

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: P270683

Luminaire Tested: **NAV-AF-06-D-UNV-SL4-7027-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270683
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-SL4-7027-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16797.1 lumens
Efficiency: N/A
Efficacy: 87.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

Input Watts (W): 193
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

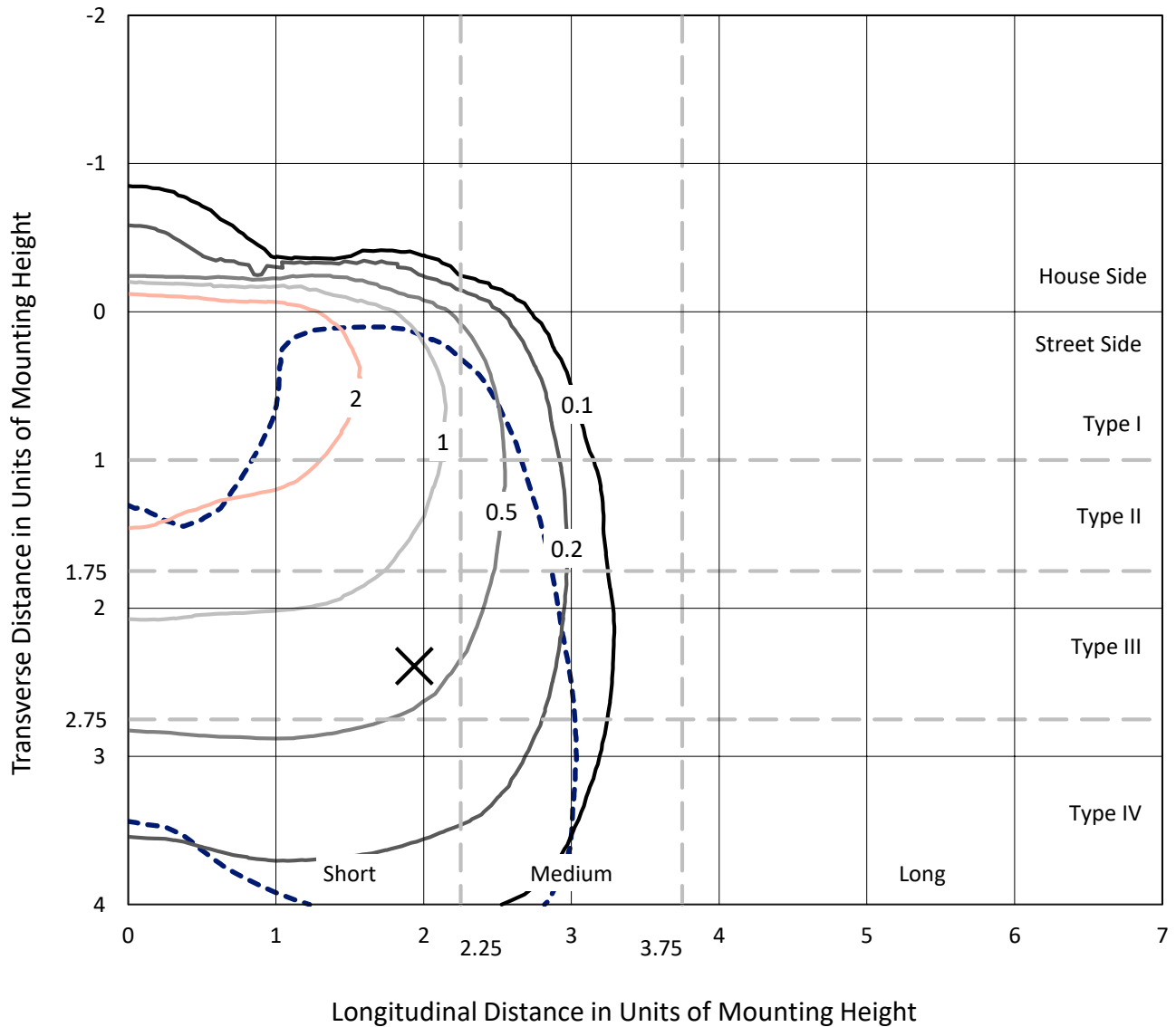


REPORT NUMBER: P270683

CATALOG NUMBER: NAV-AF-06-D-UNV-SL4-7027-600-HSS

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

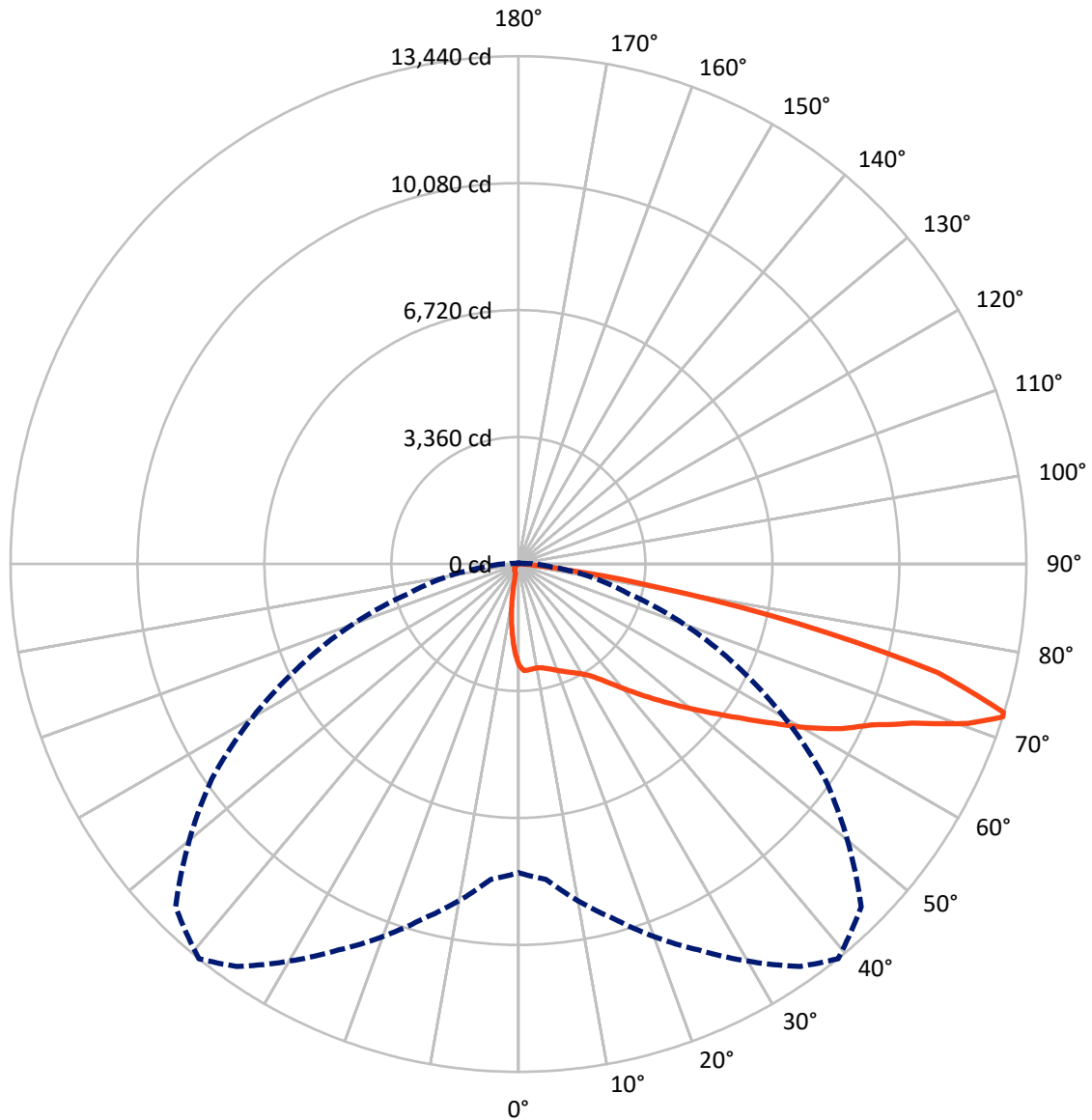


Based on 25 foot mounting height. Maximum calculated value = 4.5 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P270683

CATALOG NUMBER: NAV-AF-06-D-UNV-SL4-7027-600-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

REPORT NUMBER: P270683

CATALOG NUMBER: NAV-AF-06-D-UNV-SL4-7027-600-HSS

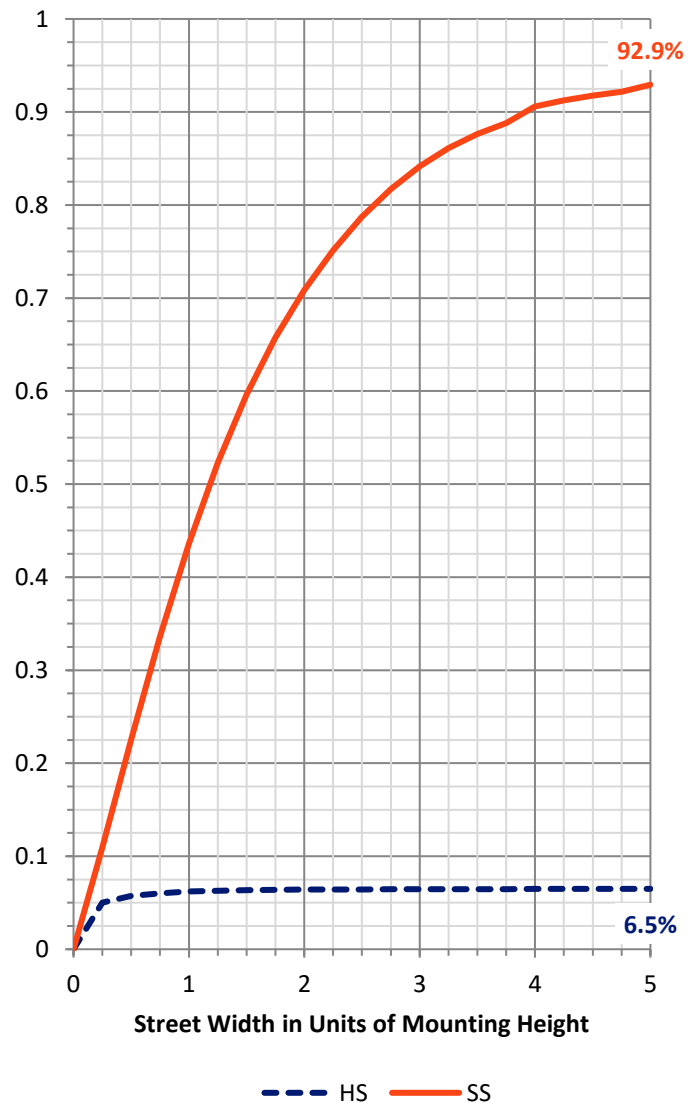
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1100.9	0.0	1100.9
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	15696.2	0.0	15696.2
	% Fixture	93.4	0.0	93.4
Total	Lumens	16797.1	0.0	16797.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.7	1.3
10°-20°	529.4	3.2
20°-30°	879.2	5.2
30°-40°	1401.4	8.3
40°-50°	2313.1	13.8
50°-60°	3493.2	20.8
60°-70°	4550.5	27.1
70°-80°	3074.8	18.3
80°-90°	336.8	2.0
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°	16797.1	100.0
0°-180°	16797.1	100.0



REPORT NUMBER: P270683

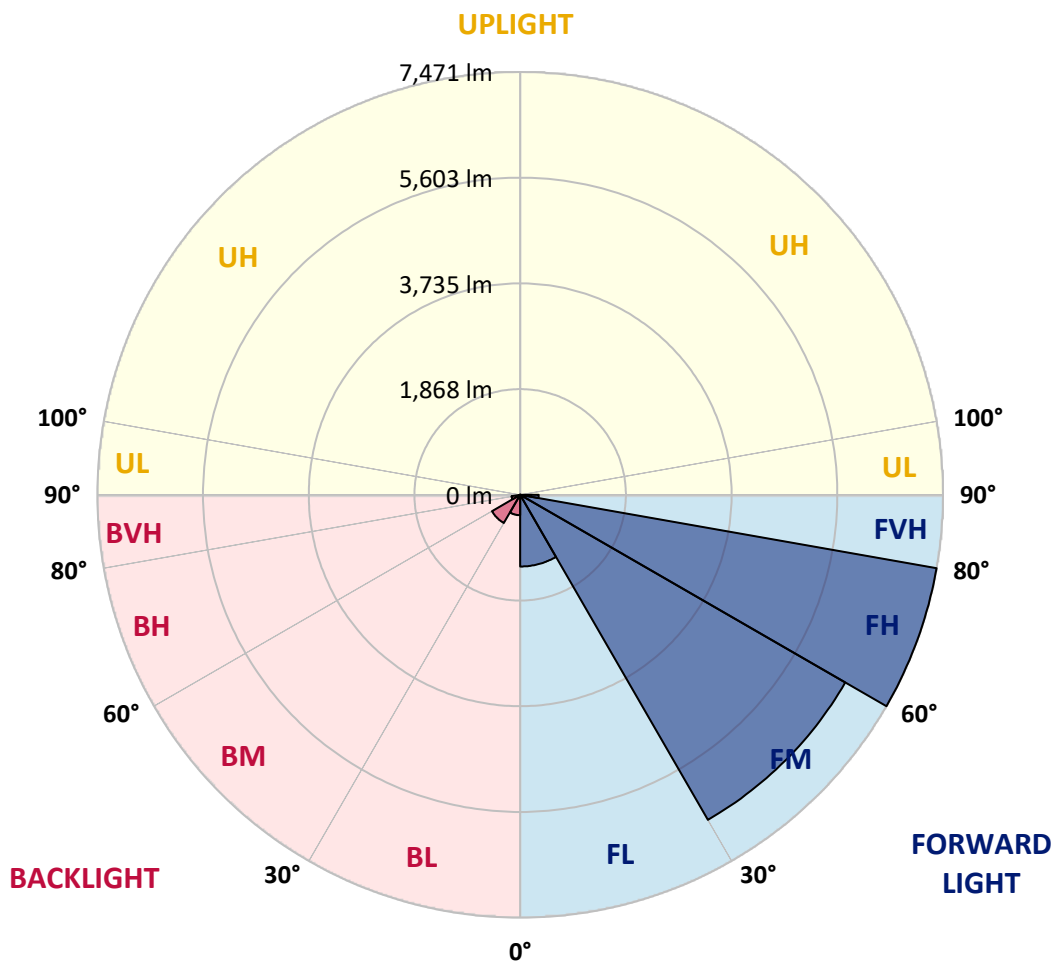
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1266.9	7.5			
FM	(30°-60°)	6631.7	39.5			
FH	(60°-80°)	7470.6	44.5			G3/7500
FVH	(80°-90°)	327.1	1.9			G3/500
BL	(0°-30°)	360.5	2.1	B1/500		
BM	(30°-60°)	576.0	3.4	B1/1000		
BH	(60°-80°)	154.7	0.9	B1/500		G1/500
BVH	(80°-90°)	9.7	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





REPORT NUMBER: P270683

CATALOG NUMBER: NAV-AF-06-D-UNV-SL4-7027-600-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2688.4	2688.4	2688.4	2688.4	2688.4	2688.4	2688.4	2688.4	2688.4	2688.4	2688.4
2.5°	2862.8	2868.1	2861.6	2849.6	2832.4	2821.8	2807.4	2775.7	2736.0	2701.7	2662.0
5°	2885.3	2888.0	2880.0	2857.5	2831.1	2816.5	2798.1	2763.7	2722.9	2675.3	2603.9
7.5°	2891.9	2890.6	2881.3	2853.6	2812.7	2794.1	2762.4	2720.2	2677.8	2634.3	2553.8
10°	2889.2	2889.2	2882.7	2856.3	2810.0	2792.8	2757.2	2712.3	2659.4	2615.9	2530.0
12.5°	2880.0	2885.3	2881.3	2866.8	2832.4	2819.2	2787.5	2742.6	2692.4	2647.6	2556.4
15°	2891.9	2899.8	2907.6	2902.5	2882.7	2870.8	2841.7	2795.4	2754.6	2707.0	2609.2
17.5°	2939.3	2956.5	2975.0	2976.4	2955.2	2934.0	2901.0	2853.6	2813.9	2770.4	2664.7
20°	3029.2	3042.4	3076.7	3083.3	3041.0	3010.7	2964.4	2909.0	2869.4	2832.4	2716.2
22.5°	3162.6	3177.0	3204.9	3195.5	3124.2	3088.6	3030.5	2967.1	2926.1	2904.9	2775.7
25°	3364.5	3368.6	3375.1	3334.1	3216.7	3177.0	3105.7	3034.5	3001.4	2998.8	2860.2
27.5°	3602.3	3607.6	3578.5	3487.4	3319.6	3268.2	3187.6	3122.9	3107.1	3126.9	2967.1
30°	3874.3	3875.6	3795.0	3647.2	3438.5	3381.7	3298.5	3227.3	3241.8	3290.6	3104.5
32.5°	4152.9	4139.7	4028.8	3835.9	3600.9	3532.2	3461.0	3389.7	3432.0	3531.0	3305.1
35°	4407.8	4402.5	4271.7	4047.3	3812.1	3751.4	3699.9	3624.8	3693.3	3854.4	3578.5
37.5°	4662.7	4658.6	4509.4	4275.8	4072.3	4028.8	3990.5	3932.4	4044.6	4281.0	3944.3
40°	4943.8	4937.3	4753.7	4529.3	4374.7	4350.9	4328.6	4303.4	4494.8	4823.7	4399.8
42.5°	5291.1	5262.1	5012.5	4805.3	4707.5	4714.0	4715.5	4740.4	5040.2	5469.4	4937.3
45°	5690.0	5625.1	5272.6	5100.9	5073.3	5112.9	5152.5	5256.8	5675.4	6212.8	5531.5
47.5°	6076.9	5972.6	5572.4	5419.3	5476.0	5557.9	5652.9	5856.3	6388.4	6990.6	6070.1
50°	6409.5	6302.6	5869.4	5742.8	5923.7	6045.1	6214.1	6521.9	7141.0	7648.2	6409.5
52.5°	6671.1	6586.6	6183.8	6099.2	6420.1	6586.6	6851.9	7256.0	7851.5	8081.3	6647.3
55°	6863.8	6821.5	6484.9	6496.7	6972.0	7212.4	7542.4	7999.3	8451.1	8417.9	6825.5
57.5°	7081.7	7048.7	6800.3	6965.5	7636.3	7946.5	8328.2	8695.4	8886.8	8688.6	6999.9
60°	7304.8	7315.3	7183.3	7533.2	8457.6	8801.0	9133.6	9224.9	9260.4	8963.4	7183.3
62.5°	7473.9	7518.8	7530.6	8146.0	9300.2	9593.2	9737.2	9672.5	9664.5	9331.8	7168.8
65°	7668.0	7785.5	7980.9	8818.1	10066.0	10258.7	10361.7	10455.6	10257.4	9441.4	6463.8
67.5°	8003.4	8188.2	8628.0	9642.0	10950.7	11235.9	11527.7	11428.6	10345.9	8328.2	4924.0
70°	8454.9	8680.9	9457.3	10718.2	12151.0	12629.0	12873.3	11350.8	8783.7	5754.6	2597.4
72°	8169.7	8374.4	9713.5	11267.6	13001.3	13439.7	12828.3	9900.8	6367.4	2982.9	870.2
72.5°	7892.5	8103.7	9631.4	11261.1	13085.9	13421.2	12536.6	9329.2	5634.4	2321.4	599.4
75°	5476.0	5742.8	8257.0	10122.7	11816.9	11448.4	9591.9	5649.0	2041.5	398.8	198.0
77.5°	2831.1	3037.1	5008.6	7153.1	8235.8	7542.4	5668.8	2450.8	565.2	211.3	130.8
80°	1754.8	1856.5	2342.5	3524.3	4278.4	3742.2	2501.1	990.3	361.7	125.5	104.4
82.5°	908.5	986.3	1474.9	1422.1	1580.6	1314.0	923.0	829.2	223.1	78.0	107.0
85°	298.4	316.9	905.9	945.5	676.1	454.3	409.4	791.0	64.7	50.1	91.1
87.5°	39.6	46.3	318.2	541.4	332.7	206.0	245.5	278.7	22.5	27.8	25.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P270683

CATALOG NUMBER: NAV-AF-06-D-UNV-SL4-7027-600-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2688.4	2688.4	2688.4	2688.4	2688.4	2688.4	2688.4	2688.4	2688.4	2688.4	2688.4
2.5°	2635.6	2618.5	2564.3	2510.3	2448.2	2391.4	2346.6	2317.4	2330.7	2287.1	2293.6
5°	2560.3	2516.8	2397.9	2269.8	2131.3	2001.9	1898.8	1822.2	1807.7	1741.8	1744.4
7.5°	2487.8	2416.5	2223.7	2012.5	1782.6	1596.5	1427.4	1279.5	1226.7	1172.6	1140.8
10°	2448.2	2350.4	2077.2	1769.4	1445.9	1172.6	934.9	748.6	670.9	614.0	586.4
12.5°	2460.1	2330.7	1967.5	1548.9	1123.7	776.5	528.3	392.2	344.6	318.2	308.9
15°	2499.7	2334.5	1868.5	1333.7	817.4	470.2	310.4	265.4	261.4	260.1	258.8
17.5°	2536.6	2338.6	1764.1	1109.1	546.7	299.8	249.5	245.5	245.5	245.5	245.5
20°	2574.9	2339.8	1649.3	874.1	359.1	245.5	235.0	232.4	235.0	235.0	235.0
22.5°	2619.7	2349.1	1538.3	645.7	265.4	231.0	224.4	223.1	224.4	224.4	223.1
25°	2675.3	2368.9	1418.2	462.2	240.3	221.8	215.2	213.9	215.2	213.9	213.9
27.5°	2749.3	2395.3	1278.2	331.5	229.7	212.5	206.0	206.0	206.0	204.6	204.6
30°	2844.4	2427.0	1090.7	261.4	219.1	203.3	198.0	198.0	196.8	195.4	195.4
32.5°	2980.2	2478.6	886.1	236.3	207.2	191.5	186.2	187.4	186.2	185.0	183.6
35°	3173.2	2559.1	684.0	223.1	195.4	179.7	174.4	174.4	174.4	171.7	171.7
37.5°	3446.4	2681.9	512.4	209.9	183.6	167.8	161.1	161.1	159.8	157.2	158.5
40°	3784.5	2836.4	371.1	198.0	171.7	154.5	149.2	146.6	143.9	141.4	141.4
42.5°	4191.2	2987.0	278.7	186.2	159.8	143.9	137.4	134.7	129.4	126.8	125.5
45°	4646.8	3146.8	231.0	171.7	146.6	132.1	126.8	121.5	114.9	110.9	109.7
47.5°	5031.0	3244.4	206.0	157.2	133.4	120.2	114.9	107.0	99.1	96.4	96.4
50°	5262.1	3203.4	185.0	142.7	120.2	108.2	101.7	91.1	85.9	83.3	81.8
52.5°	5391.4	3081.9	167.8	130.8	108.2	95.1	85.9	76.5	73.9	71.3	71.3
55°	5480.0	2906.3	149.2	118.8	97.7	83.3	72.7	66.0	63.4	62.1	60.7
57.5°	5564.6	2692.4	132.1	108.2	87.1	73.9	62.1	59.4	54.2	52.8	52.8
60°	5589.6	2397.9	116.2	96.4	78.0	64.7	54.2	50.1	44.8	43.6	43.6
62.5°	5269.9	1908.1	102.9	81.8	68.7	55.4	47.5	42.3	37.0	37.0	37.0
65°	4403.9	1295.4	88.5	71.3	60.7	47.5	41.0	34.3	31.7	31.7	31.7
67.5°	3067.4	722.2	75.3	60.7	51.6	39.6	34.3	29.0	27.8	29.0	29.0
70°	1382.5	286.5	63.4	50.1	42.3	33.0	29.0	25.2	27.8	27.8	27.8
72°	414.7	153.3	52.8	41.0	34.3	29.0	25.2	23.7	26.4	27.8	27.8
72.5°	307.7	137.4	50.1	39.6	34.3	27.8	23.7	23.7	26.4	27.8	27.8
75°	158.5	93.8	38.3	29.0	25.2	22.5	19.9	22.5	26.4	26.4	26.4
77.5°	124.1	76.5	31.7	22.5	21.1	19.9	18.4	21.1	23.7	23.7	23.7
80°	116.2	50.1	25.2	21.1	18.4	17.2	17.2	18.4	21.1	22.5	22.5
82.5°	117.5	41.0	22.5	19.9	17.2	15.8	15.8	17.2	19.9	21.1	21.1
85°	75.3	27.8	19.9	17.2	15.8	14.6	14.6	15.8	18.4	19.9	19.9
87.5°	25.2	21.1	17.2	15.8	13.2	13.2	13.2	13.2	15.8	17.2	18.4
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)