

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: P195992

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-800-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195992  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-02-D-UNV-AFL-800-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8450.6 lumens  
Efficiency: N/A  
Efficacy: 99.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B1 - U0 - G1

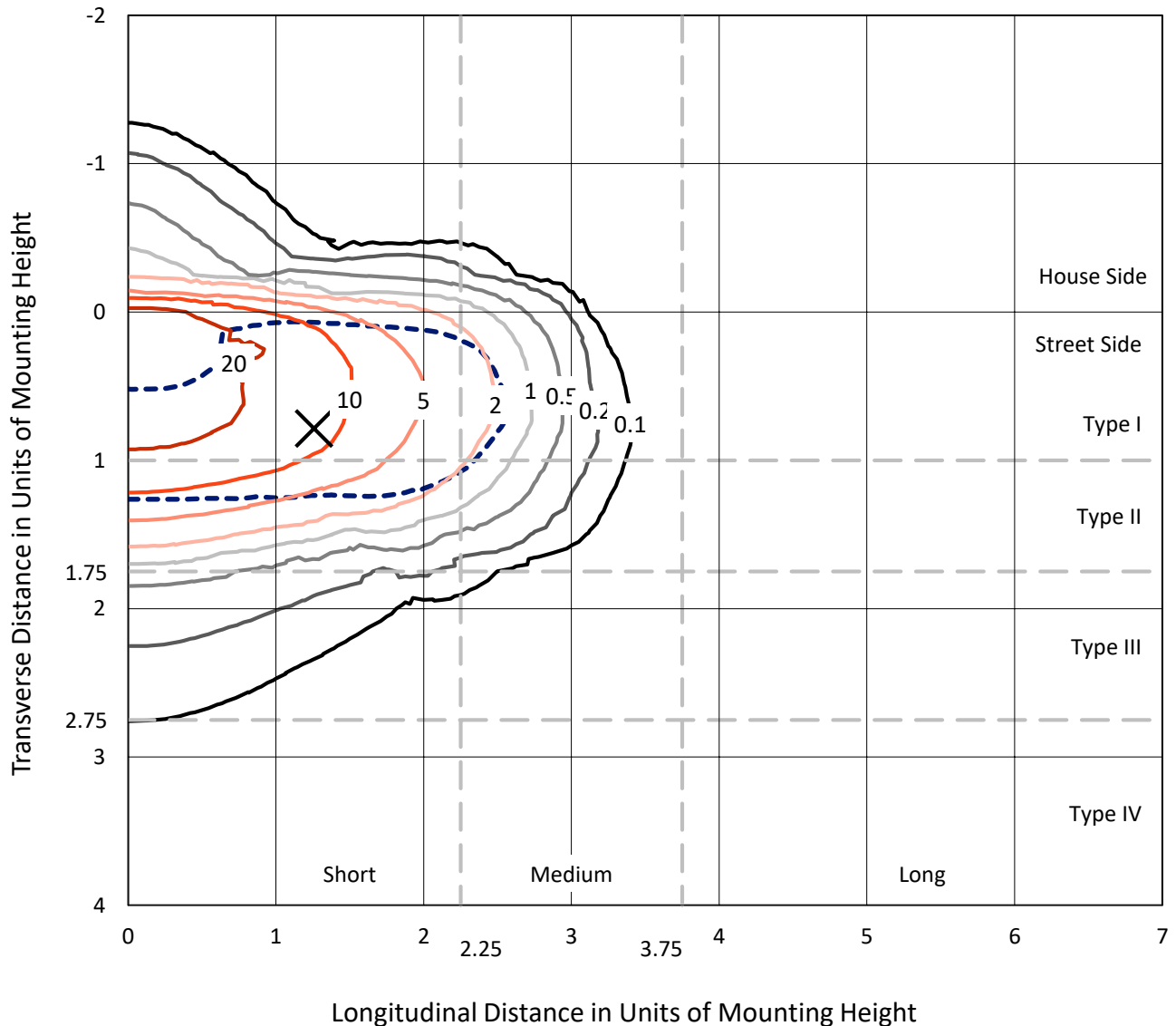
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

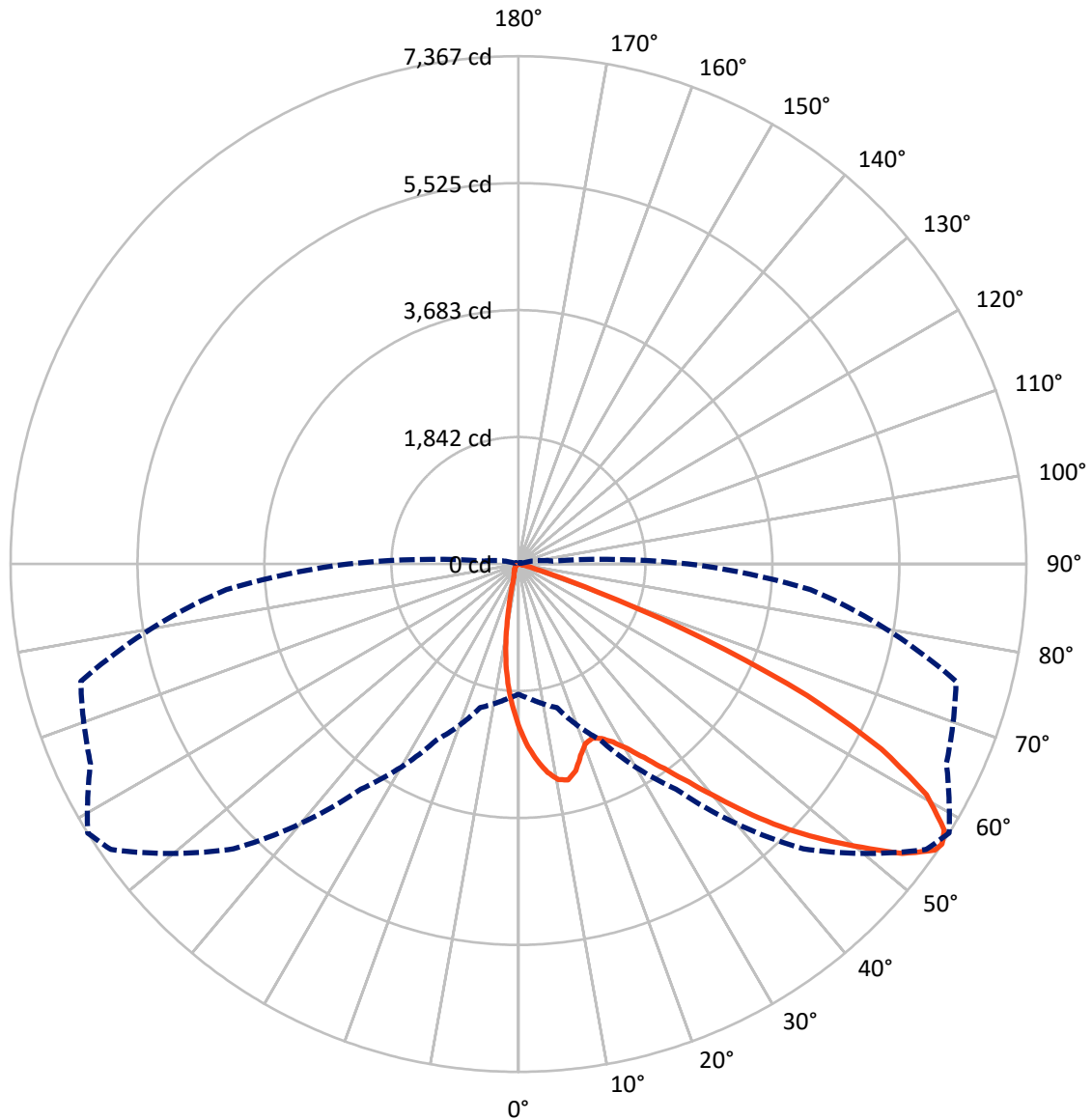
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 29.7 fc  
 Type II - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral    - - - Horizontal Cone Through 56-Deg Vertical

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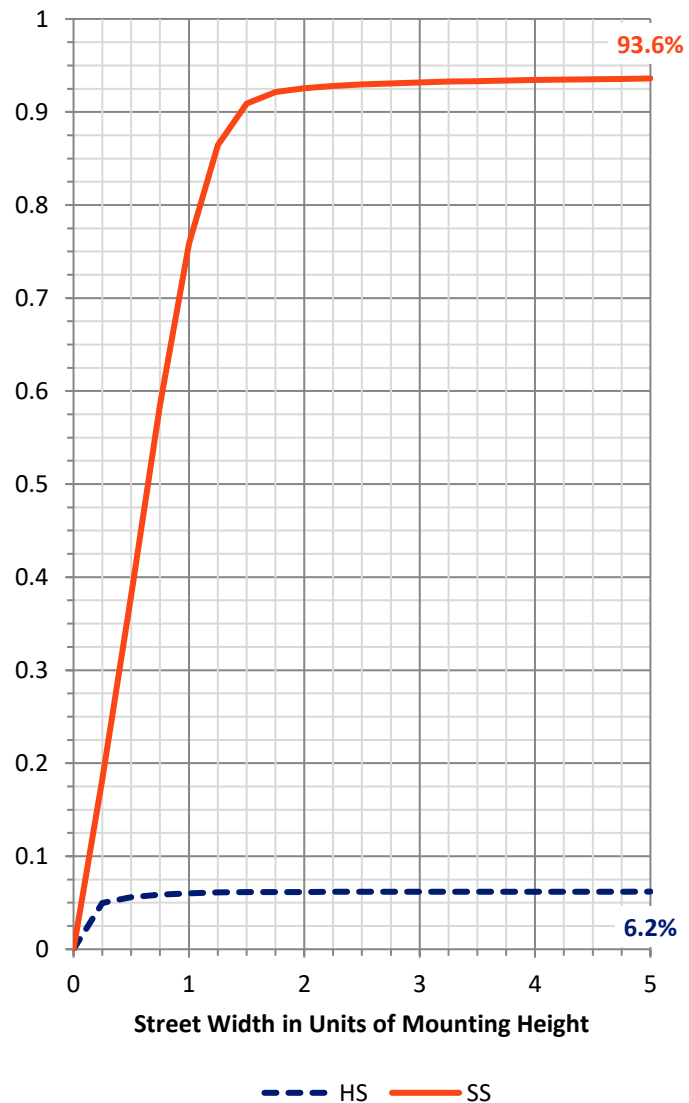
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	527.5	0.0	527.5
	% Fixture	6.2	0.0	6.2
<b>Street Side</b>	Lumens	7923.1	0.0	7923.1
	% Fixture	93.8	0.0	93.8
<b>Total</b>	Lumens	8450.6	0.0	8450.6
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	204.1	2.4
10°-20°	474.9	5.6
20°-30°	799.1	9.5
30°-40°	1368.4	16.2
40°-50°	2065.0	24.4
50°-60°	2146.5	25.4
60°-70°	1205.0	14.3
70°-80°	165.2	2.0
80°-90°	22.4	0.3
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°	8450.6	100.0
0°-180°	8450.6	100.0

**Coefficient of Utilization**



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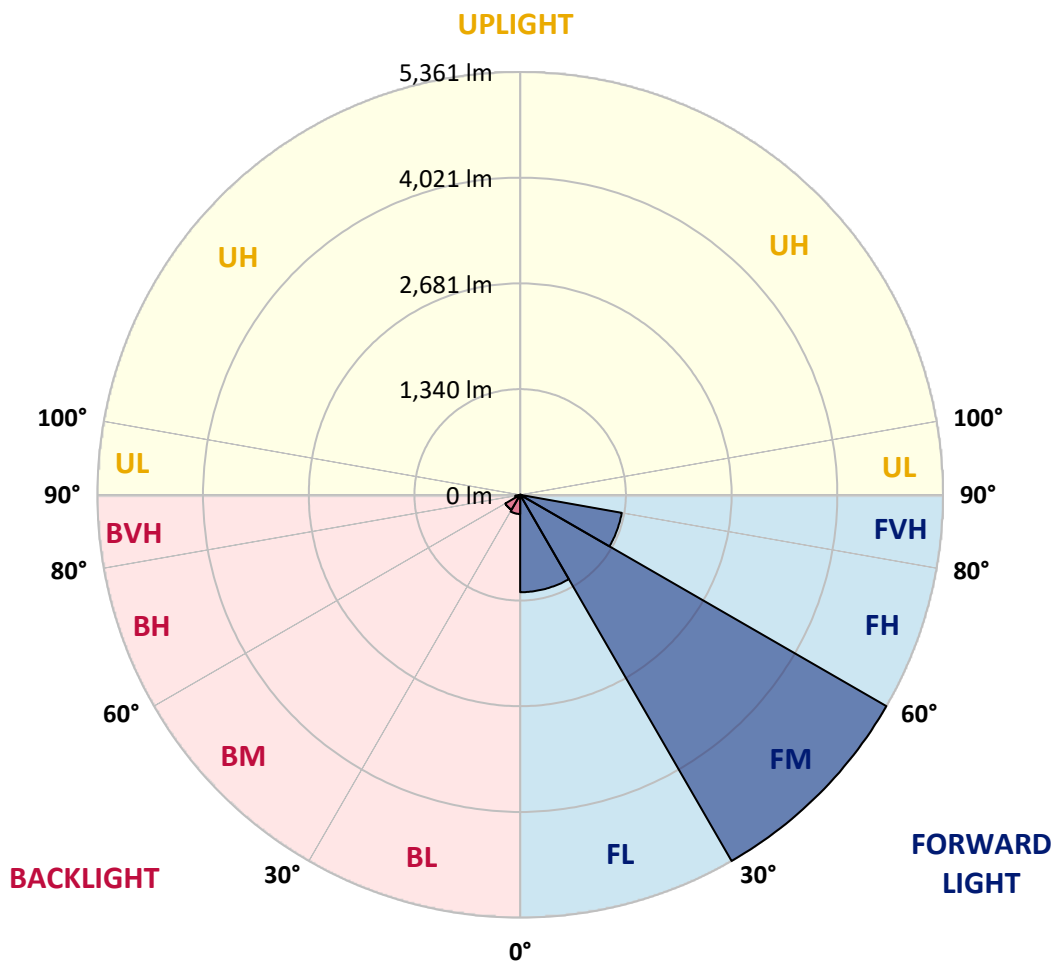
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1234.8	14.6			
FM	(30°-60°)	5361.4	63.4			
FH	(60°-80°)	1307.6	15.5			G1/1800
FVH	(80°-90°)	19.3	0.2			G1/100
BL	(0°-30°)	243.3	2.9	B1/500		
BM	(30°-60°)	218.5	2.6	B0/220		
BH	(60°-80°)	62.6	0.7	B0/110		G0/110
BVH	(80°-90°)	3.1	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	2392.6	2392.6	2392.6	2392.6	2392.6	2392.6	2392.6	2392.6	2392.6	2392.6	2392.6
2.5°	2878.8	2861.3	2843.3	2809.7	2778.8	2731.1	2665.3	2649.2	2597.7	2512.6	2433.2
5°	3127.0	3123.8	3111.5	3084.4	3050.8	2992.8	2918.7	2869.1	2789.2	2655.1	2502.2
7.5°	2980.0	3007.1	3051.6	3114.7	3157.2	3151.5	3094.7	3051.6	2972.3	2789.2	2570.0
10°	2511.9	2517.1	2578.3	2711.1	2921.3	3117.3	3191.4	3179.8	3107.0	2906.5	2629.2
12.5°	2346.9	2350.0	2364.2	2406.8	2543.5	2816.9	3152.7	3213.4	3207.6	3018.6	2692.4
15°	2359.7	2361.7	2365.6	2379.1	2417.7	2555.1	2956.7	3110.9	3272.0	3125.0	2754.3
17.5°	2461.6	2460.3	2448.0	2435.1	2447.4	2492.5	2756.9	2919.4	3258.5	3214.6	2805.2
20°	2660.2	2666.6	2625.4	2568.0	2538.4	2540.3	2658.2	2780.1	3182.4	3284.3	2843.3
22.5°	2939.3	2943.8	2876.1	2776.9	2689.8	2646.0	2678.9	2743.3	3094.7	3348.7	2874.3
25°	3272.7	3272.7	3177.9	3036.7	2902.0	2805.9	2777.5	2802.1	3061.2	3421.7	2905.2
27.5°	3632.5	3645.4	3521.5	3336.6	3158.6	3018.0	2929.0	2924.5	3087.0	3513.2	2940.0
30°	4023.8	4035.4	3888.4	3662.1	3451.2	3271.4	3134.7	3105.1	3185.7	3636.3	2990.9
32.5°	4413.2	4422.9	4260.4	4029.6	3784.0	3572.5	3392.6	3345.6	3363.0	3816.2	3065.7
35°	4908.4	4910.4	4704.7	4430.0	4167.6	3919.3	3691.7	3645.4	3626.0	4043.1	3173.4
37.5°	5302.4	5286.8	5156.6	4896.8	4595.7	4336.5	4068.9	4008.3	3961.9	4362.3	3340.3
40°	5395.1	5395.1	5375.8	5297.8	5058.6	4809.1	4549.9	4459.7	4357.2	4738.2	3564.8
42.5°	5153.4	5168.9	5296.5	5466.0	5468.0	5308.1	5054.7	4978.7	4798.2	5166.3	3809.8
45°	4612.5	4617.0	4923.3	5380.9	5691.7	5783.3	5596.4	5491.2	5241.1	5611.2	4034.1
47.5°	4417.7	4431.9	4562.2	5121.8	5708.5	6168.2	6116.0	5971.6	5651.1	6017.3	4243.6
50°	4118.6	4136.0	4295.3	4740.1	5557.6	6415.1	6613.1	6458.3	6024.5	6355.8	4347.4
52.5°	3402.9	3430.0	3655.0	4235.3	5180.4	6425.5	7068.3	6975.4	6406.7	6537.0	4335.2
55°	2341.6	2361.7	2624.1	3306.2	4419.7	6110.2	7264.3	7328.1	6747.8	6577.6	4275.9
56°	1889.1	1963.9	2156.0	2816.9	3986.4	5842.0	7219.2	7366.8	6849.1	6571.1	4250.2
57.5°	1248.8	1263.0	1472.5	2041.2	3201.1	5259.8	7015.4	7284.2	6979.3	6538.3	4231.4
60°	587.4	593.8	669.2	941.9	1732.4	3833.0	6353.2	6799.3	7027.0	6469.2	4230.7
62.5°	383.0	384.2	393.3	449.4	708.6	2087.6	5266.9	5909.0	6631.8	6461.6	4218.5
65°	315.3	318.5	307.5	314.7	370.7	787.3	3714.9	4606.7	5704.0	6279.7	4080.6
67.5°	277.8	278.5	263.7	255.3	271.4	345.6	1871.7	2905.8	4266.2	5335.8	3361.0
70°	253.4	252.8	236.0	216.7	217.3	229.6	609.9	1207.0	2360.4	3168.3	1929.7
72.5°	225.0	226.3	216.7	189.6	180.6	162.4	229.6	325.6	803.3	1017.4	508.7
75°	197.3	194.7	185.1	167.7	150.9	108.9	115.4	138.6	209.5	207.6	109.6
77.5°	149.6	147.0	151.5	143.1	117.9	76.1	63.2	72.2	94.7	88.3	44.5
80°	114.2	112.8	103.1	122.5	107.7	57.4	43.2	44.5	51.6	47.1	21.9
82.5°	82.6	81.8	78.1	75.4	68.3	41.9	32.8	34.8	38.7	32.8	16.2
85°	31.6	31.6	61.3	51.6	47.1	28.3	23.2	25.2	29.7	23.8	10.9
87.5°	5.1	5.1	41.2	34.2	21.3	14.2	14.8	16.2	17.4	14.2	8.4
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°	2392.6	2392.6	2392.6	2392.6	2392.6	2392.6	2392.6	2392.6	2392.6	2392.6	2392.6
2.5°	2386.1	2343.0	2248.2	2156.7	2076.7	1989.0	1944.5	1893.0	1873.6	1835.0	1838.8
5°	2410.7	2320.4	2130.2	1929.7	1746.0	1559.0	1426.2	1301.1	1231.4	1162.5	1162.5
7.5°	2435.9	2297.9	2003.9	1683.4	1373.9	1053.5	826.5	644.8	543.5	475.8	473.8
10°	2453.2	2268.8	1860.0	1397.8	941.3	542.9	327.5	257.9	232.7	221.8	221.2
12.5°	2475.7	2239.9	1696.3	1061.2	522.9	257.9	204.4	193.4	188.9	186.3	186.3
15°	2495.2	2198.5	1497.7	713.7	274.7	193.4	176.0	172.2	171.5	170.8	171.5
17.5°	2499.7	2139.9	1259.9	417.8	199.3	168.9	161.2	157.9	157.9	157.3	157.3
20°	2489.4	2062.5	996.8	257.9	172.2	155.4	147.0	143.1	142.5	142.5	142.5
22.5°	2468.1	1963.9	736.9	195.4	156.7	143.1	132.2	128.3	128.3	129.0	129.6
25°	2441.6	1847.1	506.2	168.3	145.1	130.2	119.3	115.4	116.7	117.9	118.7
27.5°	2408.1	1707.9	331.4	145.7	129.6	117.3	107.7	105.1	107.7	110.3	111.5
30°	2374.6	1555.1	224.3	126.3	112.2	103.1	97.4	96.7	100.6	106.4	107.0
32.5°	2352.7	1398.5	169.6	113.4	98.6	90.9	88.3	89.6	95.4	101.9	103.1
35°	2350.7	1245.6	144.4	103.1	89.6	82.6	81.2	85.1	91.6	96.7	98.0
37.5°	2381.0	1102.5	130.8	95.4	82.6	75.4	73.6	80.6	86.4	91.6	92.9
40°	2442.3	974.2	121.8	88.3	76.7	68.3	67.0	72.8	78.7	84.5	86.4
42.5°	2519.0	854.3	111.5	81.2	70.3	60.6	59.3	63.8	69.7	78.1	79.3
45°	2585.4	742.8	100.6	73.6	63.2	52.3	51.6	56.8	61.3	68.9	70.3
47.5°	2641.5	649.9	90.2	65.2	54.1	46.4	45.7	48.4	50.9	58.0	59.3
50°	2611.8	571.2	80.0	53.5	43.9	40.0	39.3	39.3	42.6	49.6	50.9
52.5°	2539.0	522.2	70.3	44.5	36.1	34.2	32.2	32.8	36.1	39.3	40.0
55°	2480.3	499.0	61.9	39.3	30.3	28.3	26.4	25.8	26.4	25.2	23.8
56°	2466.1	496.4	59.9	38.1	29.1	26.4	23.8	22.6	21.9	19.3	18.7
57.5°	2459.7	496.4	56.8	35.5	27.1	23.8	20.7	18.0	15.4	13.5	13.5
60°	2454.5	499.7	52.9	31.0	23.2	19.3	14.8	10.9	9.0	9.0	9.0
62.5°	2443.5	498.4	48.4	25.8	19.9	14.8	9.0	7.1	6.4	7.1	7.8
65°	2320.4	462.9	42.6	20.7	15.4	10.3	5.1	5.1	5.8	7.1	7.8
67.5°	1869.7	350.8	34.8	16.2	10.9	7.8	4.5	4.5	5.8	7.1	7.8
70°	1027.0	185.1	29.7	11.6	8.4	6.4	4.5	3.9	5.8	7.1	7.8
72.5°	250.8	77.3	27.1	9.0	7.8	5.8	3.9	3.9	5.8	7.1	7.8
75°	61.9	58.0	21.9	7.1	6.4	5.1	3.9	3.9	5.8	7.1	7.8
77.5°	29.1	76.7	14.8	6.4	5.8	4.5	3.9	3.9	5.8	7.1	7.1
80°	17.4	58.0	9.0	5.8	5.1	4.5	3.9	3.9	5.8	7.1	7.8
82.5°	10.3	16.8	6.4	5.8	5.1	3.9	3.9	3.9	5.8	7.1	7.8
85°	9.0	8.4	6.4	5.8	5.1	4.5	3.9	3.9	6.4	7.8	7.8
87.5°	7.1	6.4	5.8	5.1	5.1	4.5	3.9	3.9	5.8	7.1	7.8
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)