

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: P195358

Luminaire Tested: **NAV-AF-04-D-UNV-T3-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195358
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-T3-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26771 lumens
Efficiency: N/A
Efficacy: 103.8 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

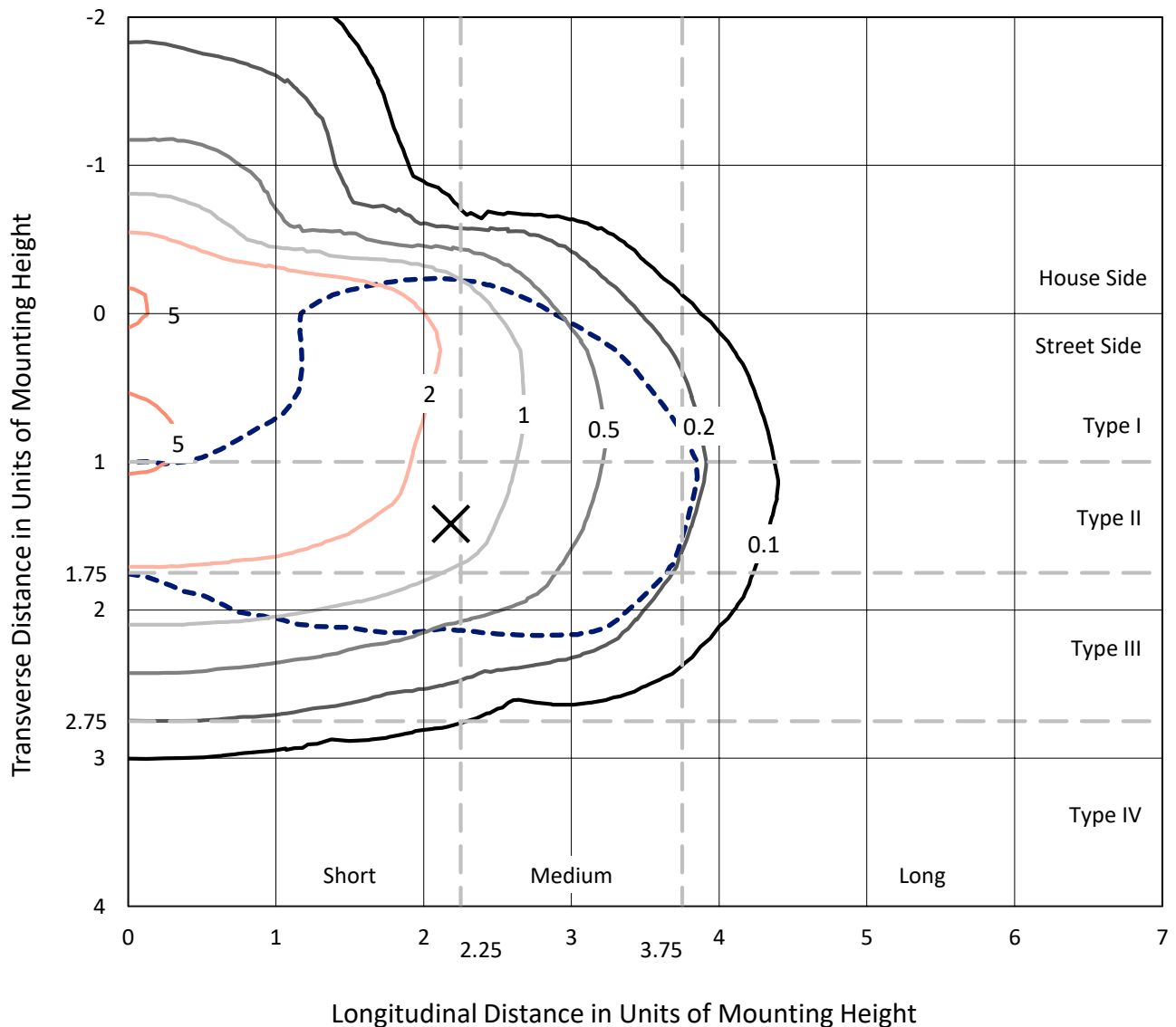
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

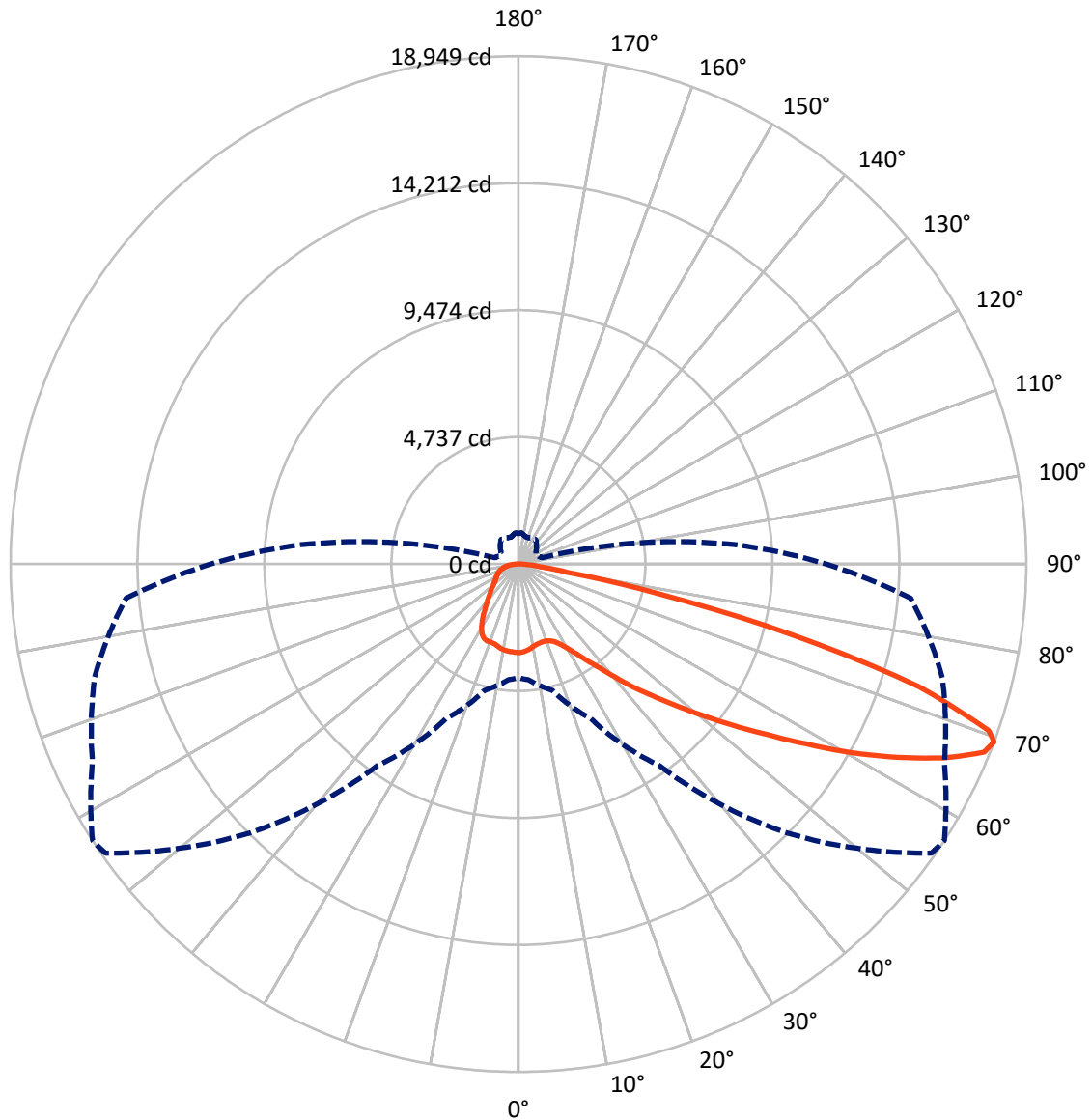
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.4 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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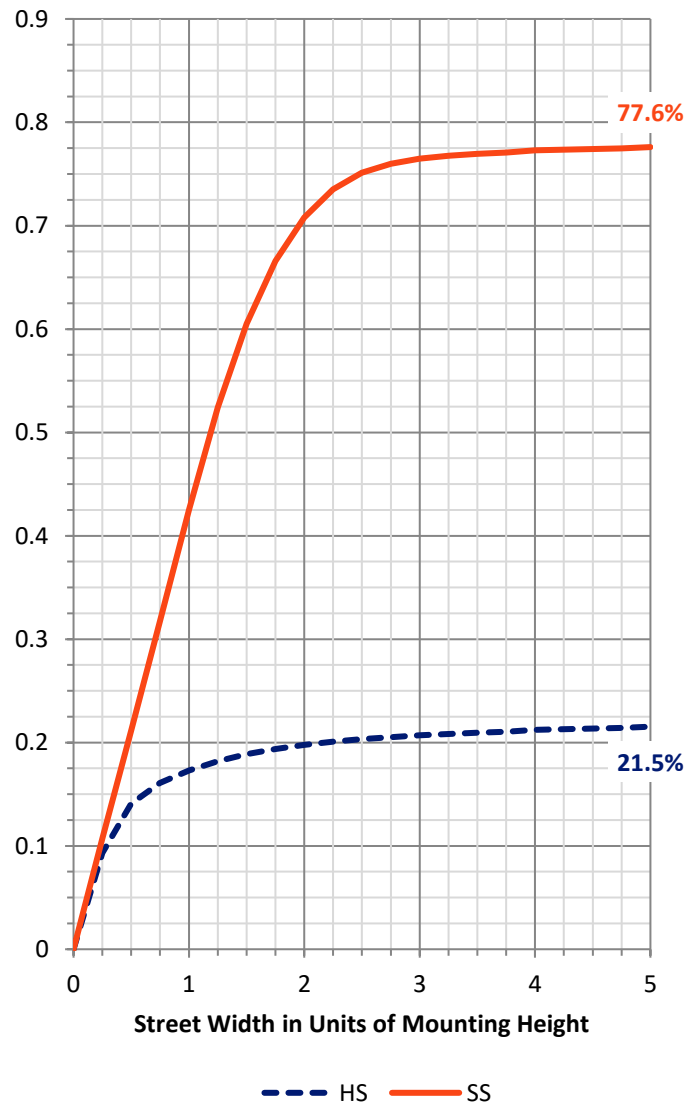
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5907.4	0.0	5907.4
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	20863.6	0.0	20863.6
	% Fixture	77.9	0.0	77.9
Total	Lumens	26771.0	0.0	26771.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	309.7	1.2
10°-20°	880.5	3.3
20°-30°	1464.7	5.5
30°-40°	2391.8	8.9
40°-50°	4036.8	15.1
50°-60°	6279.4	23.5
60°-70°	7480.2	27.9
70°-80°	3484.7	13.0
80°-90°	443.2	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°	26771.0	100.0
0°-180°	26771.0	100.0



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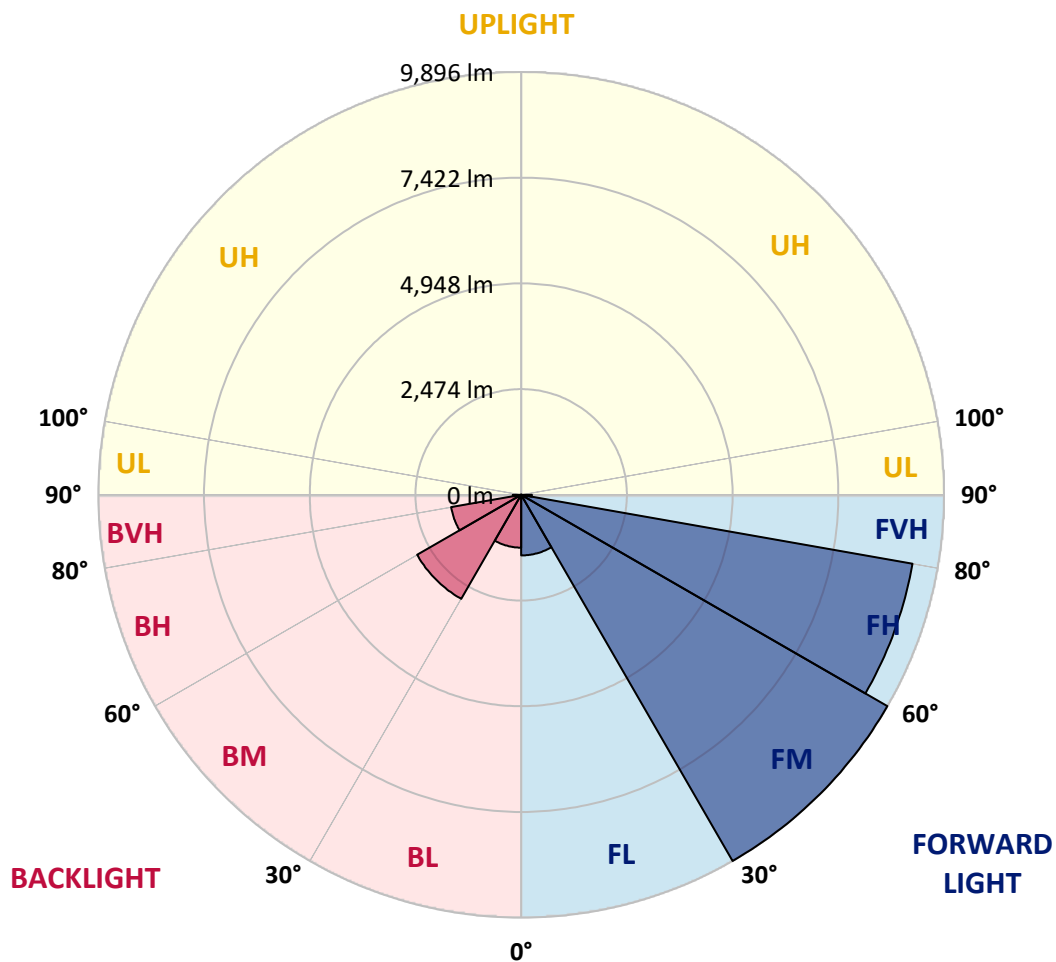
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1417.7	5.3			
FM	(30°-60°)	9896.4	37.0			
FH	(60°-80°)	9300.3	34.7			G4/12000
FVH	(80°-90°)	249.1	0.9			G3/500
BL	(0°-30°)	1237.1	4.6	B3/2500		
BM	(30°-60°)	2811.6	10.5	B3/5000		
BH	(60°-80°)	1664.6	6.2	B3/2500		G3/2500
BVH	(80°-90°)	194.1	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°	3307.8	3307.8	3307.8	3307.8	3307.8	3307.8	3307.8	3307.8	3307.8	3307.8	3307.8
2.5°	3289.0	3289.0	3297.5	3297.5	3297.5	3294.1	3283.8	3287.3	3280.4	3275.3	3266.7
5°	3222.1	3225.6	3235.8	3239.3	3244.4	3246.1	3246.1	3244.4	3246.1	3246.1	3241.0
7.5°	3129.6	3133.0	3145.0	3151.9	3167.3	3181.0	3187.8	3187.8	3196.4	3203.3	3205.0
10°	3073.0	3073.0	3079.9	3079.9	3091.9	3098.7	3121.0	3119.3	3143.3	3165.6	3175.8
12.5°	3066.2	3066.2	3062.7	3050.7	3043.9	3042.2	3064.4	3067.9	3103.9	3143.3	3162.1
15°	3088.4	3088.4	3078.2	3054.2	3028.5	3016.5	3038.7	3045.6	3085.0	3131.3	3160.4
17.5°	3160.4	3158.7	3136.4	3088.4	3043.9	3025.0	3031.9	3038.7	3074.7	3127.9	3163.9
20°	3319.8	3319.8	3271.8	3184.4	3107.3	3062.7	3052.4	3057.6	3083.3	3133.0	3179.3
22.5°	3599.2	3604.3	3518.6	3374.7	3242.7	3148.4	3107.3	3112.4	3124.4	3172.4	3223.8
25°	4010.5	3996.8	3875.1	3671.2	3465.5	3304.4	3220.4	3225.6	3225.6	3270.1	3323.2
27.5°	4445.8	4449.3	4274.5	4055.1	3784.3	3544.3	3410.7	3408.9	3407.2	3450.1	3506.6
30°	4937.7	4939.4	4737.2	4483.6	4173.3	3866.5	3666.0	3664.3	3648.9	3702.0	3775.7
32.5°	5475.9	5474.2	5239.4	4953.2	4608.7	4260.7	4000.2	3998.5	3986.5	4058.5	4147.6
35°	6072.3	6072.3	5839.2	5486.2	5114.3	4726.9	4425.3	4423.6	4430.4	4528.1	4612.1
37.5°	6790.5	6805.9	6524.8	6096.3	5690.1	5277.1	4925.7	4915.5	4864.0	5028.6	5167.4
40°	7539.4	7582.3	7290.9	6790.5	6351.7	5924.9	5537.6	5530.7	5486.2	5661.0	5885.5
42.5°	8350.1	8447.8	8123.9	7613.1	7134.9	6673.9	6284.9	6266.0	6094.6	6367.1	6718.5
45°	9412.7	9476.1	9006.5	8543.8	8093.0	7566.8	7104.1	7003.0	6831.6	7181.2	7637.1
47.5°	10136.0	10105.1	9812.1	9501.8	9212.2	8708.3	7997.0	7868.5	7659.4	8122.2	8624.3
50°	10585.0	10607.3	10442.8	10427.3	10411.9	10060.6	9004.8	8850.6	8608.9	9157.3	9743.5
52.5°	10881.5	10780.4	10809.5	11159.2	11582.5	11414.5	10144.5	9973.2	9724.6	10273.1	10934.7
55°	10758.1	10624.4	10893.5	11582.5	12578.3	12616.0	11395.7	11219.2	11006.6	11459.1	12367.5
57.5°	10247.4	10314.2	10739.3	11697.3	13258.7	13692.3	12833.6	12653.7	12235.5	12694.8	13728.3
60°	9529.3	9664.7	10314.2	11515.7	13735.2	14530.4	14412.1	14292.2	13572.3	13898.0	15157.7
62.5°	8758.0	8891.7	9690.4	11205.4	13520.9	15272.5	15961.5	15887.8	15048.0	15056.6	16064.3
65°	7618.3	7673.1	8488.9	10358.8	12926.2	15942.7	17512.6	17447.5	16458.5	16045.5	16318.0
67.5°	5753.5	5822.1	6492.2	8177.0	11116.3	15579.3	18751.7	18741.4	17306.9	16412.3	15714.7
69°	4248.7	4332.7	4879.5	6348.3	9191.6	14194.5	18810.0	18948.8	17536.6	16374.6	14694.9
70°	3109.0	3205.0	3710.6	5038.9	7656.0	12665.7	18311.3	18609.5	17449.2	16136.3	13899.7
72.5°	1321.4	1354.0	1602.5	2274.3	3883.7	7637.1	14998.3	15625.6	15759.3	14458.4	10859.2
75°	827.8	838.1	935.8	1167.2	1727.6	3158.7	9712.6	10567.9	11765.9	11217.4	7270.3
77.5°	623.9	632.4	689.0	803.8	1072.9	1179.2	4505.8	5373.1	6739.0	6598.5	3618.0
80°	478.2	483.3	521.0	584.4	755.8	738.7	1462.0	1837.3	2812.5	2481.7	1280.3
82.5°	375.3	377.1	409.6	421.6	527.9	497.0	733.5	817.5	1136.3	944.4	625.6
85°	332.5	337.6	370.2	308.5	337.6	299.9	402.8	437.0	603.3	569.0	236.5
87.5°	169.7	178.2	310.2	263.9	169.7	142.3	176.5	190.2	245.1	265.7	114.8
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°	3307.8	3307.8	3307.8	3307.8	3307.8	3307.8	3307.8	3307.8	3307.8	3307.8	3307.8
2.5°	3268.4	3270.1	3275.3	3283.8	3297.5	3314.7	3335.2	3355.8	3367.8	3376.4	3372.9
5°	3241.0	3242.7	3253.0	3268.4	3285.5	3311.2	3345.5	3371.2	3390.1	3402.1	3400.4
7.5°	3206.7	3211.8	3232.4	3249.5	3273.5	3294.1	3321.5	3345.5	3364.4	3376.4	3374.7
10°	3181.0	3186.1	3211.8	3234.1	3254.7	3258.1	3253.0	3246.1	3244.4	3253.0	3249.5
12.5°	3169.0	3179.3	3203.3	3218.7	3210.1	3177.6	3139.9	3124.4	3119.3	3136.4	3138.1
15°	3172.4	3181.0	3201.6	3191.3	3145.0	3090.2	3069.6	3081.6	3091.9	3102.2	3103.9
17.5°	3181.0	3186.1	3191.3	3153.6	3088.4	3052.4	3045.6	3033.6	3002.7	2985.6	2983.9
20°	3196.4	3203.3	3194.7	3134.7	3076.4	3028.5	2946.2	2872.5	2802.2	2764.5	2749.1
22.5°	3249.5	3254.7	3229.0	3170.7	3081.6	2925.6	2759.4	2632.5	2524.6	2466.3	2444.0
25°	3354.1	3362.7	3326.7	3253.0	3019.9	2747.4	2512.6	2341.2	2205.8	2135.5	2116.7
27.5°	3537.5	3546.0	3506.6	3314.7	2875.9	2509.1	2224.6	2055.0	1938.4	1878.4	1869.9
30°	3811.7	3823.7	3787.7	3313.0	2656.5	2205.8	1943.6	1844.2	1777.3	1736.2	1734.5
32.5°	4192.2	4236.7	4089.4	3254.7	2385.7	1899.0	1731.0	1696.8	1664.2	1636.8	1636.8
35°	4675.5	4780.1	4387.6	3133.0	2087.5	1689.9	1612.8	1580.2	1539.1	1509.9	1506.5
37.5°	5253.1	5415.9	4600.1	2917.0	1830.4	1588.8	1540.8	1487.7	1422.5	1366.0	1352.3
40°	6046.6	6084.3	4704.6	2565.7	1638.5	1533.9	1474.0	1407.1	1324.8	1261.4	1254.6
42.5°	6843.6	6720.2	4684.1	2188.6	1528.8	1484.2	1405.4	1331.7	1258.0	1204.9	1204.9
45°	7750.2	7275.5	4528.1	1809.9	1429.4	1427.7	1342.0	1271.7	1215.2	1175.7	1167.2
47.5°	8617.5	7774.2	4259.0	1530.5	1326.6	1371.1	1300.8	1244.3	1192.9	1155.2	1148.3
50°	9669.8	8351.8	3972.8	1335.1	1227.1	1321.4	1283.7	1254.6	1204.9	1139.7	1132.9
52.5°	10715.3	9027.1	3751.7	1187.7	1139.7	1282.0	1294.0	1297.4	1251.1	1124.3	1115.7
55°	11837.9	9748.6	3518.6	1072.9	1067.8	1263.1	1318.0	1314.6	1292.3	1127.7	1114.0
57.5°	12905.6	10473.6	3170.7	992.3	1011.2	1244.3	1323.1	1268.3	1228.9	1144.9	1122.6
60°	13790.0	11073.5	2660.0	935.8	963.2	1206.6	1288.8	1206.6	1139.7	1141.5	1120.9
62.5°	14220.2	11241.4	2034.4	870.7	923.8	1144.9	1239.1	1160.3	1098.6	1148.3	1136.3
65°	13892.8	10763.3	1450.0	810.7	875.8	1072.9	1210.0	1120.9	1078.0	1182.6	1168.9
67.5°	12717.1	9460.7	1052.3	757.5	829.5	999.2	1155.2	1084.9	1057.5	1208.3	1177.4
69°	11467.7	8168.4	911.8	726.7	797.0	959.8	1119.2	1066.0	1042.0	1172.3	1127.7
70°	10429.1	7172.7	841.5	707.8	769.5	937.5	1091.8	1054.0	1026.6	1129.5	1076.3
72.5°	7477.7	4636.1	707.8	651.3	697.6	887.8	1031.8	1009.5	968.4	1019.8	985.5
75°	4517.8	2420.0	601.6	593.0	622.1	819.2	961.5	934.1	892.9	898.1	880.9
77.5°	2075.5	1117.5	503.9	524.5	543.3	733.5	875.8	845.0	807.2	793.5	795.2
80°	910.1	653.0	421.6	447.3	457.6	659.8	783.3	749.0	707.8	781.5	725.0
82.5°	491.9	378.8	329.1	346.2	375.3	574.2	680.4	635.9	596.4	694.1	560.4
85°	198.8	193.7	222.8	239.9	260.5	413.0	569.0	522.7	474.7	425.0	414.8
87.5°	85.7	92.6	109.7	116.5	138.8	257.1	382.2	334.2	335.9	287.9	282.8
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)