

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: P270640

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270640
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-05-D-UNV-T4W-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 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: 28320.6 lumens
Efficiency: N/A
Efficacy: 88.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 320
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

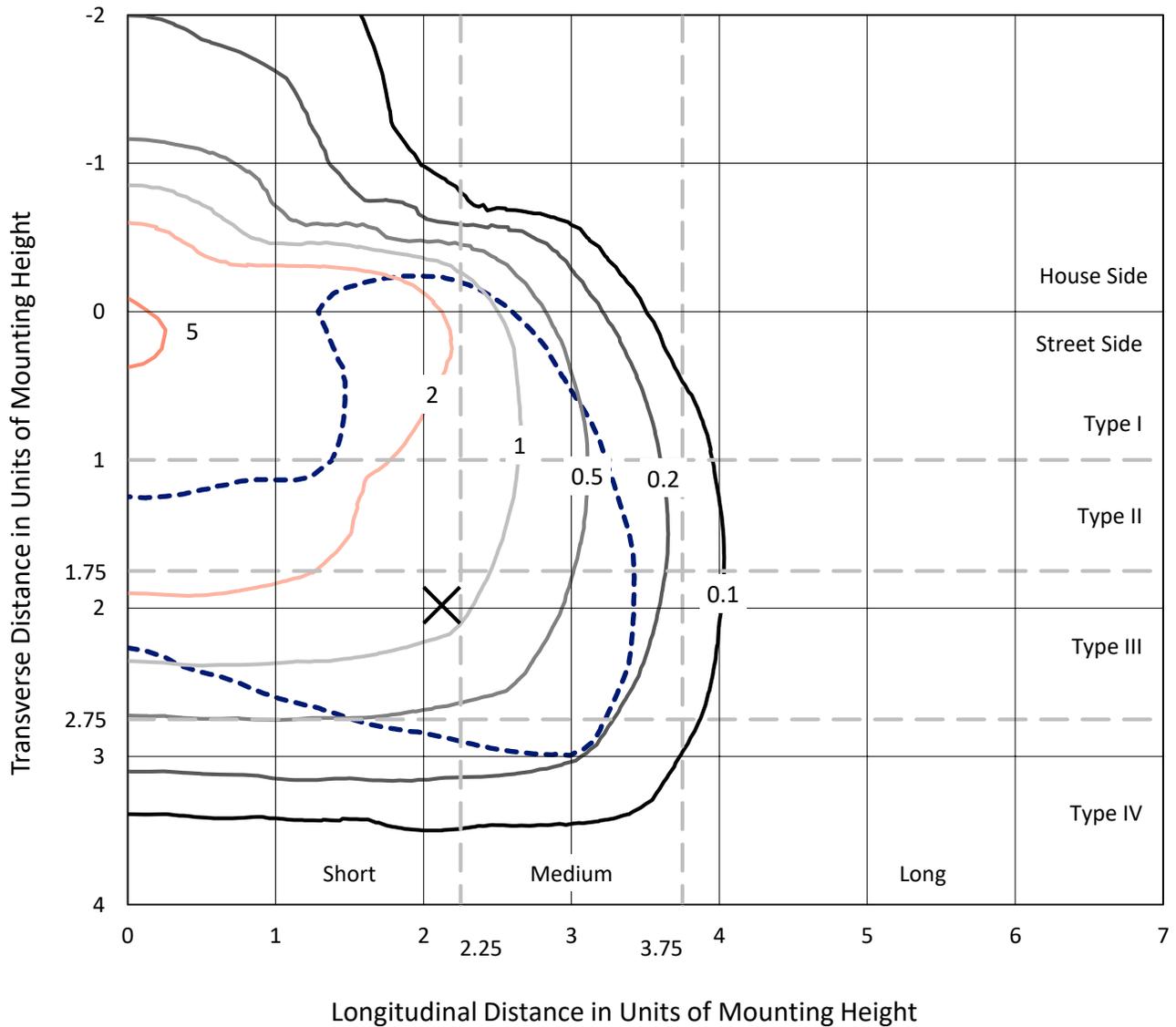


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Iso-Footcandle Lines of Horizontal Illumination

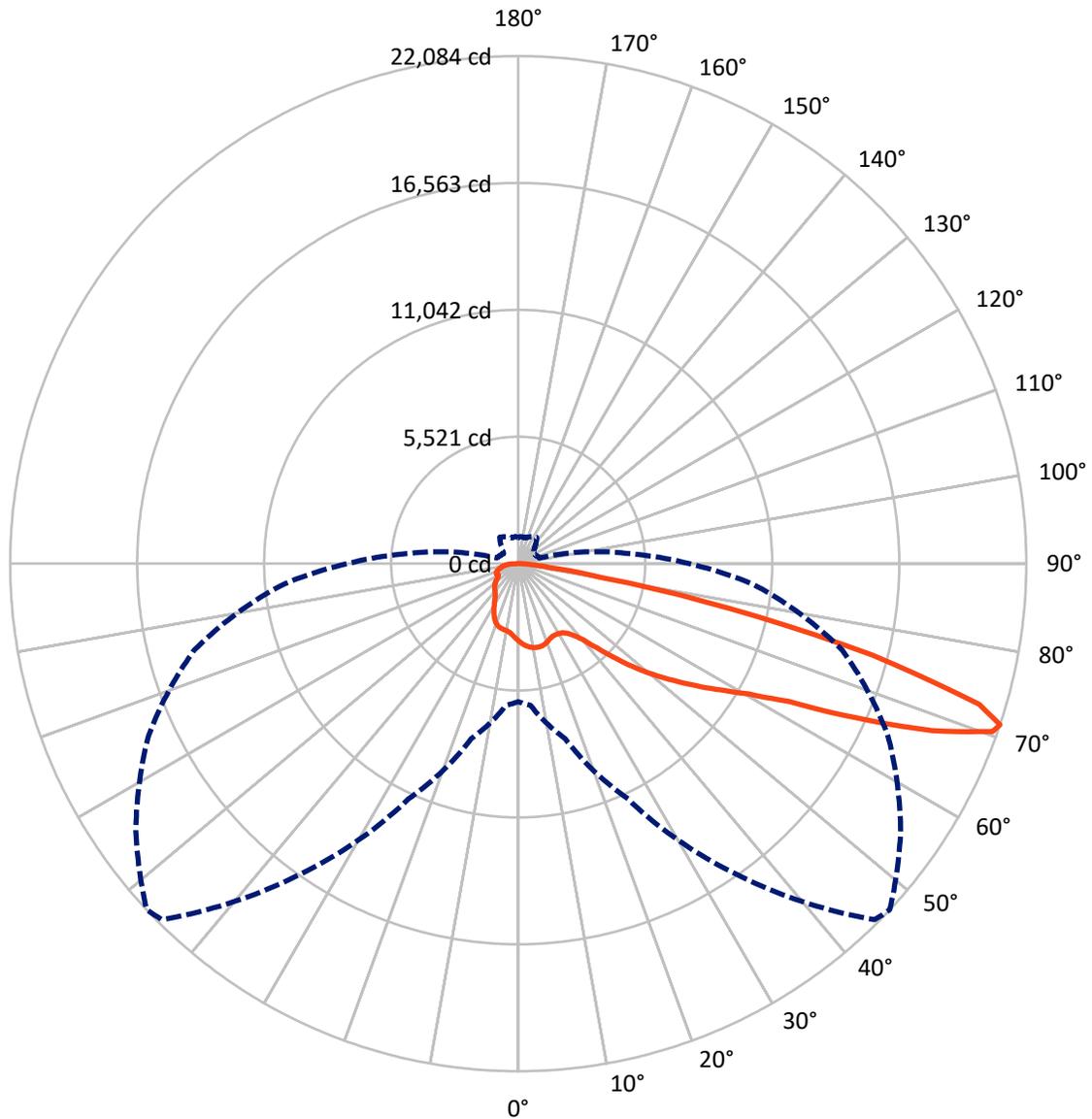
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.2 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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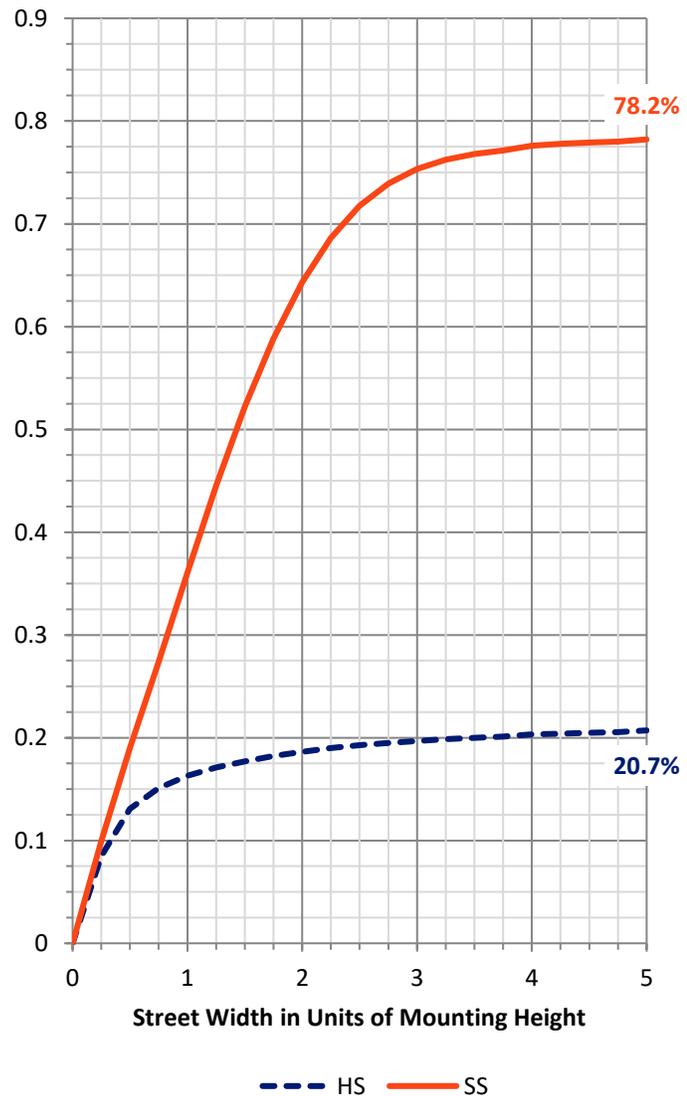
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6069.5	0.0	6069.5
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	22251.1	0.0	22251.1
	% Fixture	78.6	0.0	78.6
Total	Lumens	28320.6	0.0	28320.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	321.6	1.1
10°-20°	940.7	3.3
20°-30°	1397.9	4.9
30°-40°	2007.2	7.1
40°-50°	3558.8	12.6
50°-60°	6089.6	21.5
60°-70°	8645.1	30.5
70°-80°	4734.8	16.7
80°-90°	625.0	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°	28320.6	100.0
0°-180°	28320.6	100.0



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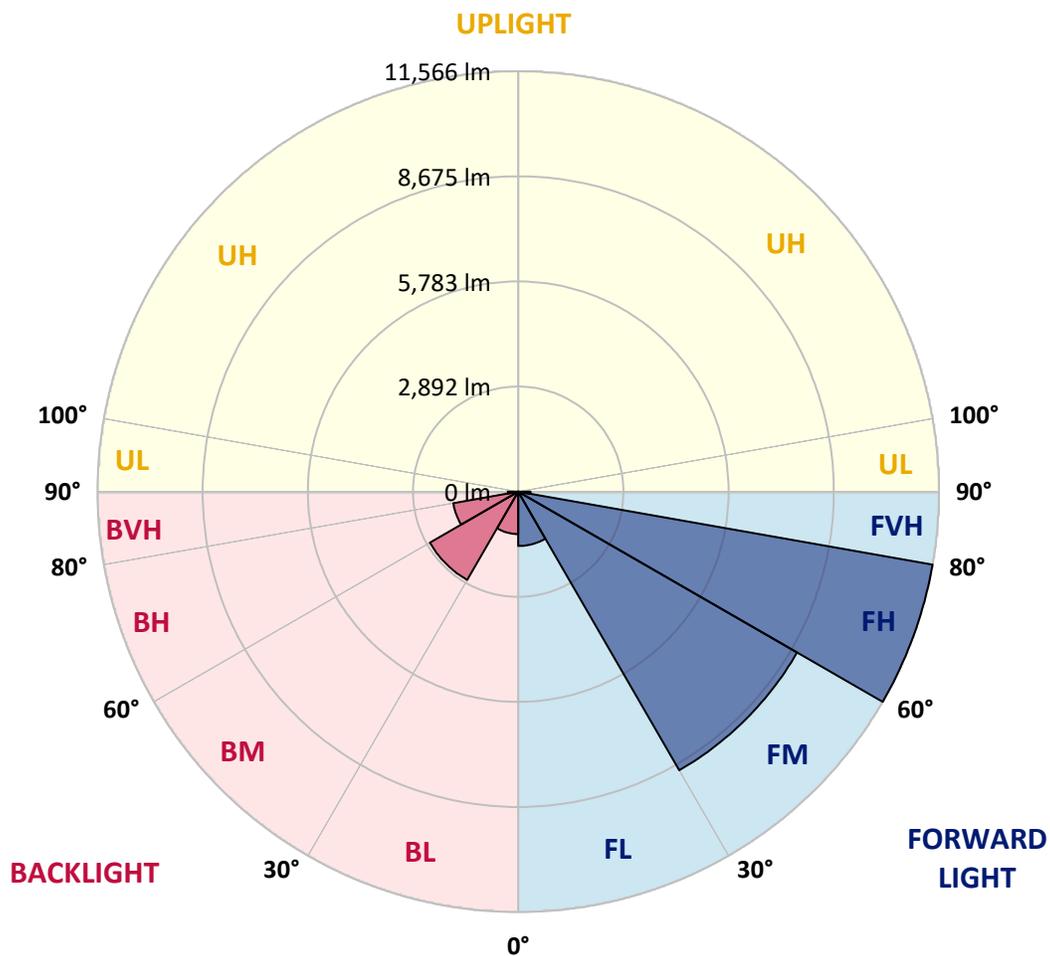
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1494.6	5.3			
FM	(30°-60°)	8851.0	31.3			
FH	(60°-80°)	11566.4	40.8			G4/12000
FVH	(80°-90°)	339.0	1.2			G3/500
BL	(0°-30°)	1165.5	4.1	B3/2500		
BM	(30°-60°)	2804.5	9.9	B3/5000		
BH	(60°-80°)	1813.5	6.4	B3/2500		G3/2500
BVH	(80°-90°)	286.0	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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	3367.7	3367.7	3367.7	3367.7	3367.7	3367.7	3367.7	3367.7	3367.7	3367.7	3367.7
2.5°	3573.4	3566.0	3569.7	3556.7	3525.7	3492.6	3492.6	3457.8	3421.0	3384.4	3343.9
5°	3795.3	3784.4	3775.2	3734.9	3674.2	3606.3	3595.3	3525.7	3450.4	3375.1	3301.7
7.5°	3980.7	3969.8	3942.2	3868.8	3780.7	3679.7	3666.9	3575.2	3476.1	3371.5	3268.8
10°	4112.9	4105.7	4052.3	3958.8	3856.0	3736.7	3714.8	3621.1	3503.6	3373.3	3243.1
12.5°	4186.3	4175.3	4111.2	4001.1	3879.9	3758.7	3736.7	3646.8	3512.8	3369.6	3217.3
15°	4156.9	4151.4	4090.9	3979.0	3857.9	3753.2	3734.9	3643.0	3507.3	3356.7	3193.5
17.5°	4032.2	4045.1	3997.3	3887.1	3788.2	3714.8	3694.5	3608.2	3479.8	3325.5	3156.7
20°	3859.7	3874.3	3850.4	3738.6	3681.7	3634.0	3623.0	3553.2	3434.0	3279.7	3112.6
22.5°	3676.1	3689.0	3690.9	3586.3	3567.9	3549.6	3540.3	3490.8	3393.4	3252.1	3083.3
25°	3549.6	3564.1	3567.9	3476.1	3487.1	3492.6	3490.8	3455.9	3386.2	3252.1	3086.9
27.5°	3516.4	3523.8	3520.1	3435.7	3455.9	3487.1	3488.9	3481.7	3415.5	3288.9	3138.4
30°	3630.2	3634.0	3588.0	3461.3	3481.7	3522.0	3523.8	3520.1	3477.9	3384.4	3254.0
32.5°	4122.1	4118.4	3960.5	3634.0	3564.1	3578.8	3584.3	3617.5	3621.1	3542.1	3421.0
35°	4870.9	4869.2	4685.6	4127.6	3799.1	3721.9	3729.4	3780.7	3826.6	3773.4	3703.6
37.5°	5695.0	5700.5	5588.5	4832.4	4305.7	3984.4	3977.2	4015.7	4098.2	4116.7	4125.7
40°	6609.0	6636.5	6631.0	5641.7	5016.0	4432.2	4358.8	4314.7	4474.5	4575.4	4705.7
42.5°	7653.3	7646.0	7649.5	6530.0	5827.1	5137.0	5001.3	4795.7	4981.0	5155.5	5441.8
45°	8550.7	8580.2	8602.1	7475.2	6735.6	5942.7	5805.0	5430.8	5597.7	5858.3	6295.1
47.5°	9453.8	9402.3	9442.7	8526.8	7746.9	6862.2	6684.2	6179.5	6335.4	6702.6	7366.9
50°	10505.3	10481.5	10297.9	9899.7	8969.1	7794.6	7561.6	6961.3	7189.0	7678.9	8690.3
52.5°	11448.7	11320.3	11177.0	10978.8	10171.2	8738.0	8442.5	7774.4	8192.8	8800.3	10332.8
55°	11793.7	11707.5	11879.9	12136.9	11443.1	9699.5	9369.3	8723.3	9325.2	10083.3	12265.4
57.5°	12160.7	12190.2	12579.2	13098.6	12647.1	10725.6	10367.7	9846.4	10567.8	11518.4	14425.5
60°	12344.2	12461.7	13238.1	14212.7	13792.3	11850.6	11507.4	11136.6	11946.0	13104.1	16580.2
62.5°	12375.5	12533.3	13632.7	14603.6	15368.9	13574.0	13177.5	12775.7	13667.6	14856.9	18140.3
65°	11802.9	12045.2	13597.9	15084.5	16806.0	16453.5	16202.1	15501.1	15972.8	16400.4	18406.4
67.5°	10119.9	10384.1	12252.5	14886.3	17958.6	19441.5	19393.8	18358.7	17752.9	16996.8	16433.5
70°	7427.5	7640.4	9435.3	12726.1	17455.7	21787.0	21871.5	20210.4	18250.3	15730.5	12219.6
71°	6007.0	6190.5	7882.6	11298.3	16475.6	21908.1	22084.3	20293.0	17732.8	14587.0	10230.1
72.5°	3738.6	3841.3	5234.3	8526.8	14186.9	20660.1	20957.5	19235.9	16103.0	12329.6	7231.1
75°	1411.3	1451.8	1941.7	3760.6	8468.1	15521.3	15881.0	14537.5	11312.9	7038.4	3026.4
77.5°	758.0	778.2	963.5	1563.7	3393.4	8897.6	9360.1	8292.0	5427.0	2463.1	1237.0
80°	508.4	521.2	666.3	926.8	1560.0	3388.0	3773.4	3329.3	2031.6	1405.8	881.0
82.5°	328.5	335.8	453.4	609.3	1007.5	1191.2	1359.9	1420.5	1268.1	1007.5	532.2
85°	216.6	222.2	299.1	389.1	624.1	587.3	602.0	787.4	864.3	664.3	271.6
87.5°	124.9	128.5	179.9	200.1	280.8	220.3	238.6	374.5	513.9	433.2	155.9
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°	3367.7	3367.7	3367.7	3367.7	3367.7	3367.7	3367.7	3367.7	3367.7	3367.7	3367.7
2.5°	3325.5	3311.0	3277.8	3257.7	3248.5	3244.9	3241.2	3248.5	3248.5	3244.9	3237.5
5°	3265.0	3237.5	3182.4	3143.9	3123.6	3118.1	3125.6	3134.7	3140.2	3140.2	3134.7
7.5°	3221.0	3180.5	3107.1	3054.0	3022.7	3013.5	3033.8	3066.9	3088.8	3099.8	3101.7
10°	3184.2	3129.2	3048.5	2993.4	2967.7	2964.0	2989.6	3031.9	3077.9	3098.1	3101.7
12.5°	3151.3	3088.8	3000.8	2949.3	2931.0	2940.2	2975.0	3013.5	3066.9	3096.2	3098.1
15°	3120.1	3055.9	2962.3	2909.0	2905.3	2920.0	2953.0	2984.2	3024.7	3061.3	3061.3
17.5°	3083.3	3013.5	2916.3	2866.8	2866.8	2879.5	2901.6	2918.1	2943.8	2978.7	2976.9
20°	3039.2	2967.7	2868.6	2817.3	2806.1	2798.8	2798.8	2802.5	2824.5	2855.7	2861.2
22.5°	3006.3	2932.8	2828.3	2765.8	2716.2	2668.5	2648.4	2640.9	2661.1	2690.6	2697.9
25°	3006.3	2932.8	2815.4	2710.7	2589.6	2497.8	2459.3	2448.3	2468.5	2496.0	2507.0
27.5°	3055.9	2982.5	2844.8	2661.1	2439.2	2292.4	2246.4	2237.3	2255.6	2277.7	2288.6
30°	3171.5	3099.8	2929.2	2604.2	2272.2	2079.3	2028.1	2018.9	2028.1	2037.1	2050.0
32.5°	3364.2	3303.5	3066.9	2553.0	2103.3	1886.7	1824.3	1809.6	1813.3	1815.1	1826.2
35°	3678.0	3650.4	3250.3	2492.3	1943.7	1728.9	1664.6	1635.3	1633.4	1642.6	1655.4
37.5°	4158.9	4175.3	3487.1	2404.3	1811.4	1616.9	1552.7	1523.3	1508.7	1526.9	1541.8
40°	4837.9	4876.4	3760.6	2285.0	1703.1	1550.8	1482.9	1455.4	1435.2	1429.7	1437.1
42.5°	5720.6	5709.6	4039.5	2132.7	1585.7	1506.7	1435.2	1405.8	1372.8	1330.6	1321.4
45°	6766.8	6609.0	4272.6	1945.4	1451.8	1464.5	1391.1	1350.8	1299.4	1237.0	1229.7
47.5°	8001.9	7567.1	4415.8	1745.3	1326.9	1409.5	1341.6	1279.1	1204.0	1163.6	1158.0
50°	9490.5	8688.3	4516.7	1541.8	1215.0	1339.8	1271.9	1189.3	1115.9	1104.8	1102.9
52.5°	11252.3	10011.6	4641.5	1358.1	1126.8	1249.8	1202.1	1117.8	1059.0	1064.5	1064.5
55°	13126.2	11380.7	4645.1	1213.2	1049.8	1145.2	1150.8	1082.8	1037.0	1055.2	1060.8
57.5°	14834.8	12577.3	4280.0	1110.3	976.4	1062.7	1134.2	1095.8	1060.8	1125.0	1130.5
60°	16325.1	13498.7	3494.4	1026.0	915.8	1031.4	1170.9	1174.7	1167.3	1341.6	1354.5
62.5°	16870.2	13508.0	2481.4	954.4	882.8	1049.8	1248.0	1253.6	1253.6	1415.0	1438.8
65°	16106.7	12382.9	1651.8	912.1	860.8	1090.2	1310.4	1286.6	1229.7	1341.6	1315.8
67.5°	13416.1	9639.1	1207.6	884.7	829.6	1092.0	1365.5	1304.9	1207.6	1303.1	1259.1
70°	9220.7	6133.5	1011.2	858.9	792.8	1044.3	1394.9	1299.4	1174.7	1215.0	1156.3
71°	7421.9	4894.8	959.8	849.7	778.2	1016.7	1398.5	1292.0	1158.0	1183.7	1130.5
72.5°	4889.3	3015.4	897.4	829.6	756.2	969.0	1389.3	1275.6	1136.0	1138.0	1102.9
75°	1928.9	1249.8	807.5	783.7	693.8	891.9	1349.0	1240.6	1093.9	1057.1	1042.5
77.5°	974.5	816.6	710.3	719.5	620.3	813.1	1292.0	1183.7	1035.0	985.6	974.5
80°	712.0	620.3	607.6	624.1	537.7	735.9	1220.4	1106.7	959.8	1011.2	989.3
82.5°	433.2	378.0	475.4	515.7	449.6	657.0	1136.0	1016.7	864.3	796.5	770.8
85°	205.5	222.2	343.2	380.0	332.3	524.9	1038.8	917.7	754.2	651.5	662.5
87.5°	100.9	123.0	196.4	227.6	218.4	385.5	783.7	712.0	594.7	490.0	479.1
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)