

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: P196870

Luminaire Tested: **NAV-AF-04-D-UNV-T4W-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196870
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25579.8 lumens
Efficiency: N/A
Efficacy: 99.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

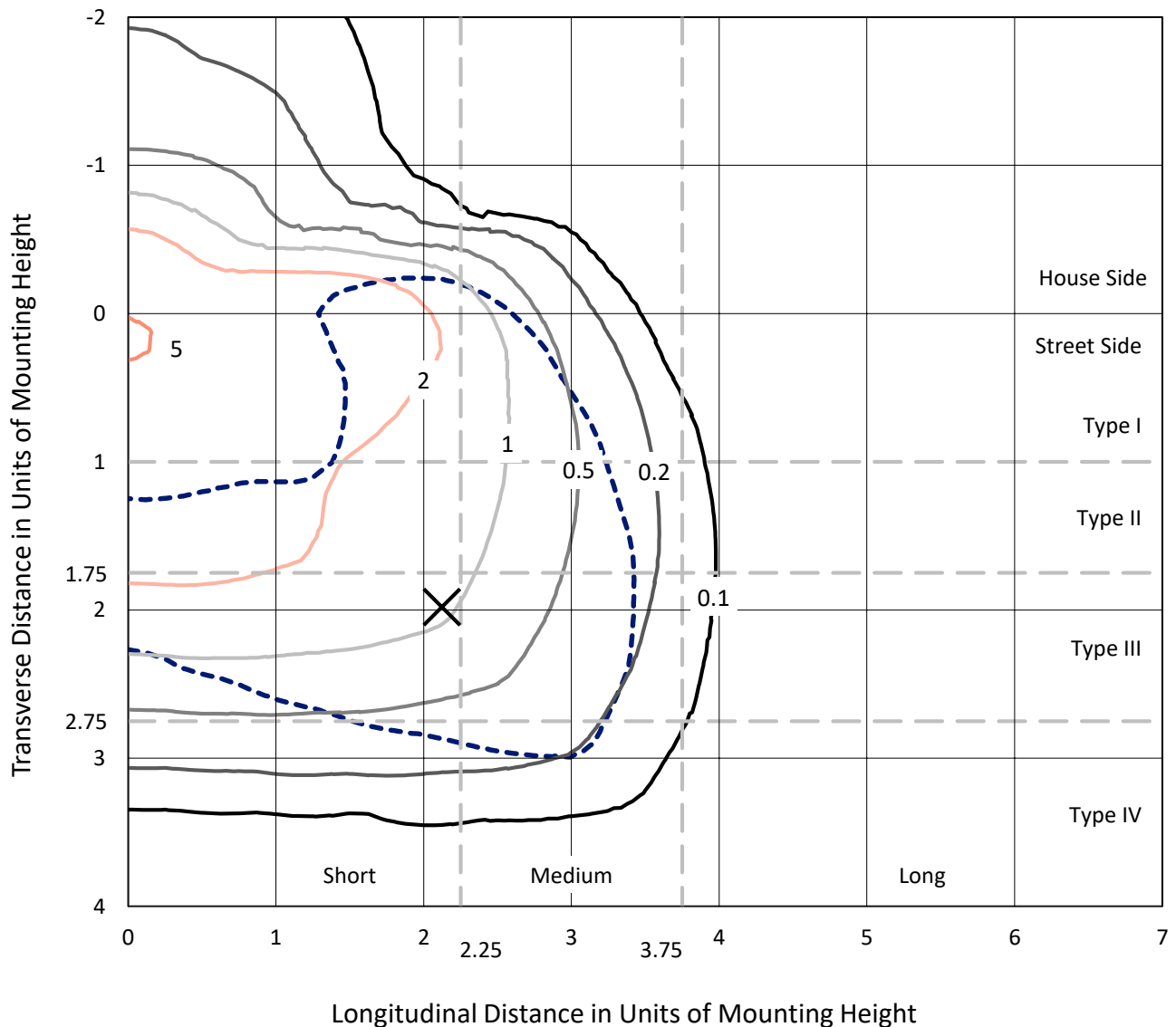
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

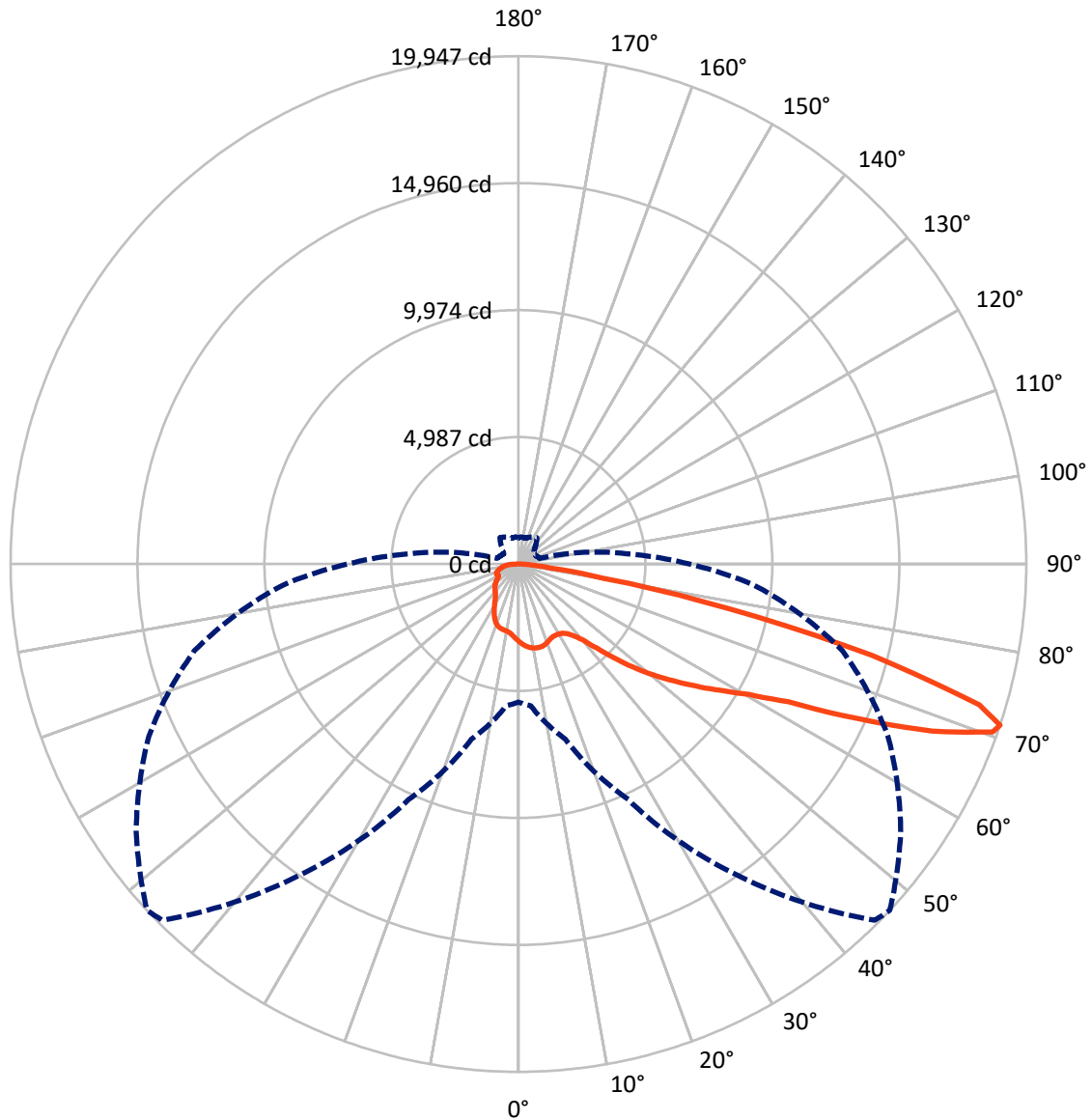
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.6 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P196870
CATALOG NUMBER: NAV-AF-04-D-UNV-T4W-7030-1200

Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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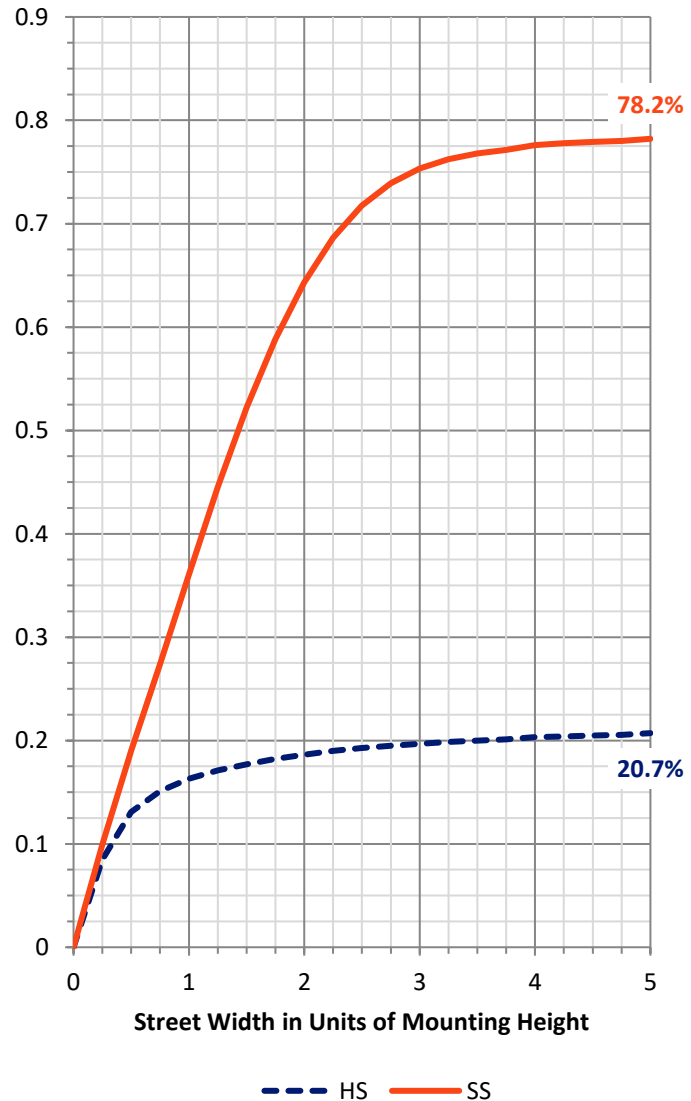
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5482.1	0.0	5482.1
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	20097.7	0.0	20097.7
	% Fixture	78.6	0.0	78.6
Total	Lumens	25579.8	0.0	25579.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	290.4	1.1
10°-20°	849.7	3.3
20°-30°	1262.6	4.9
30°-40°	1812.9	7.1
40°-50°	3214.4	12.6
50°-60°	5500.2	21.5
60°-70°	7808.4	30.5
70°-80°	4276.6	16.7
80°-90°	564.5	2.2
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°	25579.8	100.0
0°-180°	25579.8	100.0



REPORT NUMBER: P196870

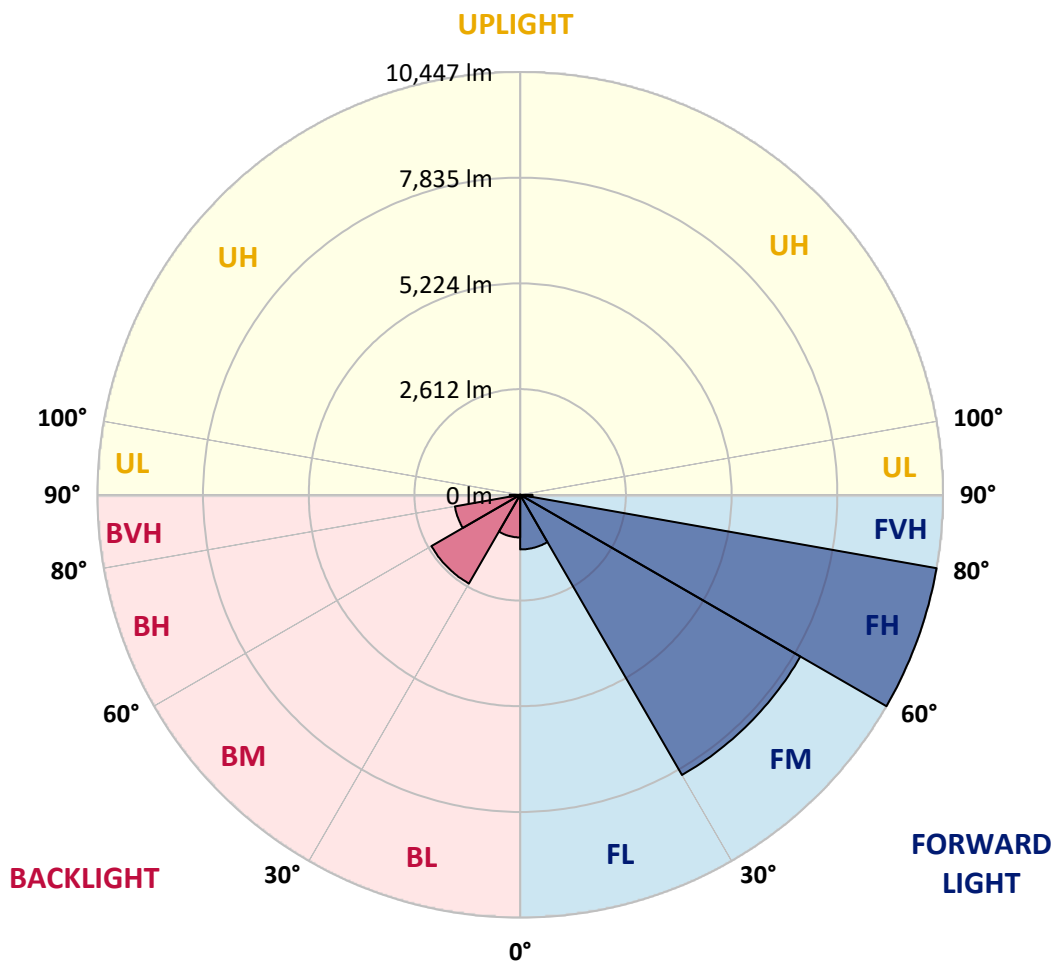
CATALOG NUMBER: NAV-AF-04-D-UNV-T4W-7030-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1350.0	5.3			
FM	(30°-60°)	7994.5	31.3			
FH	(60°-80°)	10447.0	40.8			G4/12000
FVH	(80°-90°)	306.2	1.2			G3/500
BL	(0°-30°)	1052.7	4.1	B3/2500		
BM	(30°-60°)	2533.0	9.9	B3/5000		
BH	(60°-80°)	1638.0	6.4	B3/2500		G3/2500
BVH	(80°-90°)	258.3	1.0			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





REPORT NUMBER: P196870

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	3041.9	3041.9	3041.9	3041.9	3041.9	3041.9	3041.9	3041.9	3041.9	3041.9	3041.9
2.5°	3227.5	3220.9	3224.2	3212.7	3184.5	3154.6	3154.6	3123.0	3090.0	3056.7	3020.4
5°	3428.1	3418.1	3409.9	3373.4	3318.7	3257.3	3247.4	3184.5	3116.5	3048.5	2982.2
7.5°	3595.5	3585.6	3560.8	3494.4	3414.9	3323.6	3312.0	3229.1	3139.7	3045.2	2952.3
10°	3715.0	3708.3	3660.1	3575.6	3482.8	3375.0	3355.2	3270.6	3164.5	3046.8	2929.1
12.5°	3781.3	3771.3	3713.1	3613.7	3504.4	3394.9	3375.0	3293.8	3172.8	3043.5	2906.0
15°	3754.7	3749.7	3695.0	3593.9	3484.5	3390.0	3373.4	3290.6	3167.9	3032.0	2884.3
17.5°	3641.9	3653.5	3610.5	3510.9	3421.5	3355.2	3336.9	3258.9	3143.0	3003.7	2851.2
20°	3486.1	3499.3	3477.8	3376.7	3325.3	3282.2	3272.4	3209.3	3101.6	2962.3	2811.5
22.5°	3320.4	3332.0	3333.6	3239.1	3222.6	3206.0	3197.7	3152.9	3065.0	2937.4	2784.9
25°	3206.0	3219.3	3222.6	3139.7	3149.6	3154.6	3152.9	3121.4	3058.5	2937.4	2788.2
27.5°	3176.1	3182.7	3179.5	3103.2	3121.4	3149.6	3151.2	3144.6	3084.9	2970.5	2834.6
30°	3278.9	3282.2	3240.7	3126.5	3144.6	3181.1	3182.7	3179.5	3141.3	3056.7	2939.1
32.5°	3723.2	3719.8	3577.2	3282.2	3219.3	3232.6	3237.5	3267.3	3270.6	3199.3	3090.0
35°	4399.6	4397.9	4232.0	3728.2	3431.4	3361.8	3368.5	3414.9	3456.3	3408.3	3345.2
37.5°	5143.8	5148.9	5047.7	4364.7	3889.0	3598.9	3592.2	3627.1	3701.6	3718.2	3726.5
40°	5969.4	5994.2	5989.3	5095.8	4530.4	4003.4	3937.0	3897.3	4041.5	4132.6	4250.3
42.5°	6912.7	6905.9	6909.2	5898.1	5263.1	4639.9	4517.3	4331.6	4499.0	4656.4	4915.0
45°	7723.2	7749.8	7769.7	6751.7	6083.8	5367.6	5243.3	4905.0	5056.0	5291.3	5685.9
47.5°	8538.7	8492.4	8528.8	7701.6	6997.1	6198.1	6037.3	5581.4	5722.4	6053.8	6654.0
50°	9488.6	9467.1	9301.4	8941.6	8101.1	7040.2	6829.7	6287.7	6493.2	6935.8	7849.1
52.5°	10340.8	10224.6	10095.3	9916.3	9186.9	7892.3	7625.4	7022.0	7399.9	7948.6	9332.8
55°	10652.3	10574.4	10730.3	10962.3	10335.7	8761.0	8462.5	7879.0	8422.7	9107.3	11078.4
57.5°	10983.9	11010.4	11361.9	11830.9	11423.2	9687.6	9364.3	8893.4	9545.0	10403.6	13029.5
60°	11149.6	11255.8	11956.9	12837.2	12457.5	10703.7	10393.8	10058.9	10789.9	11835.9	14975.6
62.5°	11177.8	11320.4	12313.3	13190.3	13881.5	12260.3	11902.2	11539.2	12344.8	13419.0	16384.6
65°	10660.7	10879.4	12281.9	13624.5	15179.5	14861.2	14634.0	14000.8	14426.9	14813.2	16625.0
67.5°	9140.5	9379.3	11066.8	13445.6	16220.5	17559.9	17516.9	16581.8	16034.9	15351.9	14843.0
70°	6708.6	6901.0	8522.2	11494.4	15766.3	19678.4	19754.7	18254.5	16484.1	14208.1	11037.0
71°	5425.6	5591.4	7119.8	10204.7	14881.1	19787.8	19947.0	18329.2	16016.7	13175.3	9239.9
72.5°	3376.7	3469.5	4727.7	7701.6	12813.9	18660.6	18929.1	17374.3	14544.6	11136.4	6531.3
75°	1274.7	1311.2	1753.8	3396.7	7648.5	14019.0	14344.0	13130.6	10218.0	6357.2	2733.5
77.5°	684.6	702.9	870.2	1412.4	3065.0	8036.4	8454.3	7489.5	4901.8	2224.6	1117.2
80°	459.2	470.8	601.7	837.2	1409.0	3060.2	3408.3	3007.1	1835.1	1269.8	795.7
82.5°	296.7	303.3	409.5	550.3	910.0	1075.8	1228.4	1283.0	1145.5	910.0	480.7
85°	195.6	200.6	270.2	351.4	563.7	530.5	543.7	711.2	780.7	600.1	245.3
87.5°	112.7	116.1	162.5	180.8	253.6	199.0	215.5	338.1	464.2	391.2	141.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196870

CATALOG NUMBER: NAV-AF-04-D-UNV-T4W-7030-1200

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3041.9	3041.9	3041.9	3041.9	3041.9	3041.9	3041.9	3041.9	3041.9	3041.9	3041.9
2.5°	3003.7	2990.4	2960.6	2942.4	2934.1	2930.8	2927.5	2934.1	2934.1	2930.8	2924.3
5°	2949.0	2924.3	2874.4	2839.6	2821.4	2816.3	2823.0	2831.4	2836.3	2836.3	2831.4
7.5°	2909.2	2872.8	2806.5	2758.4	2730.2	2721.9	2740.1	2770.0	2789.9	2799.9	2801.5
10°	2876.1	2826.3	2753.5	2703.7	2680.4	2677.2	2700.4	2738.5	2780.0	2798.1	2801.5
12.5°	2846.2	2789.9	2710.2	2664.0	2647.4	2655.6	2687.1	2721.9	2770.0	2796.5	2798.1
15°	2818.2	2760.1	2675.5	2627.4	2624.1	2637.4	2667.2	2695.4	2731.9	2765.1	2765.1
17.5°	2784.9	2721.9	2634.0	2589.3	2589.3	2600.9	2620.8	2635.8	2659.0	2690.4	2688.8
20°	2745.1	2680.4	2591.0	2544.5	2534.6	2527.9	2527.9	2531.3	2551.2	2579.4	2584.3
22.5°	2715.3	2649.0	2554.5	2498.1	2453.4	2410.3	2392.0	2385.4	2403.7	2430.2	2436.8
25°	2715.3	2649.0	2542.9	2448.4	2339.0	2256.1	2221.3	2211.4	2229.6	2254.4	2264.4
27.5°	2760.1	2693.8	2569.4	2403.7	2203.1	2070.5	2029.1	2020.7	2037.3	2057.3	2067.1
30°	2864.4	2799.9	2645.7	2352.3	2052.2	1878.1	1831.7	1823.4	1831.7	1840.0	1851.6
32.5°	3038.5	2983.9	2770.0	2305.8	1899.7	1704.1	1647.7	1634.5	1637.8	1639.4	1649.4
35°	3322.0	3297.1	2935.8	2251.2	1755.5	1561.6	1503.5	1476.9	1475.3	1483.6	1495.2
37.5°	3756.4	3771.3	3149.6	2171.5	1636.1	1460.5	1402.5	1375.9	1362.6	1379.2	1392.5
40°	4369.8	4404.5	3396.7	2063.8	1538.4	1400.7	1339.4	1314.5	1296.4	1291.3	1298.0
42.5°	5167.0	5157.0	3648.6	1926.2	1432.3	1361.0	1296.4	1269.8	1240.0	1201.9	1193.5
45°	6112.0	5969.4	3859.1	1757.1	1311.2	1322.8	1256.5	1220.1	1173.7	1117.2	1110.6
47.5°	7227.5	6834.7	3988.4	1576.5	1198.5	1273.1	1211.8	1155.4	1087.4	1051.0	1046.0
50°	8571.9	7847.5	4079.6	1392.5	1097.4	1210.1	1148.8	1074.2	1007.9	998.0	996.2
52.5°	10163.3	9042.8	4192.3	1226.7	1017.9	1128.8	1085.8	1009.5	956.4	961.5	961.5
55°	11855.8	10279.3	4195.7	1095.8	948.2	1034.3	1039.4	978.1	936.6	953.2	958.1
57.5°	13399.1	11360.1	3865.7	1002.9	881.9	959.9	1024.5	989.7	958.1	1016.1	1021.1
60°	14745.2	12192.4	3156.3	926.6	827.2	931.7	1057.6	1060.9	1054.3	1211.8	1223.3
62.5°	15237.6	12200.7	2241.2	861.9	797.4	948.2	1127.2	1132.3	1132.3	1278.2	1299.6
65°	14547.9	11184.5	1491.9	824.0	777.5	984.7	1183.6	1162.1	1110.6	1211.8	1188.5
67.5°	12117.7	8706.3	1090.7	799.0	749.3	986.3	1233.3	1178.6	1090.7	1176.9	1137.2
70°	8328.3	5540.0	913.4	775.8	716.0	943.2	1259.9	1173.7	1060.9	1097.4	1044.3
71°	6703.7	4421.0	867.0	767.5	702.9	918.4	1263.1	1167.0	1046.0	1069.2	1021.1
72.5°	4416.0	2723.7	810.6	749.3	683.0	875.2	1254.9	1152.1	1026.2	1027.8	996.2
75°	1742.2	1128.8	729.5	707.8	626.6	805.7	1218.4	1120.6	988.0	954.8	941.6
77.5°	880.2	737.7	641.6	649.8	560.3	734.3	1167.0	1069.2	934.9	890.1	880.2
80°	643.2	560.3	548.7	563.7	485.6	664.8	1102.3	999.6	867.0	913.4	893.5
82.5°	391.2	341.4	429.4	465.8	406.1	593.5	1026.2	918.4	780.7	719.5	696.2
85°	185.6	200.6	310.0	343.2	300.0	474.0	938.2	828.8	681.3	588.5	598.4
87.5°	91.1	111.1	177.3	205.5	197.2	348.1	707.8	643.2	537.1	442.6	432.6
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)