

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: P195112

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7060-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195112
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
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-SL2-7060-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19901 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

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

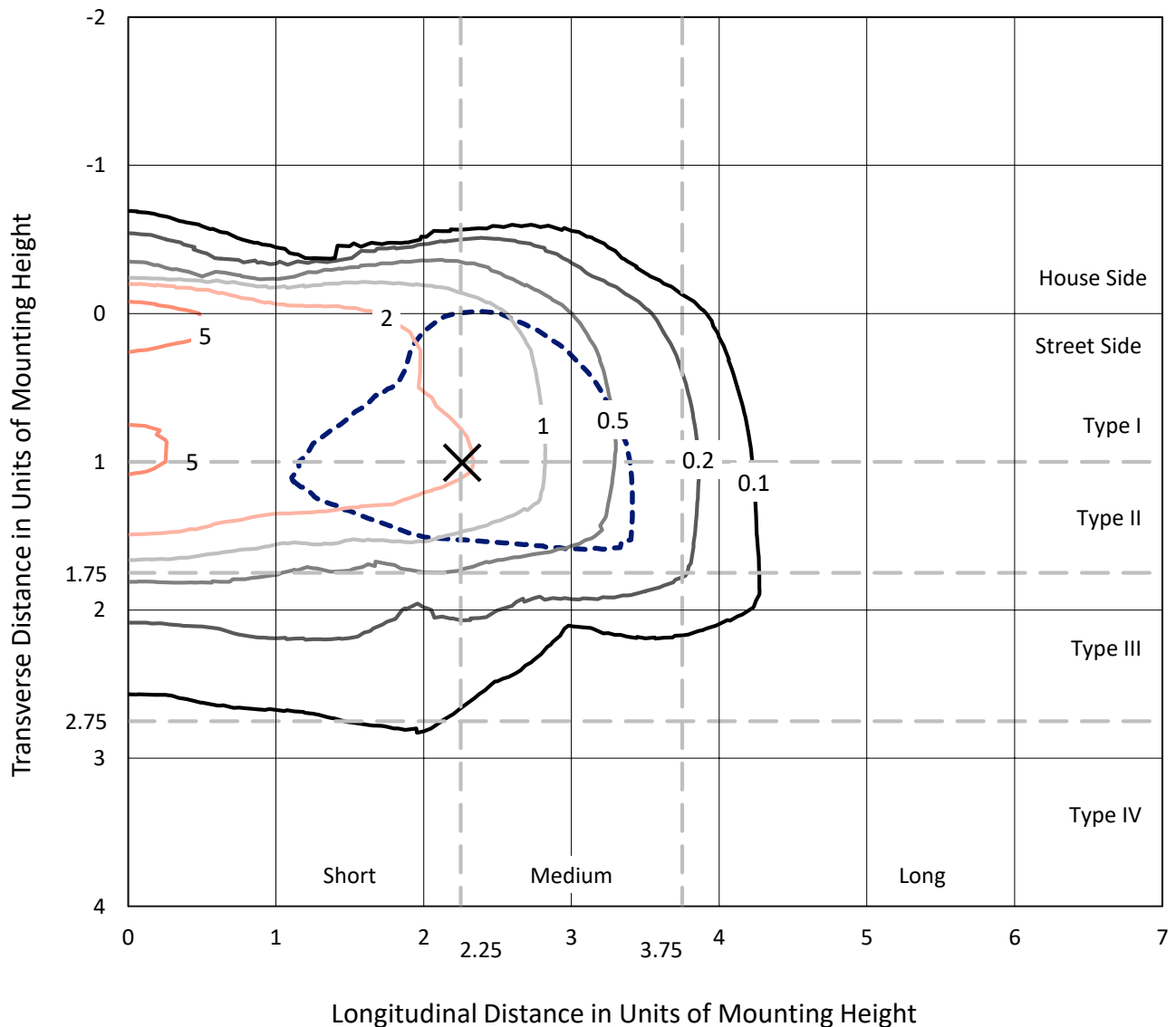


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Iso-Footcandle Lines of Horizontal Illumination

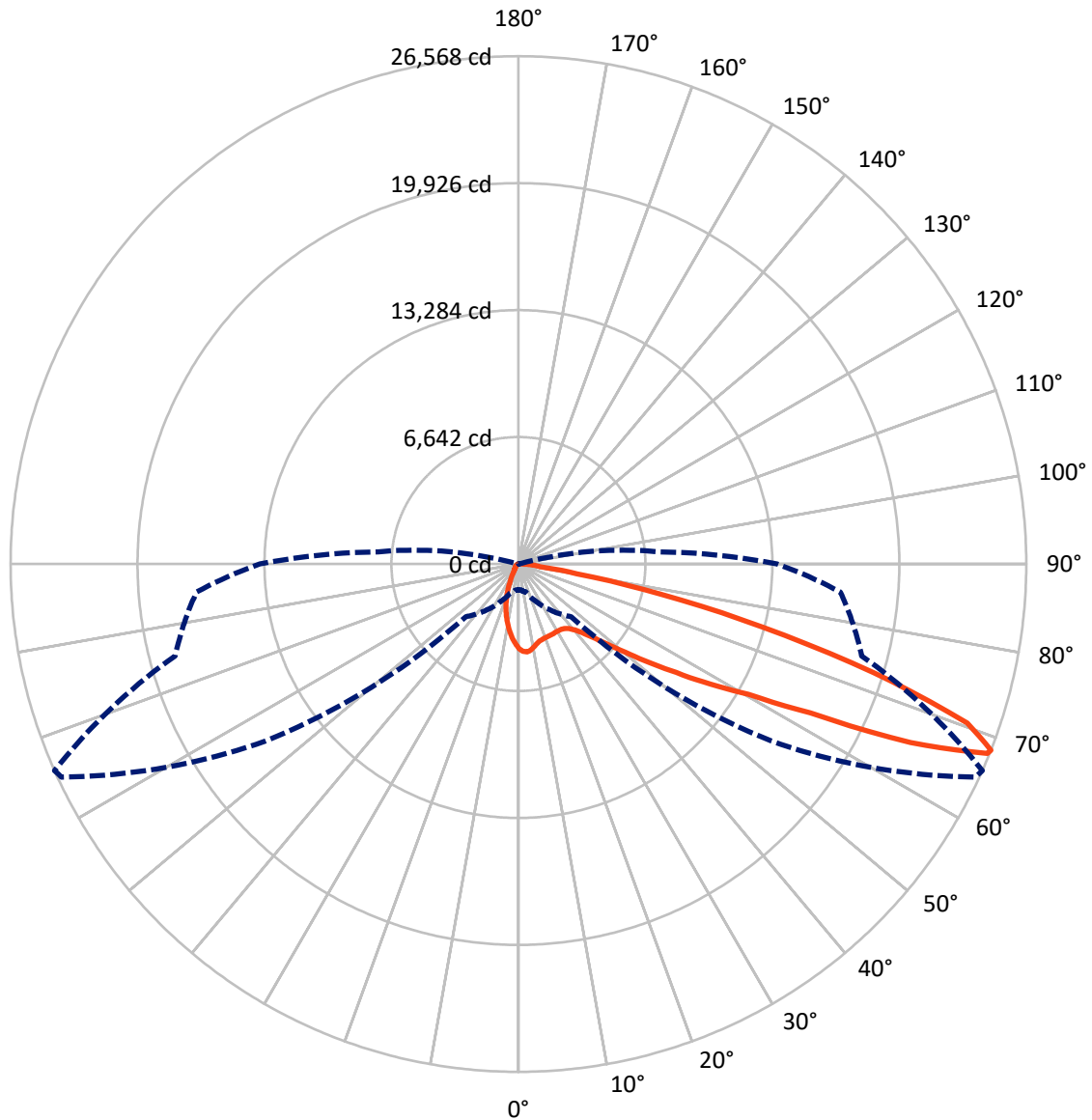
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.1 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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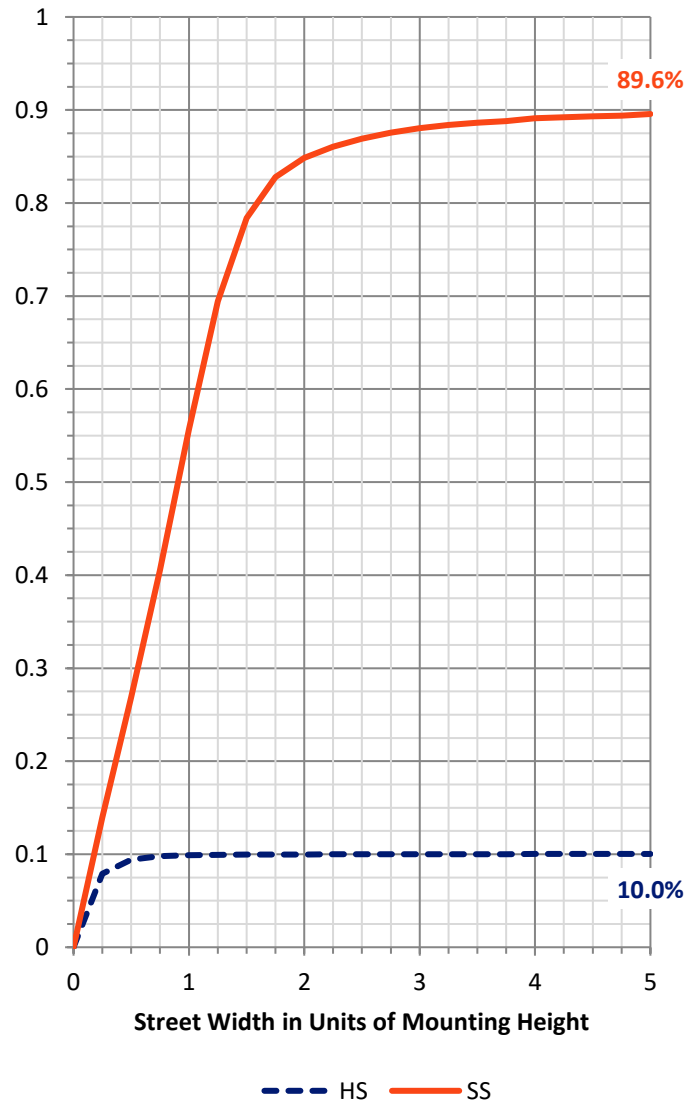
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2015.8	0.0	2015.8
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	17885.2	0.0	17885.2
	% Fixture	89.9	0.0	89.9
Total	Lumens	19901.0	0.0	19901.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	363.5	1.8
10°-20°	782.0	3.9
20°-30°	1133.3	5.7
30°-40°	1734.8	8.7
40°-50°	2967.3	14.9
50°-60°	4641.7	23.3
60°-70°	5344.7	26.9
70°-80°	2674.6	13.4
80°-90°	259.0	1.3
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°	19901.0	100.0
0°-180°	19901.0	100.0



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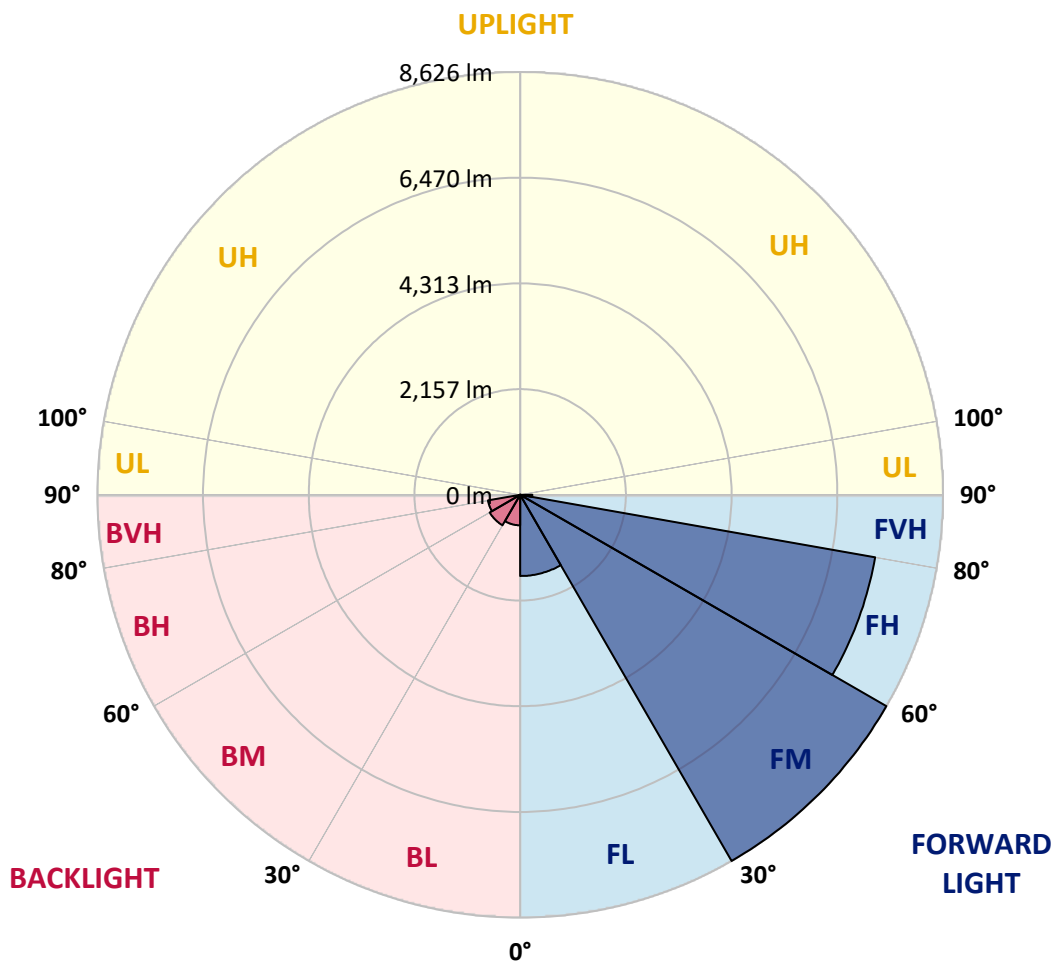
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1656.6	8.3			
FM (30°-60°)	8626.0	43.3			
FH (60°-80°)	7353.4	36.9			G3/7500
FVH (80°-90°)	249.2	1.3			G3/500
BL (0°-30°)	622.2	3.1	B2/1000		
BM (30°-60°)	717.8	3.6	B1/1000		
BH (60°-80°)	666.0	3.3	B2/1000		G2/1000
BVH (80°-90°)	9.8	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	4433.8	4433.8	4433.8	4433.8	4433.8	4433.8	4433.8	4433.8	4433.8	4433.8	4433.8
2.5°	4663.4	4666.5	4665.0	4669.7	4666.5	4643.1	4618.1	4565.0	4569.7	4500.9	4424.4
5°	4335.3	4361.9	4388.4	4415.0	4479.1	4535.3	4602.5	4618.1	4618.1	4558.7	4446.3
7.5°	4001.0	4002.6	4032.2	4068.2	4154.1	4257.2	4413.4	4554.1	4557.2	4572.8	4449.4
10°	3749.5	3757.3	3777.6	3816.7	3902.6	4004.1	4179.1	4399.4	4416.6	4532.2	4418.1
12.5°	3554.2	3563.6	3585.4	3630.7	3708.9	3813.5	3997.9	4249.4	4272.8	4493.1	4408.8
15°	3404.2	3416.7	3433.9	3479.2	3563.6	3674.5	3876.0	4149.4	4177.5	4477.5	4438.4
17.5°	3341.7	3341.7	3340.2	3371.4	3455.8	3568.3	3779.2	4096.3	4132.2	4490.0	4488.4
20°	3368.3	3363.6	3330.8	3323.0	3374.5	3487.0	3702.6	4061.9	4102.6	4513.4	4549.4
22.5°	3508.9	3499.5	3426.1	3365.2	3349.5	3424.5	3651.1	4038.5	4086.9	4561.9	4630.6
25°	3807.3	3779.2	3677.6	3540.1	3416.7	3408.9	3615.1	4026.0	4077.6	4618.1	4719.7
27.5°	4194.7	4186.9	4024.4	3840.1	3602.6	3460.5	3604.2	4016.6	4068.2	4658.7	4791.5
30°	4675.9	4679.0	4491.6	4251.0	3891.6	3605.7	3638.6	4011.9	4065.1	4661.8	4822.8
32.5°	5172.7	5175.8	5019.6	4761.8	4286.9	3855.7	3735.4	4033.8	4082.2	4649.3	4821.2
35°	5650.8	5655.5	5561.7	5353.9	4815.0	4202.5	3918.2	4108.8	4143.2	4657.2	4818.1
37.5°	6255.4	6274.1	6158.5	5964.8	5477.4	4711.8	4216.6	4260.3	4288.5	4721.2	4841.5
40°	7286.5	7261.5	6930.3	6602.2	6196.0	5332.1	4647.8	4521.2	4530.6	4886.8	4930.6
42.5°	8487.9	8456.6	7889.5	7324.0	6935.0	6080.4	5199.3	4921.2	4919.6	5164.9	5124.3
45°	9522.1	9503.4	8906.6	8152.0	7753.6	6906.8	5878.9	5497.7	5478.9	5646.1	5477.4
47.5°	10256.4	10240.8	9789.3	9033.1	8700.3	7816.1	6727.2	6283.5	6244.4	6275.7	6050.7
50°	10328.2	10311.1	10153.3	9667.4	9806.4	9150.3	7775.5	7313.0	7263.0	7214.6	6917.8
52.5°	9656.5	9654.9	9737.7	9706.5	10581.3	10867.2	9061.2	8586.3	8526.9	8403.5	8108.2
55°	8283.2	8275.4	8589.4	9045.6	10564.1	12638.9	11021.9	10101.7	10023.6	9776.8	9389.3
57.5°	6052.3	6011.7	6667.8	7634.9	9822.1	13413.7	14135.5	11984.3	11854.6	11071.9	10475.1
60°	3341.7	3357.3	4201.0	5346.1	8064.5	13260.6	17000.7	14179.3	13838.7	12188.9	11587.4
62.5°	1873.2	1912.2	2540.3	3474.5	5141.5	12018.6	18538.0	17956.9	17136.7	13491.9	12993.5
65°	1417.0	1440.4	1756.0	2680.9	3241.7	8398.8	18783.3	23238.9	22531.2	15466.6	15232.2
67.5°	1334.2	1352.9	1507.6	2223.1	2952.7	4355.6	16936.7	26363.5	26452.5	18160.0	16966.4
68°	1343.6	1367.0	1521.7	2138.8	2948.0	3896.3	16149.3	26379.1	26568.2	18594.3	16907.0
70°	1234.2	1240.5	1609.1	2098.1	2857.4	3069.9	11682.7	24571.6	24910.6	19111.4	15347.9
72.5°	471.8	473.4	721.8	1816.9	2993.3	3087.1	5885.1	19420.7	19437.9	16632.0	11965.5
75°	245.3	206.2	226.5	568.7	2859.0	3009.0	2952.7	13260.6	13177.8	11248.4	7331.8
77.5°	168.7	143.7	151.5	196.8	1188.9	3007.4	2132.5	7625.5	7608.3	4785.3	2091.9
80°	95.3	82.8	90.6	165.6	417.1	2823.0	1987.2	3277.7	3088.6	840.5	339.0
82.5°	48.4	40.6	48.4	139.0	259.3	1776.3	1932.5	1285.8	1145.2	200.0	220.3
85°	12.5	12.5	23.4	96.9	160.9	582.7	1732.6	928.0	834.3	87.5	156.2
87.5°	3.1	1.6	9.4	35.9	57.8	126.5	960.8	517.1	445.3	45.3	90.6
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°	4433.8	4433.8	4433.8	4433.8	4433.8	4433.8	4433.8	4433.8	4433.8	4433.8	4433.8
2.5°	4393.1	4349.4	4263.5	4166.6	4097.9	4022.9	3979.1	3926.0	3885.4	3849.5	3876.0
5°	4377.5	4293.1	4102.6	3888.5	3708.9	3537.0	3408.9	3287.0	3194.9	3137.1	3160.5
7.5°	4336.9	4211.9	3902.6	3568.3	3274.5	2998.0	2773.0	2571.5	2415.3	2330.9	2357.5
10°	4268.2	4091.6	3676.0	3212.1	2801.2	2410.6	2076.3	1776.3	1549.8	1443.5	1468.5
12.5°	4218.2	3985.4	3441.7	2868.3	2327.8	1773.2	1329.5	985.8	809.3	703.0	712.4
15°	4196.3	3902.6	3223.0	2505.9	1810.7	1138.9	718.6	520.2	459.3	437.4	439.0
17.5°	4199.4	3837.0	3015.2	2129.4	1288.9	654.6	440.6	396.8	387.4	382.8	382.8
20°	4207.2	3771.3	2799.6	1737.3	824.9	421.8	367.1	353.1	348.4	342.1	343.7
22.5°	4230.7	3721.4	2582.5	1343.6	507.7	343.7	325.0	312.5	304.6	295.3	296.8
25°	4266.6	3683.9	2368.4	967.1	357.8	300.0	282.8	265.6	251.5	240.6	242.2
27.5°	4288.5	3630.7	2140.3	659.3	296.8	262.5	239.0	215.6	200.0	190.6	189.0
30°	4272.8	3544.8	1881.0	432.8	262.5	226.5	198.4	171.9	156.2	148.4	148.4
32.5°	4230.7	3433.9	1595.1	315.6	232.8	195.3	160.9	137.5	126.5	121.9	123.4
35°	4182.2	3318.3	1290.4	267.2	209.3	165.6	131.2	112.5	107.8	106.2	106.2
37.5°	4155.7	3218.3	998.3	242.2	187.5	137.5	107.8	96.9	92.2	92.2	92.2
40°	4185.4	3141.7	739.0	223.4	165.6	114.0	90.6	82.8	81.2	81.2	81.2
42.5°	4311.9	3115.2	540.5	207.8	143.7	95.3	78.1	71.9	70.3	71.9	71.9
45°	4558.7	3173.0	409.3	192.2	123.4	78.1	67.2	62.5	62.5	64.1	64.1
47.5°	4977.4	3321.4	335.9	176.5	103.1	65.6	57.8	54.7	54.7	56.2	56.2
50°	5627.3	3596.4	301.5	159.4	85.9	56.2	48.4	46.9	46.9	48.4	50.0
52.5°	6614.7	4119.7	284.3	142.2	70.3	46.9	40.6	39.1	40.6	42.2	42.2
55°	7713.0	4790.0	264.0	125.0	59.4	39.1	32.8	32.8	34.4	37.5	37.5
57.5°	8736.3	5436.7	245.3	103.1	51.6	31.2	26.6	26.6	29.7	32.8	32.8
60°	9817.4	6071.0	220.3	82.8	43.7	25.0	21.9	21.9	26.6	29.7	31.2
62.5°	11153.1	6808.4	187.5	65.6	34.4	18.7	15.6	20.3	25.0	29.7	29.7
65°	13084.1	7725.5	146.9	51.6	26.6	14.1	12.5	18.7	23.4	28.1	29.7
67.5°	13785.6	7608.3	110.9	42.2	20.3	10.9	10.9	17.2	23.4	28.1	28.1
68°	13529.4	7352.1	106.2	40.6	18.7	10.9	10.9	17.2	23.4	28.1	28.1
70°	11789.0	6010.1	87.5	31.2	15.6	9.4	9.4	15.6	23.4	26.6	28.1
72.5°	8826.9	3993.2	75.0	20.3	14.1	9.4	7.8	15.6	21.9	26.6	26.6
75°	5063.4	1657.6	64.1	15.6	12.5	7.8	7.8	14.1	21.9	26.6	26.6
77.5°	1431.0	387.4	51.6	12.5	10.9	7.8	6.2	14.1	20.3	25.0	25.0
80°	262.5	115.6	40.6	10.9	9.4	7.8	6.2	14.1	20.3	25.0	25.0
82.5°	173.4	54.7	29.7	10.9	9.4	7.8	6.2	12.5	18.7	23.4	23.4
85°	129.7	39.1	18.7	10.9	9.4	7.8	6.2	12.5	18.7	23.4	23.4
87.5°	71.9	17.2	14.1	12.5	10.9	7.8	6.2	10.9	17.2	21.9	21.9
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)