.5	1019.8	925.6	886.1	864.2	859.8
30°	4876.8	3540.0	1266.6	1014.4	1022.1	991.4	879.5	848.8	840.0	828.0	822.5
32.5°	4902.1	3299.8	1112.0	944.2	951.9	851.1	808.2	812.6	811.4	796.2	790.7
35°	4971.1	3066.3	1013.3	880.6	858.7	762.2	767.6	780.8	780.8	762.2	755.7
37.5°	5091.8	2849.2	950.8	826.9	751.3	716.0	730.4	747.8	747.8	734.8	729.2
40°	5220.1	2637.5	903.7	784.1	683.3	684.2	698.6	711.7	717.1	719.5	715.1
42.5°	5336.3	2418.1	853.2	738.0	652.4	660.2	666.7	676.7	699.7	715.1	712.9
45°	5404.4	2197.8	798.4	681.0	631.7	634.9	632.8	650.4	677.7	700.8	700.8
47.5°	5466.8	2016.8	753.4	624.1	610.8	610.8	604.3	621.7	647.0	674.4	676.7
50°	5526.1	1899.3	721.6	580.1	584.4	581.3	579.0	595.4	629.5	662.4	667.9
52.5°	5586.4	1859.9	693.1	548.3	557.0	552.6	555.0	577.9	616.2	650.4	655.9
55°	5670.8	1885.2	663.5	526.3	530.8	529.7	538.4	564.8	598.8	632.8	634.9
57.5°	5775.1	1977.3	638.2	510.0	505.6	512.2	526.3	551.6	584.4	625.1	628.4
58°	5795.9	1999.2	633.8	505.6	500.0	510.0	524.3	548.3	582.3	625.1	628.4
60°	5827.7	2077.2	623.0	496.9	481.4	499.0	516.5	540.7	577.9	630.6	637.2
62.5°	5674.1	2092.4	619.7	486.9	461.6	483.6	504.5	531.8	573.6	649.3	663.5
65°	5142.2	1934.5	596.6	470.4	445.2	471.6	493.4	525.2	586.8	705.2	711.7
67.5°	4127.8	1606.6	540.7	445.2	426.5	457.2	484.7	525.2	592.3	714.0	718.4
70°	2838.1	1207.4	470.4	417.8	404.6	439.8	481.4	537.4	573.6	675.5	662.4
72.5°	1482.7	840.0	412.3	386.0	378.4	424.4	513.2	525.2	551.6	630.6	617.5
75°	746.9	571.3	362.9	349.8	348.7	418.9	574.6	505.6	528.7	593.3	621.7
77.5°	440.9	447.4	323.5	315.8	321.4	409.1	575.8	485.9	502.2	546.1	576.8
80°	301.7	369.6	292.8	290.6	295.1	376.2	530.8	461.6	471.6	516.5	549.5
82.5°	170.0	203.9	256.6	270.8	268.8	308.2	458.5	420.0	432.1	610.8	645.9
85°	82.3	122.8	215.0	253.3	229.2	205.1	372.8	372.8	376.2	437.6	443.0
87.5°	30.7	54.8	144.7	200.7	160.1	122.8	253.3	264.3	293.8	302.6	309.2
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)