

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: P196318

Luminaire Tested: **NAV-AF-04-D-UNV-T3-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196318
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 27385.4 lumens
Efficiency: N/A
Efficacy: 106.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

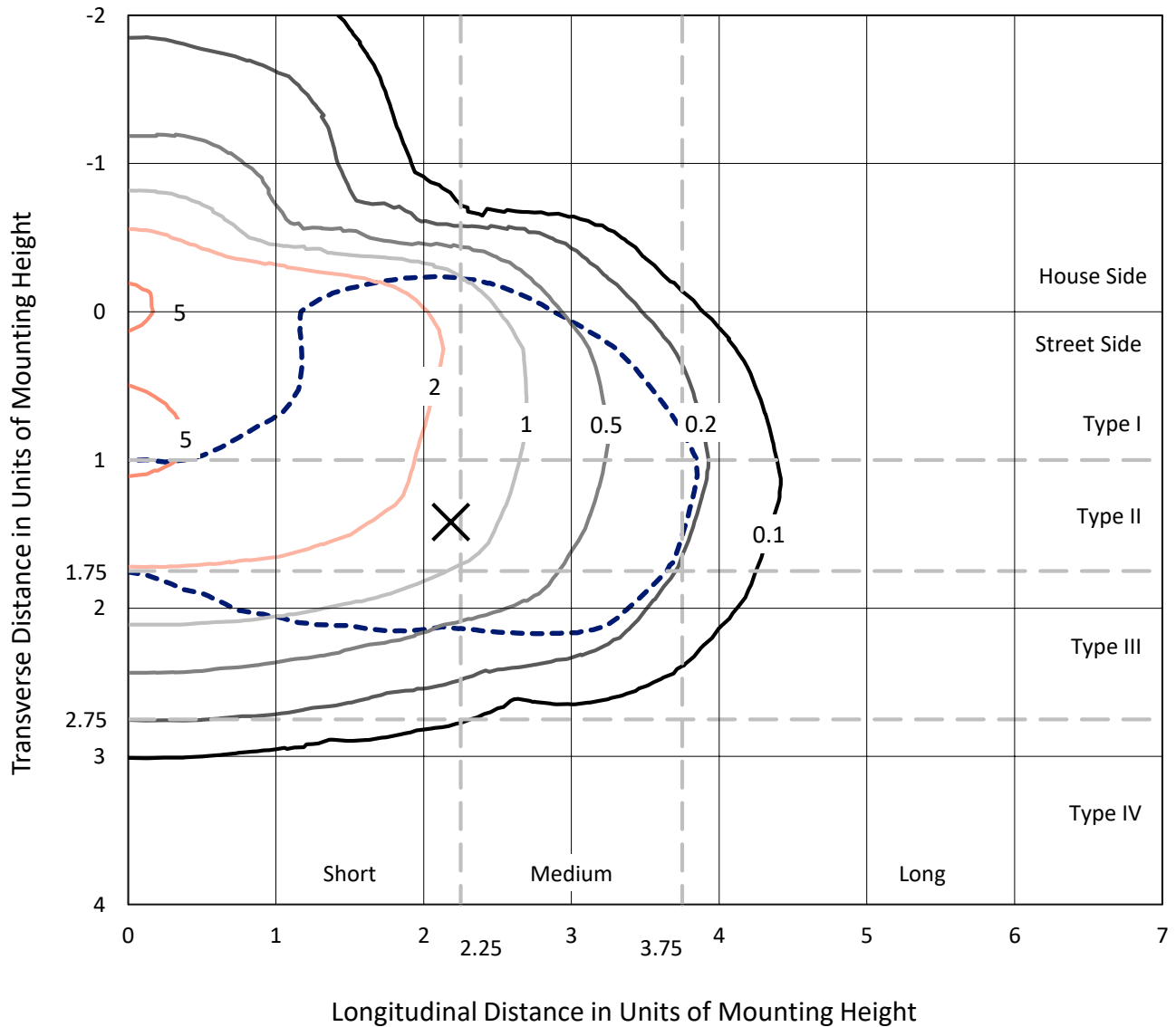
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

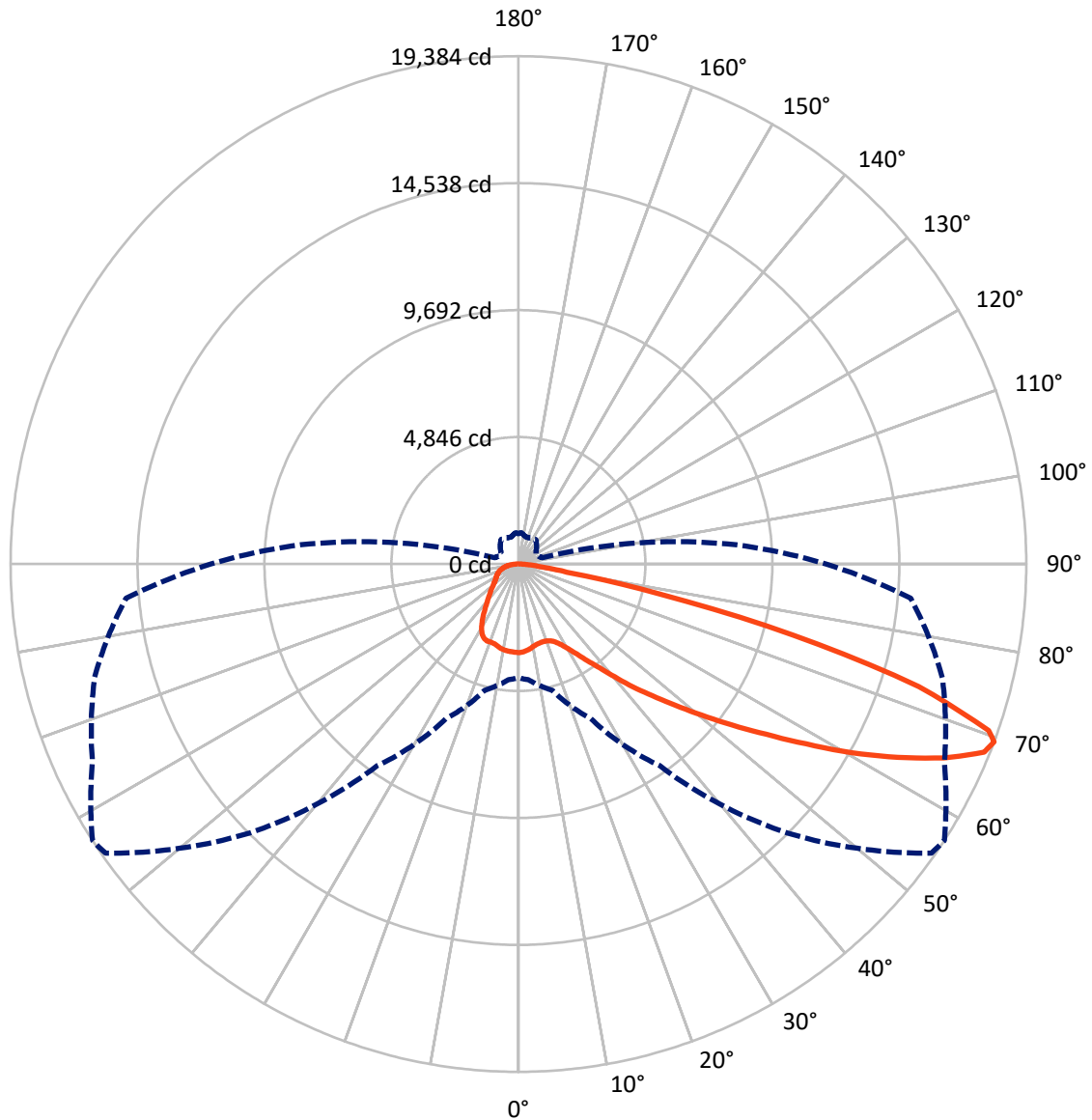
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.5 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6043.0	0.0	6043.0
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	21342.4	0.0	21342.4
	% Fixture	77.9	0.0	77.9
Total	Lumens	27385.4	0.0	27385.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	316.8	1.2
10°-20°	900.7	3.3
20°-30°	1498.3	5.5
30°-40°	2446.7	8.9
40°-50°	4129.4	15.1
50°-60°	6423.5	23.5
60°-70°	7651.8	27.9
70°-80°	3564.7	13.0
80°-90°	453.4	1.7
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°	27385.4	100.0
0°-180°	27385.4	100.0

Coefficient of Utilization



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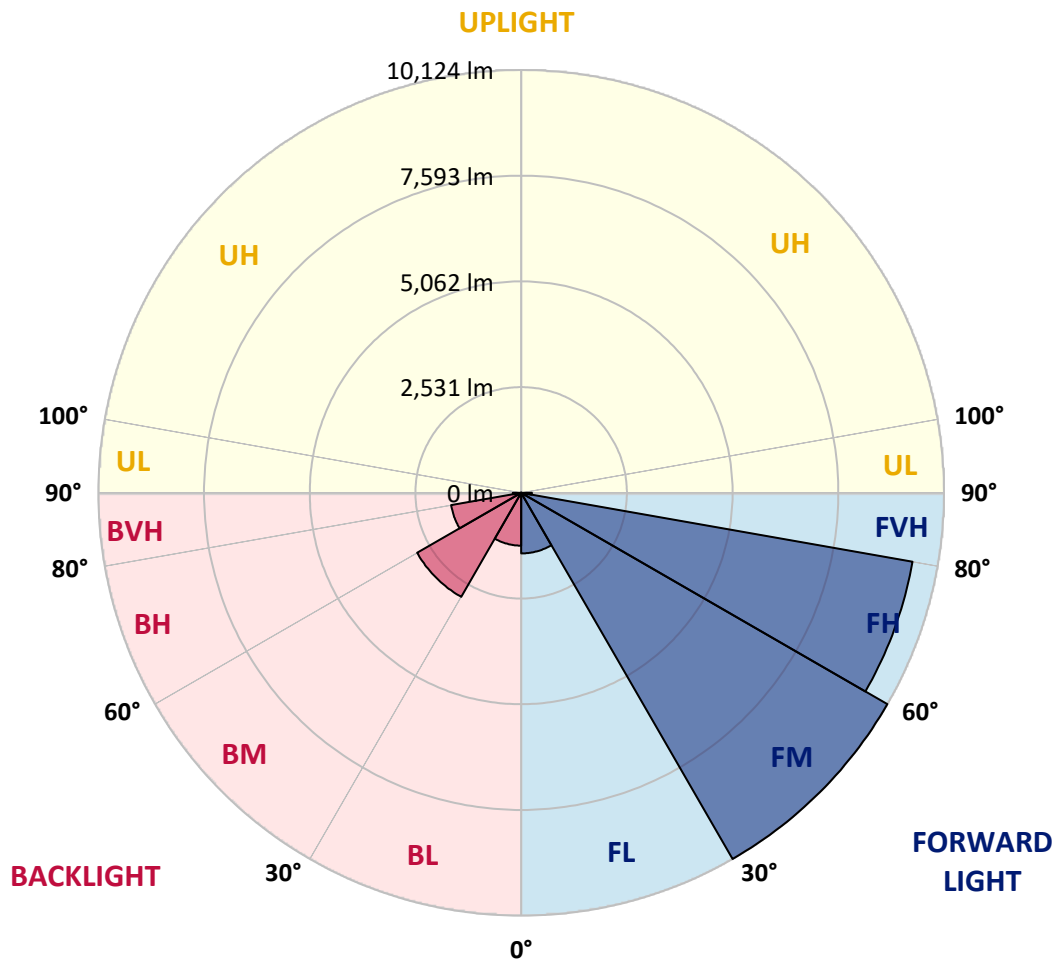
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1450.3	5.3			
FM	(30°-60°)	10123.6	37.0			
FH	(60°-80°)	9513.7	34.7			G4/12000
FVH	(80°-90°)	254.9	0.9			G3/500
BL	(0°-30°)	1265.5	4.6	B3/2500		
BM	(30°-60°)	2876.1	10.5	B3/5000		
BH	(60°-80°)	1702.8	6.2	B3/2500		G3/2500
BVH	(80°-90°)	198.5	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	3383.7	3383.7	3383.7	3383.7	3383.7	3383.7	3383.7	3383.7	3383.7	3383.7	3383.7
2.5°	3364.5	3364.5	3373.2	3373.2	3373.2	3369.7	3359.2	3362.7	3355.7	3350.5	3341.7
5°	3296.0	3299.6	3310.1	3313.6	3318.9	3320.6	3320.6	3318.9	3320.6	3320.6	3315.4
7.5°	3201.4	3204.9	3217.2	3224.2	3240.0	3254.0	3261.0	3261.0	3269.8	3276.8	3278.6
10°	3143.5	3143.5	3150.6	3150.6	3162.9	3169.8	3192.6	3190.9	3215.4	3238.3	3248.7
12.5°	3136.6	3136.6	3133.0	3120.7	3113.8	3112.0	3134.7	3138.3	3175.1	3215.4	3234.7
15°	3159.3	3159.3	3148.8	3124.3	3098.0	3085.7	3108.4	3115.5	3155.8	3203.2	3232.9
17.5°	3232.9	3231.2	3208.4	3159.3	3113.8	3094.4	3101.5	3108.4	3145.3	3199.7	3236.5
20°	3396.0	3396.0	3346.9	3257.5	3178.6	3133.0	3122.5	3127.8	3154.1	3204.9	3252.3
22.5°	3681.8	3687.0	3599.4	3452.2	3317.1	3220.7	3178.6	3183.8	3196.1	3245.2	3297.8
25°	4102.5	4088.5	3964.0	3755.5	3545.0	3380.2	3294.3	3299.6	3299.6	3345.2	3399.5
27.5°	4547.8	4551.4	4372.6	4148.2	3871.2	3625.6	3489.0	3487.1	3485.4	3529.3	3587.1
30°	5051.0	5052.8	4845.9	4586.5	4269.1	3955.2	3750.1	3748.4	3732.6	3787.0	3862.4
32.5°	5601.6	5599.8	5359.6	5066.9	4714.5	4358.5	4092.0	4090.3	4078.0	4151.6	4242.8
35°	6211.7	6211.7	5973.2	5612.1	5231.7	4835.4	4526.9	4525.1	4532.1	4632.0	4718.0
37.5°	6946.3	6962.1	6674.5	6236.2	5820.7	5398.2	5038.7	5028.3	4975.6	5144.0	5286.0
40°	7712.4	7756.3	7458.2	6946.3	6497.5	6060.9	5664.7	5657.6	5612.1	5790.9	6020.6
42.5°	8541.7	8641.7	8310.4	7787.8	7298.7	6827.1	6429.1	6409.8	6234.5	6513.2	6872.7
45°	9628.7	9693.6	9213.2	8739.9	8278.7	7740.5	7267.1	7163.7	6988.4	7346.0	7812.4
47.5°	10368.6	10337.0	10037.3	9719.9	9423.6	8908.2	8180.5	8049.1	7835.2	8308.6	8822.2
50°	10827.9	10850.7	10682.5	10666.6	10650.9	10291.5	9211.5	9053.7	8806.5	9367.5	9967.1
52.5°	11131.2	11027.8	11057.6	11415.3	11848.3	11676.5	10377.3	10202.1	9947.8	10508.9	11185.7
55°	11005.0	10868.2	11143.5	11848.3	12867.0	12905.5	11657.2	11476.7	11259.2	11722.1	12651.3
57.5°	10482.6	10550.9	10985.8	11965.8	13563.0	14006.5	13128.1	12944.1	12516.3	12986.2	14043.4
60°	9748.0	9886.5	10550.9	11780.0	14050.4	14863.9	14742.9	14620.2	13883.8	14217.0	15505.6
62.5°	8959.0	9095.8	9912.8	11462.6	13831.2	15623.0	16327.8	16252.4	15393.4	15402.2	16433.0
65°	7793.1	7849.2	8683.7	10596.5	13222.9	16308.6	17914.5	17847.9	16836.2	16413.8	16692.5
67.5°	5885.5	5955.7	6641.2	8364.7	11371.4	15936.9	19182.1	19171.5	17704.1	16789.0	16075.4
69°	4346.2	4432.1	4991.5	6494.0	9402.6	14520.3	19241.7	19383.7	17939.1	16750.4	15032.2
70°	3180.4	3278.6	3795.8	5154.5	7831.7	12956.4	18731.6	19036.6	17849.7	16506.6	14218.7
72.5°	1351.7	1385.1	1639.3	2326.5	3972.8	7812.4	15342.5	15984.2	16121.0	14790.2	11108.4
75°	846.8	857.3	957.3	1194.0	1767.2	3231.2	9935.5	10810.4	12035.9	11474.8	7437.2
77.5°	638.2	646.9	704.8	822.2	1097.5	1206.3	4609.2	5496.4	6893.7	6749.9	3701.0
80°	489.2	494.4	533.0	597.8	773.1	755.7	1495.6	1879.5	2877.0	2538.7	1309.7
82.5°	383.9	385.8	419.0	431.3	540.0	508.4	750.3	836.3	1162.4	966.1	640.0
85°	340.1	345.3	378.7	315.6	345.3	306.8	412.0	447.0	617.1	582.1	241.9
87.5°	173.6	182.3	317.3	270.0	173.6	145.6	180.6	194.6	250.7	271.8	117.4
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°	3383.7	3383.7	3383.7	3383.7	3383.7	3383.7	3383.7	3383.7	3383.7	3383.7	3383.7
2.5°	3343.4	3345.2	3350.5	3359.2	3373.2	3390.8	3411.7	3432.8	3445.1	3453.9	3450.3
5°	3315.4	3317.1	3327.7	3343.4	3360.9	3387.2	3422.3	3448.6	3467.9	3480.2	3478.4
7.5°	3280.3	3285.5	3306.6	3324.1	3348.6	3369.7	3397.7	3422.3	3441.6	3453.9	3452.2
10°	3254.0	3259.2	3285.5	3308.3	3329.4	3332.9	3327.7	3320.6	3318.9	3327.7	3324.1
12.5°	3241.7	3252.3	3276.8	3292.6	3283.8	3250.5	3212.0	3196.1	3190.9	3208.4	3210.1
15°	3245.2	3254.0	3275.1	3264.5	3217.2	3161.1	3140.0	3152.3	3162.9	3173.4	3175.1
17.5°	3254.0	3259.2	3264.5	3226.0	3159.3	3122.5	3115.5	3103.2	3071.6	3054.1	3052.4
20°	3269.8	3276.8	3268.0	3206.6	3147.0	3098.0	3013.8	2938.4	2866.5	2827.9	2812.2
22.5°	3324.1	3329.4	3303.1	3243.5	3152.3	2992.7	2822.7	2692.9	2582.5	2522.9	2500.1
25°	3431.1	3439.9	3403.1	3327.7	3089.2	2810.5	2570.3	2394.9	2256.4	2184.5	2165.3
27.5°	3618.7	3627.4	3587.1	3390.8	2941.9	2566.7	2275.7	2102.2	1982.9	1921.5	1912.8
30°	3899.2	3911.5	3874.6	3389.0	2717.5	2256.4	1988.2	1886.5	1818.1	1776.0	1774.3
32.5°	4288.4	4333.9	4183.3	3329.4	2440.5	1942.6	1770.7	1735.7	1702.4	1674.4	1674.4
35°	4782.8	4889.8	4488.3	3204.9	2135.4	1728.7	1649.8	1616.5	1574.4	1544.6	1541.1
37.5°	5373.7	5540.2	4705.7	2983.9	1872.4	1625.3	1576.2	1521.8	1455.1	1397.4	1383.3
40°	6185.4	6223.9	4812.6	2624.6	1676.1	1569.1	1507.8	1439.4	1355.2	1290.4	1283.4
42.5°	7000.7	6874.4	4791.6	2238.8	1563.9	1518.3	1437.7	1362.3	1286.9	1232.6	1232.6
45°	7928.1	7442.5	4632.0	1851.4	1462.2	1460.5	1372.8	1300.9	1243.1	1202.7	1194.0
47.5°	8815.3	7952.6	4356.7	1565.6	1357.0	1402.6	1330.7	1272.9	1220.3	1181.7	1174.7
50°	9891.7	8543.5	4064.0	1365.7	1255.3	1351.7	1313.2	1283.4	1232.6	1165.9	1158.9
52.5°	10961.2	9234.3	3837.8	1215.0	1165.9	1311.4	1323.7	1327.2	1279.8	1150.1	1141.3
55°	12109.6	9972.3	3599.4	1097.5	1092.3	1292.1	1348.2	1344.8	1322.0	1153.6	1139.6
57.5°	13201.8	10714.0	3243.5	1015.1	1034.4	1272.9	1353.5	1297.4	1257.1	1171.2	1148.4
60°	14106.5	11327.6	2721.0	957.3	985.3	1234.3	1318.4	1234.3	1165.9	1167.7	1146.6
62.5°	14546.6	11499.4	2081.1	890.7	945.0	1171.2	1267.5	1186.9	1123.8	1174.7	1162.4
65°	14211.7	11010.3	1483.3	829.3	895.9	1097.5	1237.8	1146.6	1102.7	1209.7	1195.7
67.5°	13009.0	9677.8	1076.5	774.9	848.5	1022.1	1181.7	1109.8	1081.8	1236.0	1204.4
69°	11730.9	8355.9	932.7	743.4	815.3	981.8	1144.9	1090.5	1065.9	1199.2	1153.6
70°	10668.5	7337.3	860.8	724.0	787.2	959.0	1116.9	1078.2	1050.2	1155.4	1101.0
72.5°	7649.3	4742.5	724.0	666.2	713.6	908.2	1055.5	1032.7	990.6	1043.2	1008.1
75°	4621.5	2475.5	615.4	606.6	636.4	838.0	983.6	955.5	913.4	918.7	901.1
77.5°	2123.1	1143.1	515.5	536.5	555.8	750.3	895.9	864.4	825.7	811.7	813.5
80°	931.0	668.0	431.3	457.6	468.1	674.9	801.3	766.2	724.0	799.4	741.6
82.5°	503.2	387.5	336.7	354.1	383.9	587.4	696.0	650.5	610.1	710.0	573.3
85°	203.4	198.1	227.9	245.4	266.5	422.5	582.1	534.7	485.6	434.8	424.3
87.5°	87.7	94.7	112.2	119.2	142.0	263.0	391.0	341.9	343.6	294.5	289.3
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)