

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: P270513

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270513
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21168.6 lumens
Efficiency: N/A
Efficacy: 94.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B3 - U0 - G4

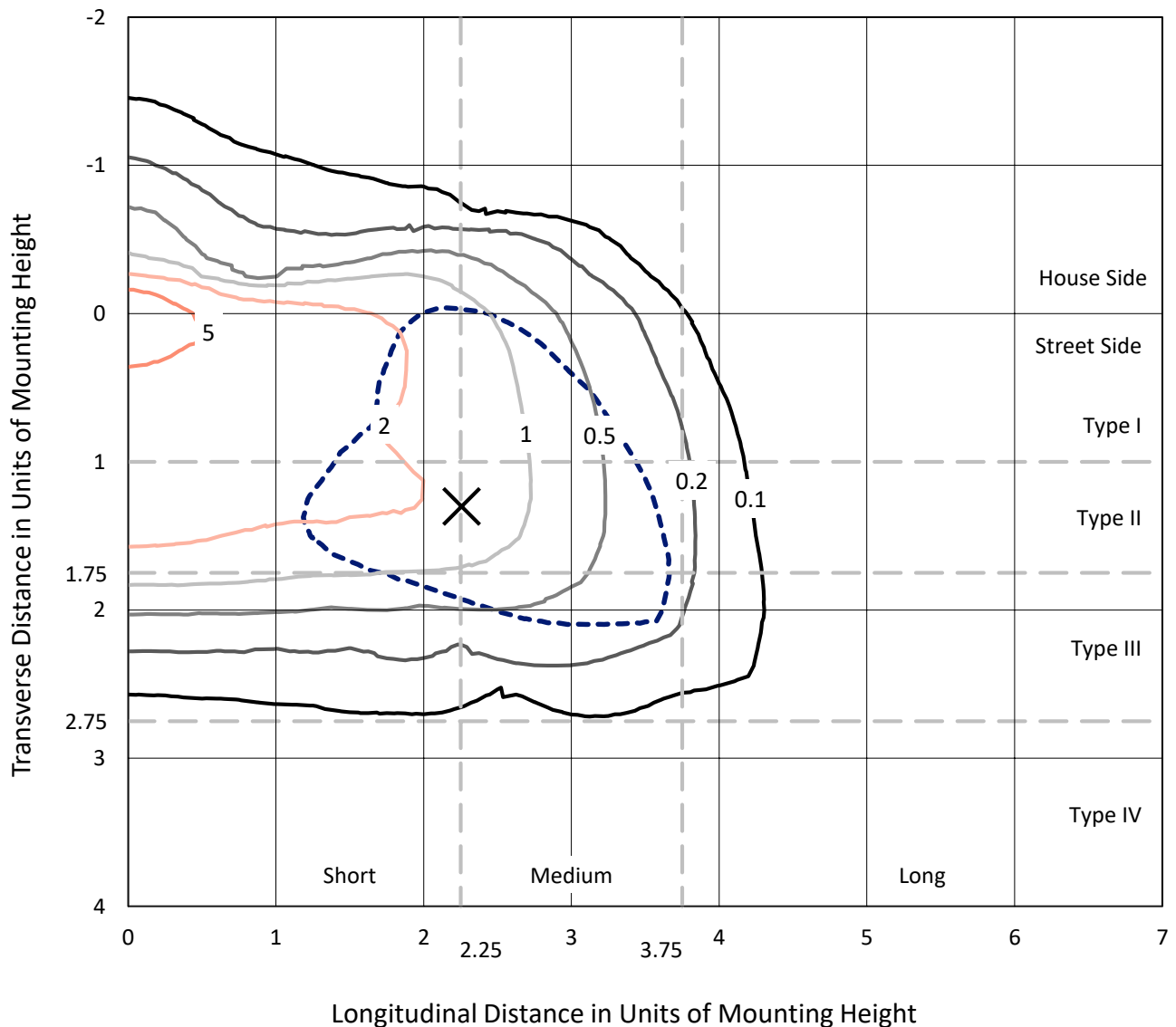
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

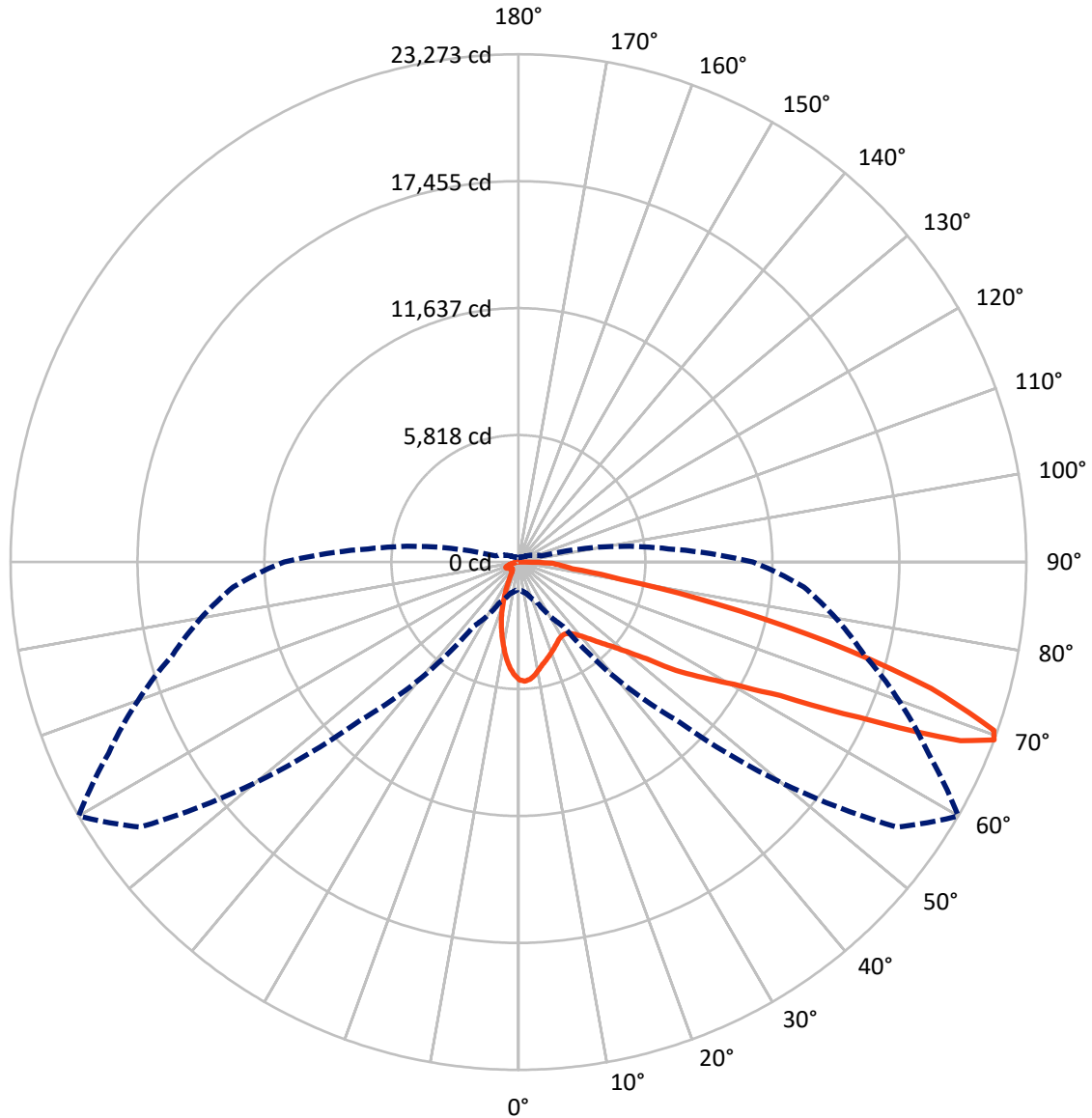
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.6 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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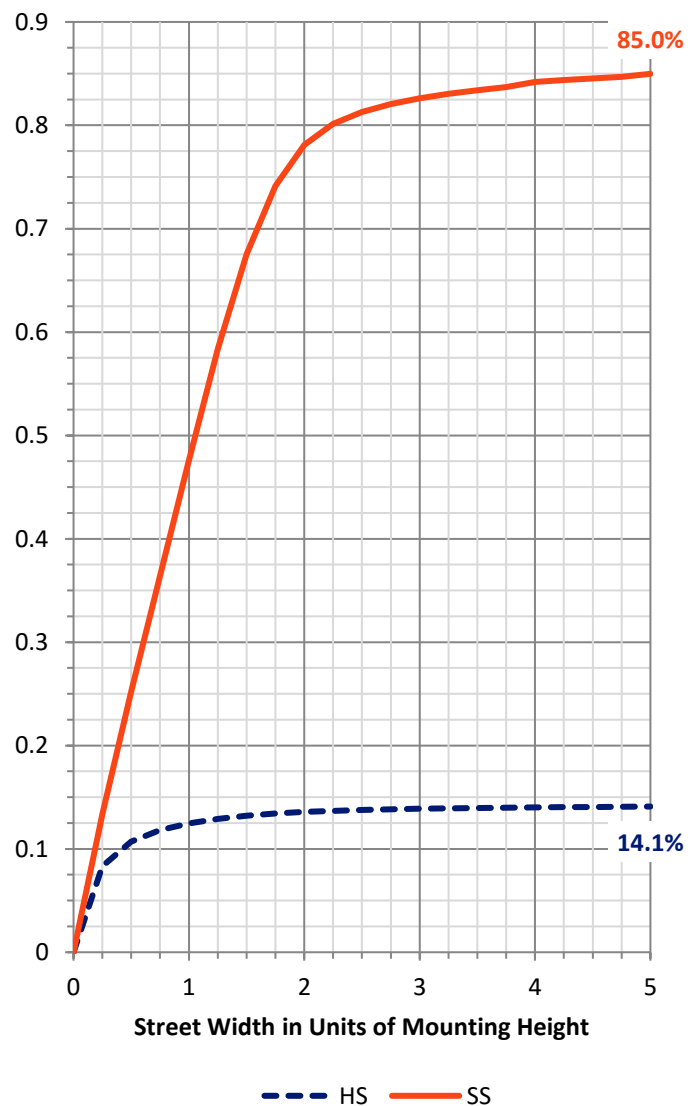
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3019.3	0.0	3019.3
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	18149.3	0.0	18149.3
	% Fixture	85.7	0.0	85.7
Total	Lumens	21168.6	0.0	21168.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	458.2	2.2
10°-20°	981.1	4.6
20°-30°	1251.5	5.9
30°-40°	1722.2	8.1
40°-50°	2789.7	13.2
50°-60°	4378.3	20.7
60°-70°	5837.1	27.6
70°-80°	3246.8	15.3
80°-90°	503.6	2.4
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°	21168.6	100.0
0°-180°	21168.6	100.0

Coefficient of Utilization



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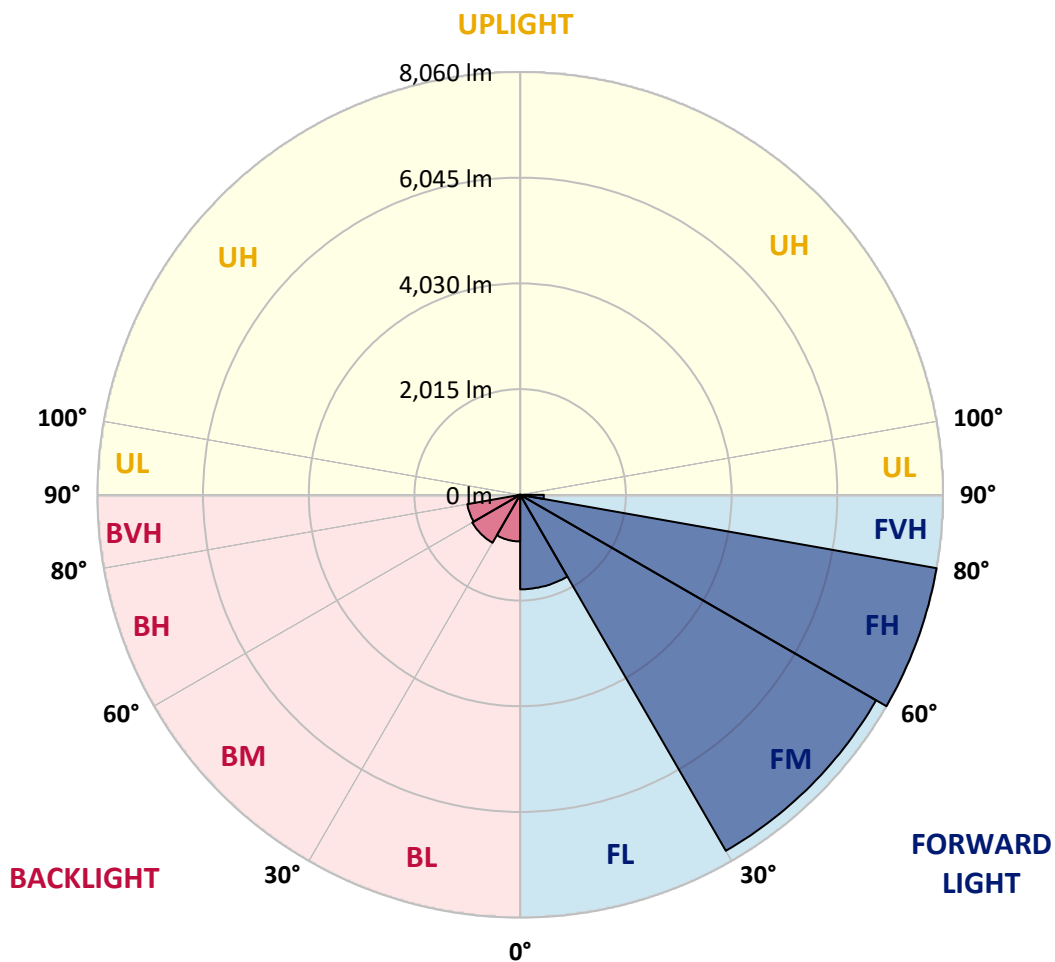
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1801.0	8.5			
FM	(30°-60°)	7835.5	37.0			
FH	(60°-80°)	8060.2	38.1			G4/12000
FVH	(80°-90°)	452.5	2.1			G3/500
BL	(0°-30°)	889.8	4.2	B2/1000		
BM	(30°-60°)	1054.8	5.0	B2/2500		
BH	(60°-80°)	1023.7	4.8	B3/2500		G3/2500
BVH	(80°-90°)	51.0	0.2			G1/100
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 Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	5401.1	5401.1	5401.1	5401.1	5401.1	5401.1	5401.1	5401.1	5401.1	5401.1	5401.1
2.5°	5545.1	5560.1	5560.1	5547.8	5541.0	5501.7	5478.7	5462.4	5433.8	5380.8	5333.3
5°	5346.9	5375.5	5387.7	5393.1	5428.4	5416.2	5417.5	5406.7	5382.3	5325.2	5247.9
7.5°	4983.2	4988.6	5010.2	5046.9	5132.5	5192.3	5241.0	5250.6	5245.2	5203.1	5094.5
10°	4624.7	4634.3	4660.0	4722.5	4804.0	4889.5	4995.4	5038.9	5071.4	5057.7	4920.6
12.5°	4327.6	4328.8	4357.4	4429.4	4520.2	4627.4	4771.3	4839.3	4916.7	4947.9	4794.4
15°	4041.0	4060.1	4087.3	4174.2	4286.8	4422.5	4588.2	4681.7	4783.7	4873.1	4696.7
17.5°	3823.8	3838.8	3855.2	3927.1	4057.4	4227.1	4432.0	4532.5	4666.9	4804.0	4596.3
20°	3704.4	3709.9	3697.7	3732.9	3842.9	4026.2	4263.7	4384.4	4544.6	4737.4	4493.1
22.5°	3679.9	3679.9	3635.3	3628.4	3677.3	3832.0	4090.0	4237.9	4433.3	4691.3	4400.7
25°	3794.0	3785.8	3701.7	3624.3	3606.8	3685.4	3924.3	4106.2	4338.4	4690.0	4331.5
27.5°	4009.9	3999.1	3894.5	3764.2	3651.5	3617.6	3796.7	3982.7	4263.7	4736.1	4296.2
30°	4278.6	4274.6	4168.7	4005.8	3819.9	3644.8	3746.6	3918.9	4213.5	4821.7	4294.9
32.5°	4573.2	4554.1	4489.0	4326.1	4084.6	3795.3	3776.4	3921.6	4199.8	4946.4	4326.1
35°	4886.8	4873.1	4856.9	4692.7	4421.2	4061.4	3908.0	4015.3	4266.4	5120.2	4414.5
37.5°	5285.8	5271.0	5298.1	5118.9	4821.7	4410.3	4130.6	4202.6	4402.1	5372.8	4578.7
40°	5995.7	5952.3	5876.4	5600.8	5288.6	4837.9	4452.4	4463.3	4634.3	5710.7	4842.0
42.5°	7161.8	7022.1	6646.0	6139.6	5781.3	5334.8	4871.9	4820.2	4954.6	6157.3	5224.7
45°	8330.6	8173.0	7537.9	6727.4	6291.6	5868.2	5390.4	5266.9	5353.7	6677.2	5717.5
47.5°	9085.3	9007.9	8291.3	7315.2	6826.5	6449.2	5983.6	5780.0	5842.3	7266.3	6325.7
50°	9306.6	9240.1	8676.6	7775.4	7331.4	7151.0	6718.0	6447.9	6458.6	7954.6	7054.6
52.5°	9141.0	9113.8	8740.5	8060.4	7795.8	7890.8	7734.6	7358.6	7269.1	8709.2	7844.5
55°	8919.7	8929.2	8785.3	8347.0	8268.1	8580.3	9064.9	8762.2	8382.2	9495.3	8667.2
57.5°	8223.4	8230.1	8607.5	8892.5	9169.4	9546.8	10100.7	9973.1	9530.6	10343.7	9588.9
60°	6621.5	6674.4	7514.7	8779.9	10199.7	11451.4	11587.1	11367.2	10752.3	11321.0	10787.6
62.5°	4730.7	4778.2	5751.5	7621.9	10079.0	13606.9	14331.7	13457.6	12409.6	12783.1	12473.4
65°	2485.5	2477.3	3230.8	5266.9	8489.4	14106.4	18656.5	17168.9	15201.8	14793.3	14102.4
67.5°	1388.7	1433.4	1725.4	2656.5	5532.9	12415.0	21418.9	21857.4	19084.2	16388.3	14031.9
69°	1284.1	1299.0	1494.5	2053.7	3606.8	10243.3	21181.5	23273.2	20721.3	16395.1	13127.7
70°	1247.4	1263.7	1441.6	1892.3	3029.9	8393.0	20316.7	23107.6	21119.0	16031.3	12305.2
72.5°	1118.5	1140.3	1312.7	1700.9	2553.3	4326.1	16365.2	19777.9	19130.3	14011.5	9541.3
75°	954.3	990.9	1251.6	1688.6	2419.0	2750.3	10913.8	14735.0	14238.1	10020.7	5413.5
77.5°	395.1	399.0	547.1	1236.6	2538.4	2632.0	5865.5	9333.7	8262.7	4394.0	1630.2
80°	275.6	270.1	272.8	361.1	2048.3	2649.7	3009.4	4747.0	3689.5	1159.3	762.9
82.5°	232.1	229.3	240.2	226.7	693.6	3006.6	2516.7	2474.7	1737.5	624.4	363.9
85°	153.4	149.3	196.8	206.3	329.9	2387.8	2706.8	1945.2	1294.9	333.9	154.8
87.5°	74.6	76.0	112.6	139.9	175.1	756.2	2592.7	1538.0	1000.4	145.3	62.4
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°	5401.1	5401.1	5401.1	5401.1	5401.1	5401.1	5401.1	5401.1	5401.1	5401.1	5401.1
2.5°	5314.4	5273.6	5236.9	5190.9	5155.6	5125.6	5084.9	5083.6	5076.9	5086.4	5089.0
5°	5196.2	5128.5	5025.2	4909.9	4828.4	4721.1	4616.6	4581.4	4542.0	4537.9	4550.2
7.5°	5018.4	4912.6	4736.1	4559.6	4383.2	4202.6	4031.6	3944.6	3860.6	3834.8	3847.0
10°	4820.2	4685.9	4415.8	4127.9	3879.5	3610.7	3350.1	3181.8	3028.5	2963.2	2979.6
12.5°	4665.4	4494.5	4114.3	3741.1	3369.2	2983.6	2640.2	2307.7	2056.5	1943.8	1950.6
15°	4532.5	4313.9	3832.0	3335.1	2869.6	2341.6	1865.2	1479.6	1259.8	1178.2	1175.5
17.5°	4388.6	4123.8	3537.4	2957.8	2353.7	1700.9	1248.9	1020.8	933.9	906.7	906.7
20°	4235.1	3928.4	3229.3	2546.5	1810.9	1187.7	939.4	851.1	818.5	810.5	809.1
22.5°	4092.7	3736.9	2919.9	2108.1	1309.9	901.3	799.5	765.5	760.1	767.0	767.0
25°	3980.0	3568.6	2606.3	1646.6	952.9	754.8	711.3	707.2	727.5	752.1	756.2
27.5°	3895.8	3418.1	2296.7	1202.7	749.2	657.0	642.1	659.7	707.2	756.2	765.5
30°	3837.5	3289.1	1926.1	864.7	624.4	575.5	582.3	613.5	685.4	760.1	780.5
32.5°	3811.7	3184.5	1552.9	663.8	533.5	506.4	524.0	564.7	639.4	714.1	738.4
35°	3836.1	3108.6	1208.1	551.1	466.9	446.5	466.9	509.0	557.8	594.6	609.5
37.5°	3924.3	3081.4	909.4	488.7	423.6	403.2	419.5	448.0	469.6	483.3	490.0
40°	4110.4	3109.9	712.6	456.1	399.0	376.0	380.2	393.6	408.5	419.5	420.8
42.5°	4406.2	3203.5	633.9	443.9	384.1	354.3	347.6	356.9	373.2	388.2	390.9
45°	4800.0	3359.7	625.8	448.0	377.4	336.7	323.1	332.6	354.3	378.7	382.8
47.5°	5309.0	3606.8	663.8	469.6	381.4	327.2	306.9	316.3	344.8	377.4	382.8
50°	5911.7	3948.8	734.4	502.2	400.5	327.2	300.0	308.2	338.0	374.7	380.2
52.5°	6621.5	4425.2	807.7	534.9	427.7	339.4	302.6	301.3	328.5	362.5	369.3
55°	7404.8	5017.0	878.3	563.3	442.5	355.6	309.5	293.1	314.9	342.1	347.6
57.5°	8326.5	5827.5	1001.8	590.5	450.7	367.9	317.6	285.0	297.2	316.3	320.3
60°	9576.7	7018.0	1242.0	636.5	465.6	373.2	319.0	276.9	275.6	289.2	290.5
62.5°	11207.0	8412.0	1471.5	690.9	495.4	374.7	313.6	271.5	258.0	261.9	261.9
65°	12366.2	8925.1	1404.9	737.1	522.6	373.2	308.2	267.4	244.2	237.5	237.5
67.5°	11706.5	7884.0	1193.2	749.2	525.2	358.3	295.9	258.0	232.1	215.9	215.9
69°	10737.4	6910.8	1095.5	727.5	503.6	340.6	282.3	248.4	223.9	205.0	205.0
70°	9947.3	6173.6	1035.7	701.8	477.8	325.7	270.1	238.9	215.9	199.6	198.2
72.5°	7426.5	4119.7	885.0	605.4	392.3	275.6	236.3	213.1	194.2	183.3	183.3
75°	3918.9	2064.7	724.8	494.1	302.6	219.9	194.2	179.2	168.3	166.9	165.6
77.5°	1284.1	933.9	521.2	372.0	222.6	171.0	154.8	145.3	143.9	149.3	149.3
80°	693.6	557.8	335.2	251.2	154.8	127.6	119.5	118.0	122.2	130.3	130.3
82.5°	336.7	275.6	199.6	154.8	105.9	93.7	93.7	95.0	100.4	110.0	110.0
85°	145.3	130.3	115.4	86.9	65.1	58.4	66.6	73.3	77.3	84.1	86.9
87.5°	69.2	61.1	52.9	34.0	28.4	29.9	35.4	43.5	51.7	57.0	58.4
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)