

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: P196798

Luminaire Tested: **NAV-AF-04-D-UNV-T3-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196798
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-T3-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25892.2 lumens
Efficiency: N/A
Efficacy: 100.4 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

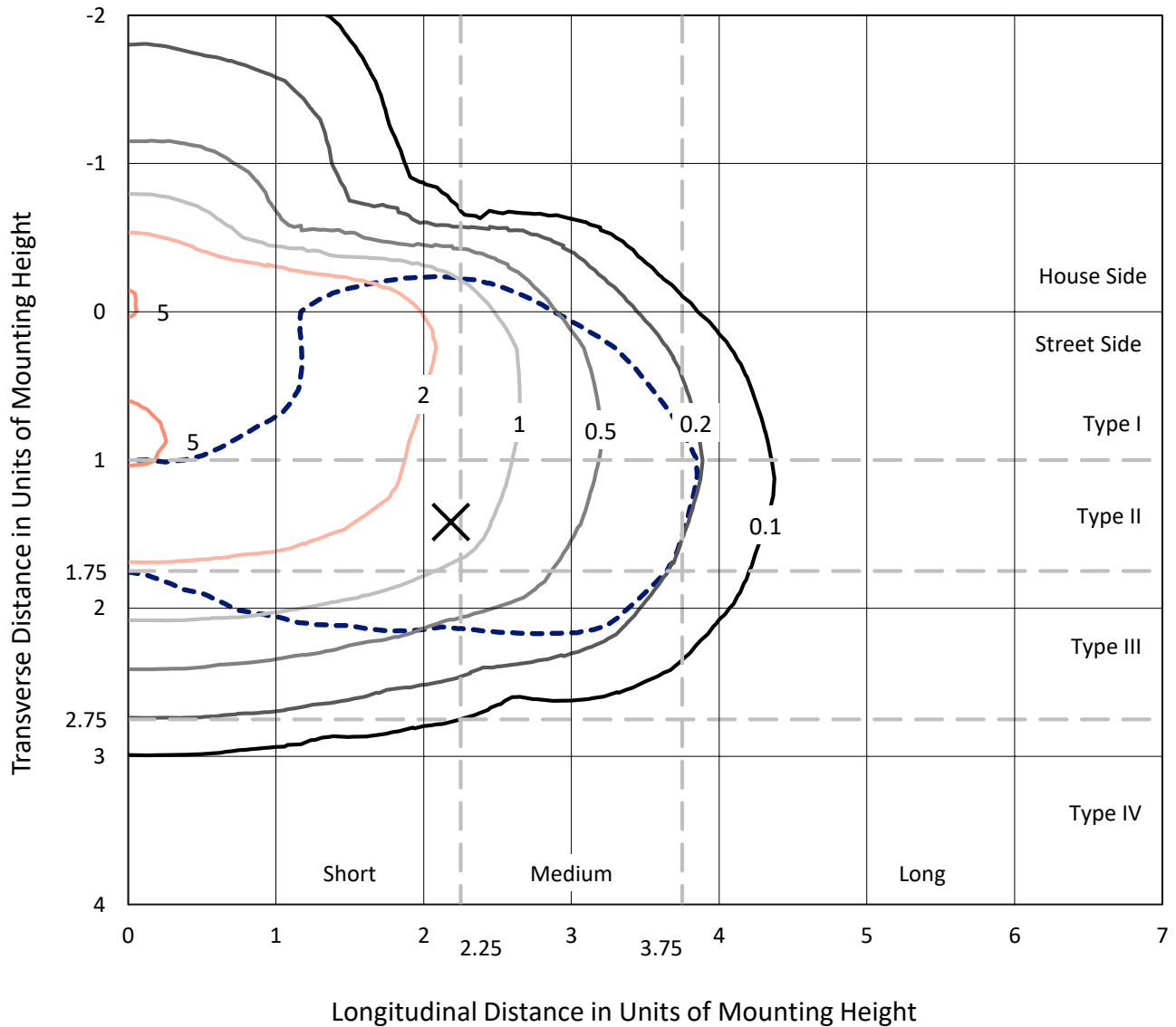
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

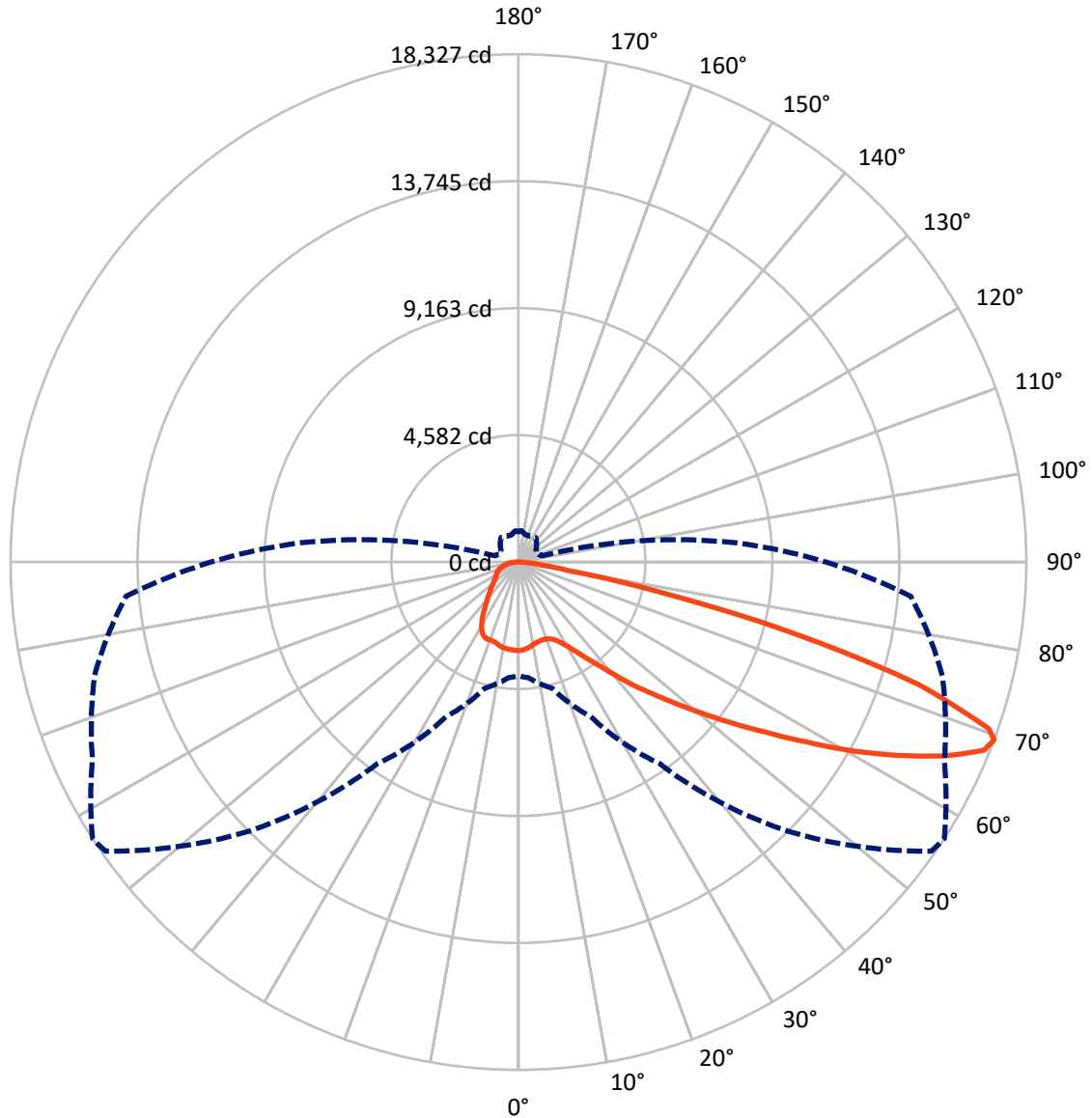
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 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	5713.5	0.0	5713.5
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	20178.7	0.0	20178.7
	% Fixture	77.9	0.0	77.9
Total	Lumens	25892.2	0.0	25892.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	299.5	1.2
10°-20°	851.6	3.3
20°-30°	1416.6	5.5
30°-40°	2313.3	8.9
40°-50°	3904.3	15.1
50°-60°	6073.3	23.5
60°-70°	7234.6	27.9
70°-80°	3370.4	13.0
80°-90°	428.7	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°	25892.2	100.0
0°-180°	25892.2	100.0



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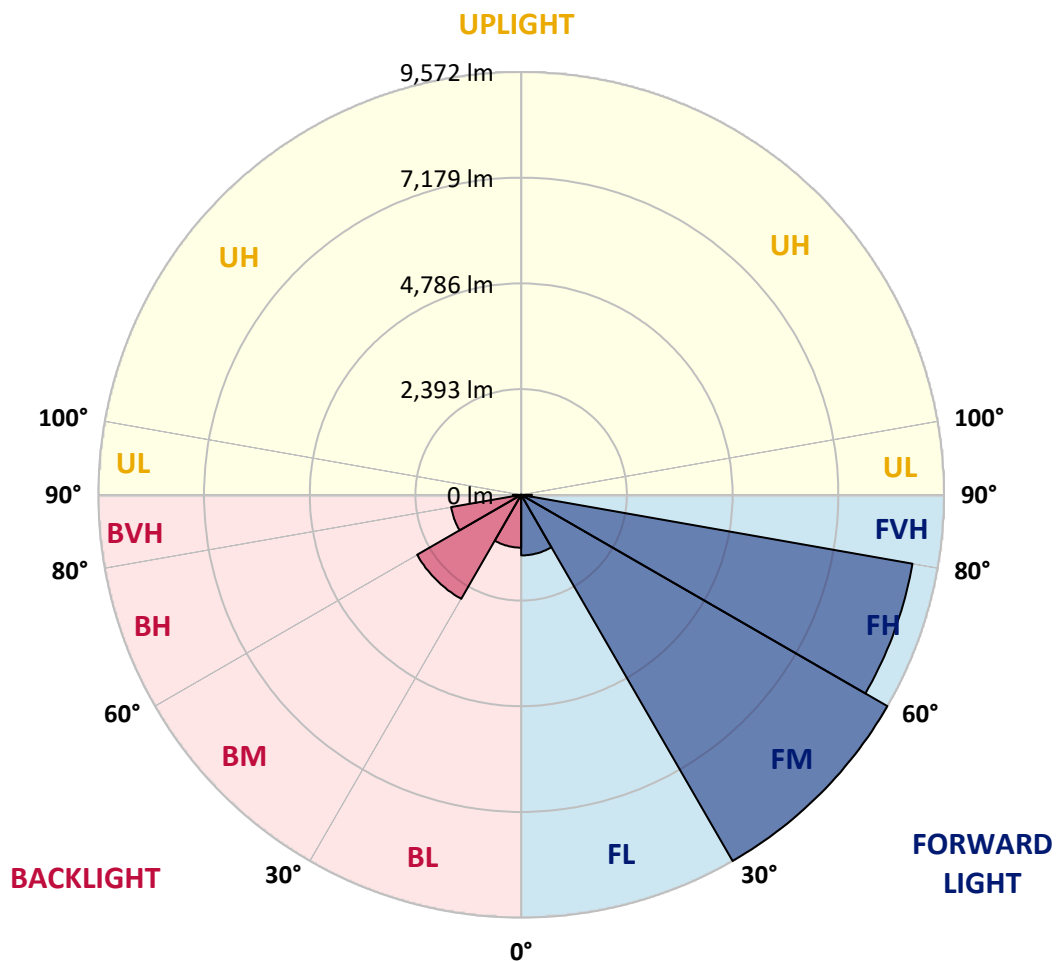
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1371.2	5.3			
FM	(30°-60°)	9571.6	37.0			
FH	(60°-80°)	8995.0	34.7			G4/12000
FVH	(80°-90°)	241.0	0.9			G3/500
BL	(0°-30°)	1196.5	4.6	B3/2500		
BM	(30°-60°)	2719.3	10.5	B3/5000		
BH	(60°-80°)	1610.0	6.2	B3/2500		G3/2500
BVH	(80°-90°)	187.7	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°	3199.2	3199.2	3199.2	3199.2	3199.2	3199.2	3199.2	3199.2	3199.2	3199.2	3199.2
2.5°	3181.0	3181.0	3189.3	3189.3	3189.3	3186.0	3176.0	3179.3	3172.7	3167.8	3159.4
5°	3116.4	3119.7	3129.6	3132.9	3137.9	3139.6	3139.6	3137.9	3139.6	3139.6	3134.5
7.5°	3026.8	3030.2	3041.8	3048.5	3063.3	3076.5	3083.2	3083.2	3091.5	3098.1	3099.8
10°	2972.2	2972.2	2978.7	2978.7	2990.4	2997.0	3018.5	3016.8	3040.1	3061.7	3071.6
12.5°	2965.6	2965.6	2962.2	2950.5	2944.0	2942.4	2963.8	2967.2	3002.0	3040.1	3058.3
15°	2987.0	2987.0	2977.1	2954.0	2929.0	2917.4	2939.0	2945.6	2983.8	3028.5	3056.6
17.5°	3056.6	3055.0	3033.5	2987.0	2944.0	2925.8	2932.4	2939.0	2973.8	3025.2	3060.1
20°	3210.8	3210.8	3164.4	3079.9	3005.2	2962.2	2952.3	2957.2	2982.1	3030.2	3074.9
22.5°	3481.0	3486.0	3403.1	3263.9	3136.3	3045.0	3005.2	3010.3	3021.9	3068.3	3118.0
25°	3878.9	3865.6	3747.9	3550.7	3351.7	3196.0	3114.7	3119.7	3119.7	3162.7	3214.2
27.5°	4299.9	4303.1	4134.2	3922.0	3660.0	3428.0	3298.6	3297.0	3295.4	3336.8	3391.5
30°	4775.6	4777.4	4581.7	4336.4	4036.4	3739.6	3545.7	3544.1	3529.1	3580.5	3651.8
32.5°	5296.2	5294.4	5067.5	4790.6	4457.3	4120.9	3869.0	3867.2	3855.6	3925.2	4011.5
35°	5873.0	5873.0	5647.6	5306.0	4946.3	4571.7	4280.0	4278.4	4285.0	4379.4	4460.7
37.5°	6567.6	6582.5	6310.6	5896.1	5503.4	5103.8	4764.0	4754.1	4704.3	4863.4	4997.7
40°	7292.0	7333.4	7051.6	6567.6	6143.2	5730.4	5355.8	5349.3	5306.0	5475.2	5692.3
42.5°	8076.0	8170.5	7857.2	7363.2	6900.7	6454.8	6078.5	6060.3	5894.5	6158.1	6497.9
45°	9103.7	9165.1	8710.9	8263.3	7827.4	7318.5	6870.9	6773.1	6607.4	6945.5	7386.5
47.5°	9803.3	9773.5	9489.9	9189.9	8909.8	8422.5	7734.6	7610.2	7408.0	7855.5	8341.2
50°	10237.6	10259.1	10100.0	10085.0	10070.1	9730.3	8709.3	8560.0	8326.3	8856.8	9423.7
52.5°	10524.3	10426.5	10454.7	10792.8	11202.4	11039.9	9811.6	9645.9	9405.5	9935.9	10575.8
55°	10405.0	10275.8	10536.0	11202.4	12165.4	12201.8	11021.6	10850.9	10645.3	11082.9	11961.4
57.5°	9911.0	9975.7	10386.7	11313.4	12823.5	13242.9	12412.4	12238.3	11833.9	12278.1	13277.7
60°	9216.4	9347.4	9975.7	11137.7	13284.3	14053.5	13939.1	13823.1	13126.9	13441.8	14660.2
62.5°	8470.6	8599.8	9372.3	10837.7	13077.1	14771.2	15437.6	15366.3	14554.1	14562.4	15537.0
65°	7368.2	7421.2	8210.3	10018.7	12501.9	15419.3	16937.7	16874.8	15918.3	15518.8	15782.4
67.5°	5564.7	5631.0	6279.1	7908.6	10751.4	15068.0	18136.2	18126.2	16738.8	15873.5	15198.8
69°	4109.2	4190.5	4719.4	6140.0	8889.9	13728.5	18192.5	18326.8	16961.0	15837.0	14212.6
70°	3007.0	3099.8	3588.8	4873.5	7404.7	12249.9	17710.2	17998.6	16876.4	15606.7	13443.5
72.5°	1278.0	1309.6	1549.9	2199.7	3756.3	7386.5	14506.1	15112.6	15242.0	13983.9	10502.8
75°	800.7	810.6	905.1	1128.8	1670.9	3055.0	9393.8	10220.9	11379.7	10849.2	7031.7
77.5°	603.3	611.7	666.4	777.4	1037.6	1140.4	4358.0	5196.7	6517.9	6382.0	3499.2
80°	462.5	467.4	503.9	565.3	731.1	714.4	1414.0	1777.0	2720.2	2400.2	1238.2
82.5°	363.1	364.7	396.2	407.7	510.6	480.7	709.4	790.7	1099.0	913.4	605.1
85°	321.6	326.5	358.1	298.4	326.5	290.1	389.5	422.8	583.5	550.3	228.8
87.5°	164.1	172.4	300.0	255.2	164.1	137.5	170.8	184.0	237.1	257.0	111.0
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°	3199.2	3199.2	3199.2	3199.2	3199.2	3199.2	3199.2	3199.2	3199.2	3199.2	3199.2
2.5°	3161.1	3162.7	3167.8	3176.0	3189.3	3205.8	3225.8	3245.6	3257.2	3265.5	3262.3
5°	3134.5	3136.3	3146.2	3161.1	3177.7	3202.6	3235.7	3260.7	3278.8	3290.5	3288.7
7.5°	3101.5	3106.5	3126.4	3142.9	3166.2	3186.0	3212.5	3235.7	3254.0	3265.5	3263.9
10°	3076.5	3081.5	3106.5	3128.0	3147.9	3151.1	3146.2	3139.6	3137.9	3146.2	3142.9
12.5°	3064.9	3074.9	3098.1	3113.1	3104.7	3073.3	3036.8	3021.9	3016.8	3033.5	3035.1
15°	3068.3	3076.5	3096.5	3086.6	3041.8	2988.7	2968.8	2980.5	2990.4	3000.4	3002.0
17.5°	3076.5	3081.5	3086.6	3050.1	2987.0	2952.3	2945.6	2934.0	2904.2	2887.6	2886.0
20°	3091.5	3098.1	3089.9	3031.8	2975.4	2929.0	2849.5	2778.3	2710.2	2673.8	2658.9
22.5°	3142.9	3147.9	3122.9	3066.6	2980.5	2829.6	2668.7	2546.2	2441.7	2385.3	2363.9
25°	3244.0	3252.3	3217.4	3146.2	2920.7	2657.1	2430.2	2264.3	2133.4	2065.4	2047.2
27.5°	3421.4	3429.6	3391.5	3205.8	2781.5	2426.7	2151.7	1987.5	1874.8	1816.8	1808.5
30°	3686.6	3698.2	3663.4	3204.2	2569.3	2133.4	1879.8	1783.6	1718.9	1679.2	1677.5
32.5°	4054.6	4097.7	3955.0	3147.9	2307.4	1836.6	1674.2	1641.1	1609.6	1583.0	1583.0
35°	4522.0	4623.2	4243.5	3030.2	2019.0	1634.4	1559.7	1528.3	1488.5	1460.4	1457.1
37.5°	5080.7	5238.1	4449.1	2821.3	1770.3	1536.6	1490.2	1438.8	1375.8	1321.2	1307.9
40°	5848.1	5884.6	4550.2	2481.5	1584.7	1483.6	1425.7	1361.0	1281.4	1220.0	1213.5
42.5°	6618.9	6499.7	4530.3	2116.8	1478.6	1435.5	1359.3	1287.9	1216.7	1165.4	1165.4
45°	7495.8	7036.7	4379.4	1750.5	1382.4	1380.8	1297.9	1229.9	1175.3	1137.2	1128.8
47.5°	8334.7	7519.0	4119.2	1480.3	1283.0	1326.1	1258.1	1203.5	1153.7	1117.2	1110.6
50°	9352.4	8077.6	3842.4	1291.3	1186.9	1278.0	1241.6	1213.5	1165.4	1102.3	1095.7
52.5°	10363.6	8730.8	3628.6	1148.8	1102.3	1239.9	1251.6	1254.9	1210.0	1087.4	1079.2
55°	11449.3	9428.6	3403.1	1037.6	1032.7	1221.6	1274.7	1271.4	1249.8	1090.7	1077.6
57.5°	12482.0	10129.9	3066.6	959.8	978.0	1203.5	1279.7	1226.7	1188.5	1107.4	1085.7
60°	13337.4	10710.0	2572.6	905.1	931.6	1167.0	1246.5	1167.0	1102.3	1103.9	1084.1
62.5°	13753.4	10872.5	1967.6	842.1	893.4	1107.4	1198.5	1122.2	1062.5	1110.6	1099.0
65°	13436.8	10410.0	1402.4	784.1	847.1	1037.6	1170.2	1084.1	1042.7	1143.7	1130.5
67.5°	12299.7	9150.1	1017.7	732.7	802.3	966.4	1117.2	1049.3	1022.7	1168.6	1138.8
69°	11091.2	7900.3	881.8	702.9	770.9	928.2	1082.4	1031.1	1007.8	1133.8	1090.7
70°	10086.7	6937.2	813.9	684.6	744.3	906.8	1055.9	1019.5	992.9	1092.4	1041.0
72.5°	7232.3	4483.9	684.6	629.9	674.6	858.7	997.9	976.3	936.6	986.3	953.2
75°	4369.5	2340.6	581.8	573.5	601.7	792.3	929.9	903.5	863.5	868.6	852.0
77.5°	2007.4	1080.8	487.3	507.3	525.4	709.4	847.1	817.3	780.7	767.4	769.1
80°	880.2	631.5	407.7	432.6	442.6	638.2	757.5	724.4	684.6	755.8	701.2
82.5°	475.8	366.3	318.3	334.9	363.1	555.2	658.1	615.0	576.9	671.3	542.0
85°	192.3	187.3	215.5	232.0	252.0	399.5	550.3	505.6	459.2	411.2	401.2
87.5°	82.9	89.5	106.1	112.7	134.3	248.7	369.7	323.2	324.9	278.5	273.4
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)