

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: P195587

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7050-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195587
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-05-D-UNV-SL2-7050-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 800mA 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: 19817 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 210
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

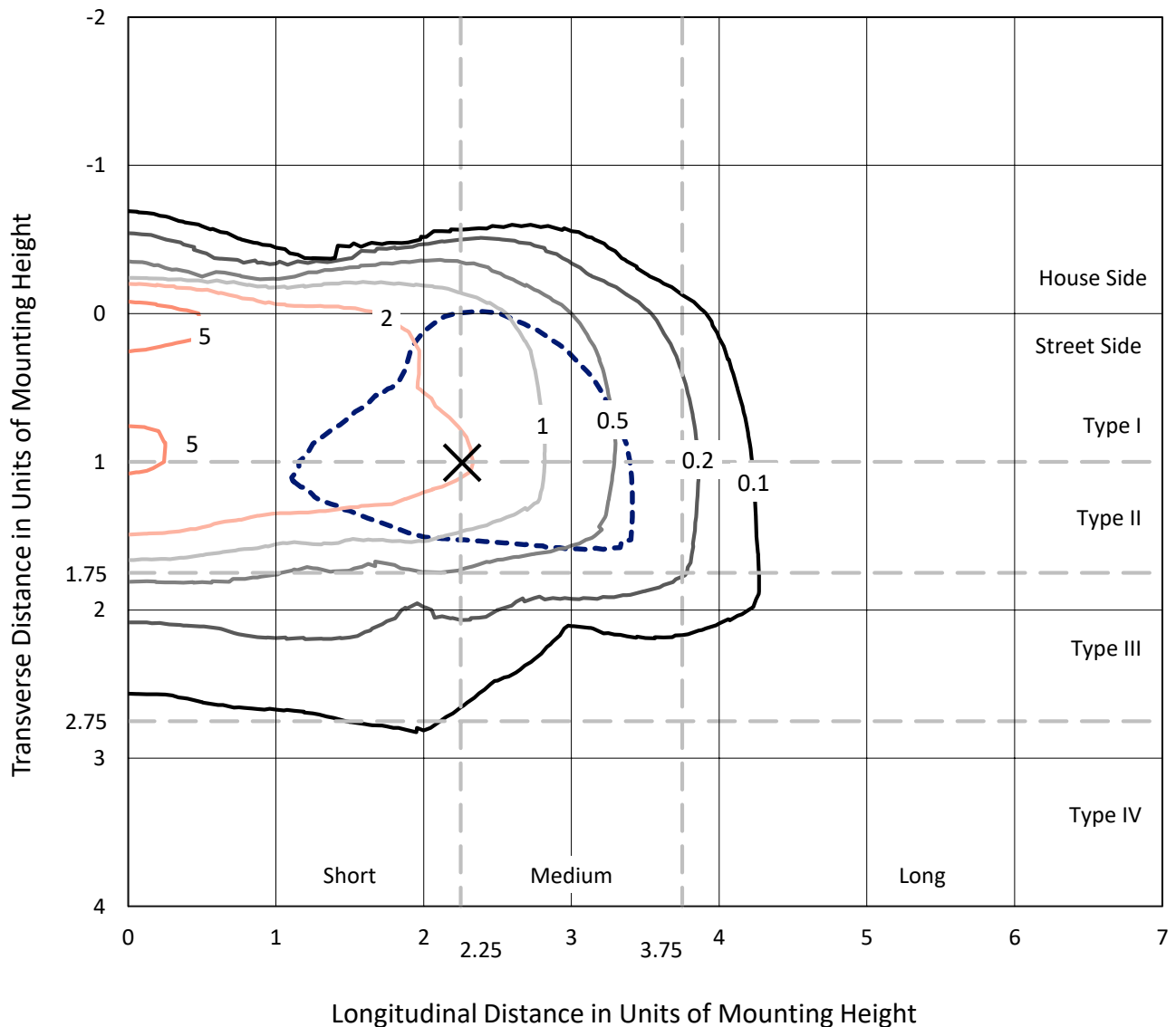


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

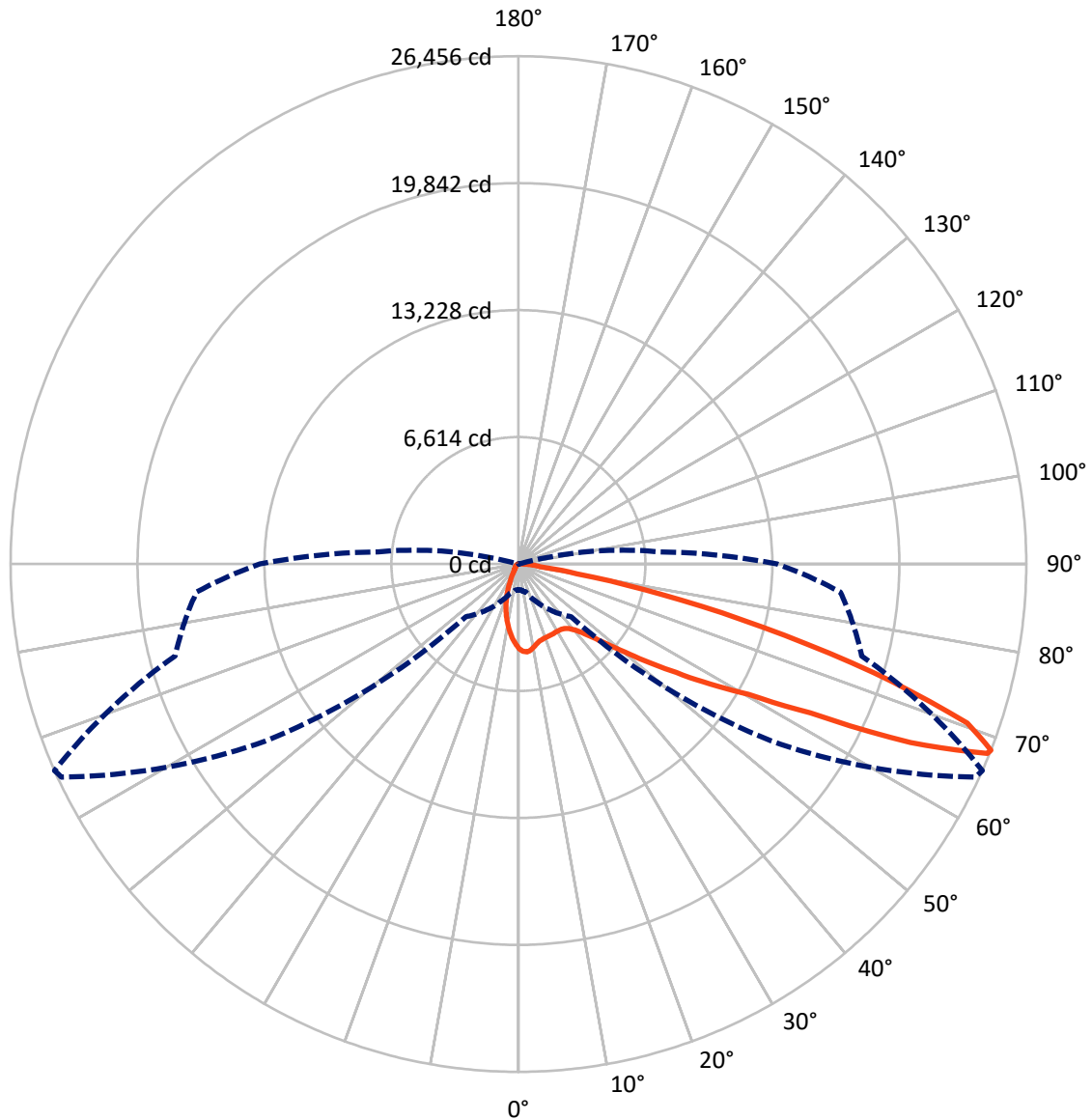


Based on 25 foot mounting height. Maximum calculated value = 7.1 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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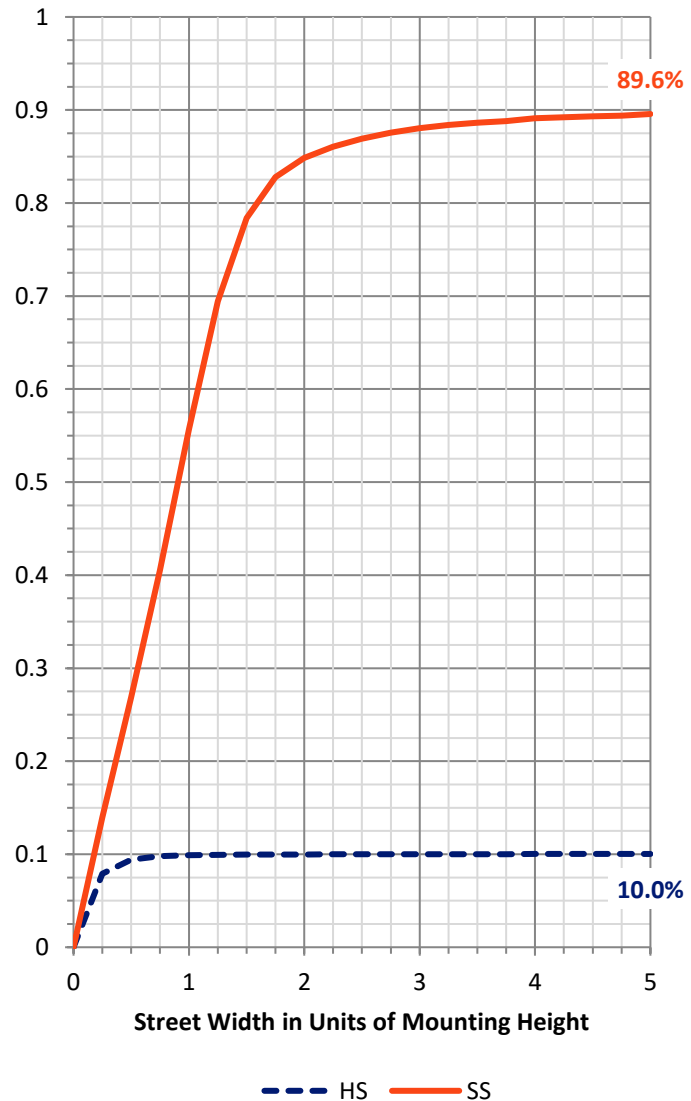
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2007.2	0.0	2007.2
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	17809.8	0.0	17809.8
	% Fixture	89.9	0.0	89.9
Total	Lumens	19817.0	0.0	19817.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	361.9	1.8
10°-20°	778.7	3.9
20°-30°	1128.5	5.7
30°-40°	1727.5	8.7
40°-50°	2954.8	14.9
50°-60°	4622.1	23.3
60°-70°	5322.2	26.9
70°-80°	2663.3	13.4
80°-90°	257.9	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°	19817.0	100.0
0°-180°	19817.0	100.0



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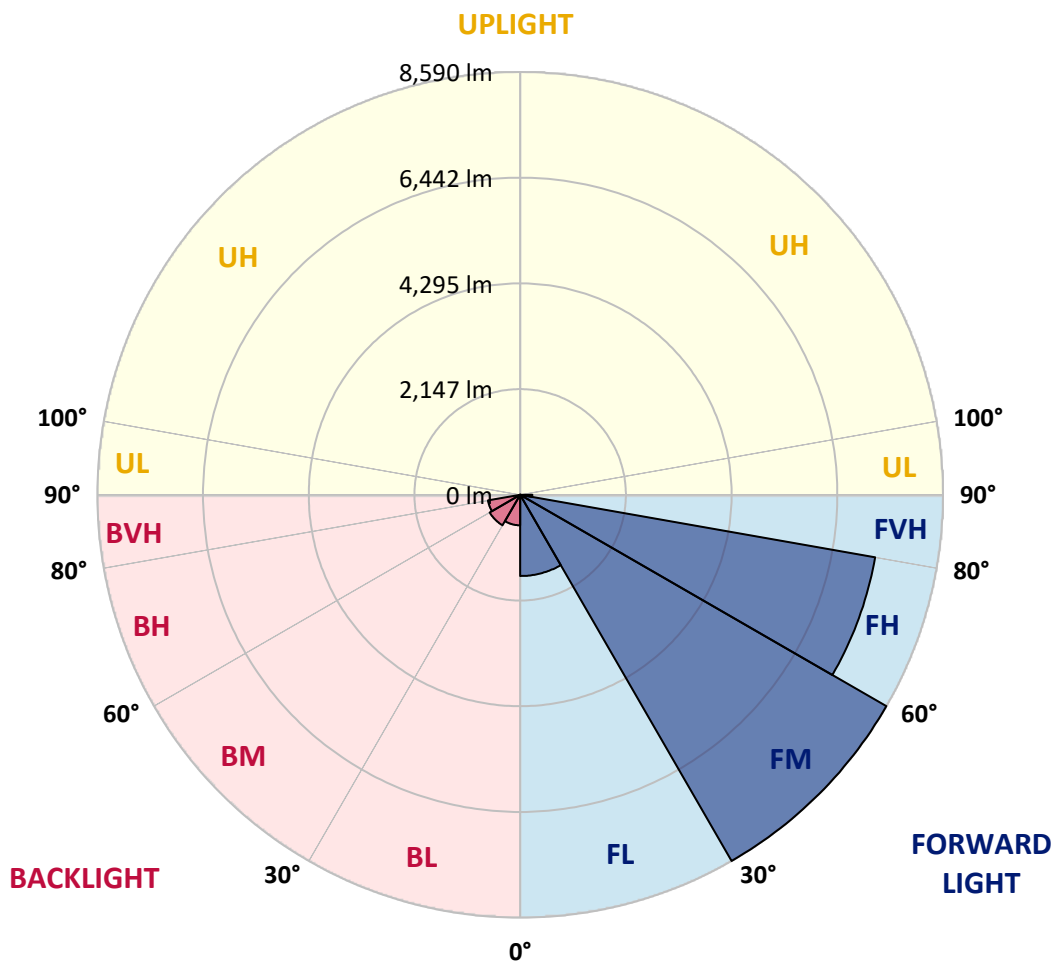
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1649.7	8.3			
FM (30°-60°)	8589.6	43.3			
FH (60°-80°)	7322.3	36.9			G3/7500
FVH (80°-90°)	248.2	1.3			G3/500
BL (0°-30°)	619.5	3.1	B2/1000		
BM (30°-60°)	714.8	3.6	B1/1000		
BH (60°-80°)	663.2	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°	4415.0	4415.0	4415.0	4415.0	4415.0	4415.0	4415.0	4415.0	4415.0	4415.0	4415.0
2.5°	4643.7	4646.8	4645.3	4649.9	4646.8	4623.5	4598.6	4545.7	4550.4	4481.9	4405.7
5°	4317.0	4343.5	4369.9	4396.4	4460.2	4516.2	4583.1	4598.6	4598.6	4539.5	4427.5
7.5°	3984.1	3985.7	4015.2	4051.0	4136.6	4239.2	4394.8	4534.8	4537.9	4553.5	4430.6
10°	3733.6	3741.4	3761.7	3800.5	3886.1	3987.2	4161.5	4380.8	4397.9	4513.0	4399.5
12.5°	3539.2	3548.5	3570.3	3615.4	3693.2	3797.4	3981.0	4231.5	4254.8	4474.2	4390.1
15°	3389.8	3402.3	3419.4	3464.5	3548.5	3659.0	3859.7	4131.9	4159.9	4458.6	4419.7
17.5°	3327.6	3327.6	3326.1	3357.2	3441.2	3553.2	3763.2	4079.0	4114.8	4471.0	4469.5
20°	3354.1	3349.4	3316.7	3308.9	3360.3	3472.3	3687.0	4044.8	4085.2	4494.4	4530.2
22.5°	3494.1	3484.7	3411.6	3351.0	3335.4	3410.1	3635.6	4021.5	4069.7	4542.6	4611.1
25°	3791.2	3763.2	3662.1	3525.2	3402.3	3394.5	3599.9	4009.0	4060.3	4598.6	4699.7
27.5°	4177.0	4169.2	4007.5	3823.9	3587.4	3445.8	3589.0	3999.7	4051.0	4639.1	4771.3
30°	4656.2	4659.3	4472.6	4233.0	3875.2	3590.5	3623.2	3995.0	4047.9	4642.2	4802.4
32.5°	5150.9	5154.0	4998.4	4741.7	4268.8	3839.4	3719.6	4016.8	4065.0	4629.7	4800.9
35°	5626.9	5631.6	5538.2	5331.3	4794.6	4184.8	3901.7	4091.5	4125.7	4637.5	4797.7
37.5°	6229.0	6247.6	6132.5	5939.6	5454.2	4692.0	4198.8	4242.4	4270.4	4701.3	4821.1
40°	7255.7	7230.8	6901.0	6574.3	6169.9	5309.6	4628.2	4502.2	4511.5	4866.2	4909.7
42.5°	8452.0	8420.9	7856.2	7293.1	6905.7	6054.7	5177.3	4900.4	4898.9	5143.1	5102.7
45°	9481.9	9463.2	8869.0	8117.6	7720.9	6877.7	5854.1	5474.5	5455.8	5622.3	5454.2
47.5°	10213.1	10197.5	9747.9	8995.0	8663.6	7783.1	6698.8	6257.0	6218.1	6249.2	6025.2
50°	10284.6	10267.5	10110.4	9626.6	9765.0	9111.7	7742.7	7282.2	7232.4	7184.2	6888.6
52.5°	9615.7	9614.1	9696.6	9665.5	10536.7	10821.4	9023.0	8550.1	8490.9	8368.0	8074.0
55°	8248.3	8240.5	8553.2	9007.4	10519.6	12585.5	10975.4	10059.1	9981.3	9735.5	9349.7
57.5°	6026.7	5986.3	6639.7	7602.6	9780.6	13357.1	14075.9	11933.7	11804.6	11025.2	10430.9
60°	3327.6	3343.2	4183.2	5323.6	8030.5	13204.7	16929.0	14119.4	13780.3	12137.5	11538.5
62.5°	1865.3	1904.2	2529.5	3459.8	5119.8	11967.9	18459.8	17881.1	17064.3	13434.9	12938.7
65°	1411.0	1434.3	1748.6	2669.6	3228.1	8363.4	18704.0	23140.8	22436.1	15401.3	15168.0
67.5°	1328.6	1347.2	1501.2	2213.7	2940.2	4337.3	16865.2	26252.2	26340.9	18083.3	16894.8
68°	1337.9	1361.2	1515.2	2129.7	2935.6	3879.9	16081.1	26267.8	26456.0	18515.8	16835.6
70°	1229.0	1235.2	1602.4	2089.3	2845.4	3056.9	11633.4	24467.8	24805.4	19030.7	15283.1
72.5°	469.8	471.4	718.7	1809.3	2980.7	3074.0	5860.3	19338.7	19355.9	16561.8	11915.0
75°	244.2	205.4	225.6	566.3	2846.9	2996.3	2940.2	13204.7	13122.2	11200.9	7300.8
77.5°	168.0	143.1	150.9	196.0	1183.9	2994.7	2123.5	7593.3	7576.2	4765.1	2083.1
80°	94.9	82.5	90.2	164.9	415.4	2811.1	1978.8	3263.8	3075.6	837.0	337.6
82.5°	48.2	40.4	48.2	138.5	258.2	1768.8	1924.4	1280.3	1140.3	199.1	219.4
85°	12.4	12.4	23.3	96.5	160.2	580.3	1725.3	924.1	830.7	87.1	155.6
87.5°	3.1	1.6	9.3	35.8	57.6	126.0	956.7	514.9	443.4	45.1	90.2
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°	4415.0	4415.0	4415.0	4415.0	4415.0	4415.0	4415.0	4415.0	4415.0	4415.0	4415.0
2.5°	4374.6	4331.0	4245.5	4149.0	4080.6	4005.9	3962.3	3909.4	3869.0	3833.2	3859.7
5°	4359.0	4275.0	4085.2	3872.1	3693.2	3522.1	3394.5	3273.2	3181.4	3123.8	3147.2
7.5°	4318.6	4194.1	3886.1	3553.2	3260.7	2985.4	2761.3	2560.7	2405.1	2321.1	2347.5
10°	4250.1	4074.3	3660.5	3198.5	2789.3	2400.4	2067.5	1768.8	1543.2	1437.5	1462.3
12.5°	4200.4	3968.6	3427.2	2856.2	2318.0	1765.7	1323.9	981.6	805.8	700.1	709.4
15°	4178.6	3886.1	3209.4	2495.3	1803.0	1134.1	715.6	518.0	457.4	435.6	437.1
17.5°	4181.7	3820.8	3002.5	2120.4	1283.4	651.8	438.7	395.1	385.8	381.1	381.1
20°	4189.5	3755.4	2787.8	1729.9	821.4	420.0	365.6	351.6	346.9	340.7	342.3
22.5°	4212.8	3705.6	2571.6	1337.9	505.6	342.3	323.6	311.1	303.4	294.0	295.6
25°	4248.6	3668.3	2358.4	963.0	356.3	298.7	281.6	264.5	250.5	239.6	241.1
27.5°	4270.4	3615.4	2131.3	656.5	295.6	261.4	238.0	214.7	199.1	189.8	188.2
30°	4254.8	3529.9	1873.0	430.9	261.4	225.6	197.6	171.1	155.6	147.8	147.8
32.5°	4212.8	3419.4	1588.4	314.2	231.8	194.5	160.2	136.9	126.0	121.3	122.9
35°	4164.6	3304.3	1285.0	266.0	208.5	164.9	130.7	112.0	107.3	105.8	105.8
37.5°	4138.1	3204.7	994.1	241.1	186.7	136.9	107.3	96.5	91.8	91.8	91.8
40°	4167.7	3128.5	735.8	222.5	164.9	113.6	90.2	82.5	80.9	80.9	80.9
42.5°	4293.7	3102.0	538.3	206.9	143.1	94.9	77.8	71.6	70.0	71.6	71.6
45°	4539.5	3159.6	407.6	191.3	122.9	77.8	66.9	62.2	62.2	63.8	63.8
47.5°	4956.4	3307.4	334.5	175.8	102.7	65.3	57.6	54.4	54.4	56.0	56.0
50°	5603.6	3581.2	300.2	158.7	85.6	56.0	48.2	46.7	46.7	48.2	49.8
52.5°	6586.8	4102.3	283.1	141.6	70.0	46.7	40.4	38.9	40.4	42.0	42.0
55°	7680.4	4769.7	262.9	124.5	59.1	38.9	32.7	32.7	34.2	37.3	37.3
57.5°	8699.4	5413.8	244.2	102.7	51.3	31.1	26.4	26.4	29.6	32.7	32.7
60°	9775.9	6045.4	219.4	82.5	43.6	24.9	21.8	21.8	26.4	29.6	31.1
62.5°	11106.1	6779.7	186.7	65.3	34.2	18.7	15.6	20.2	24.9	29.6	29.6
65°	13028.9	7692.9	146.2	51.3	26.4	14.0	12.4	18.7	23.3	28.0	29.6
67.5°	13727.4	7576.2	110.5	42.0	20.2	10.9	10.9	17.1	23.3	28.0	28.0
68°	13472.3	7321.1	105.8	40.4	18.7	10.9	10.9	17.1	23.3	28.0	28.0
70°	11739.2	5984.7	87.1	31.1	15.6	9.3	9.3	15.6	23.3	26.4	28.0
72.5°	8789.6	3976.3	74.7	20.2	14.0	9.3	7.8	15.6	21.8	26.4	26.4
75°	5042.0	1650.6	63.8	15.6	12.4	7.8	7.8	14.0	21.8	26.4	26.4
77.5°	1425.0	385.8	51.3	12.4	10.9	7.8	6.2	14.0	20.2	24.9	24.9
80°	261.4	115.1	40.4	10.9	9.3	7.8	6.2	14.0	20.2	24.9	24.9
82.5°	172.7	54.4	29.6	10.9	9.3	7.8	6.2	12.4	18.7	23.3	23.3
85°	129.1	38.9	18.7	10.9	9.3	7.8	6.2	12.4	18.7	23.3	23.3
87.5°	71.6	17.1	14.0	12.4	10.9	7.8	6.2	10.9	17.1	21.8	21.8
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)