

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: P196061

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196061
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-SL2-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 615mA 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: 16531.9 lumens
Efficiency: N/A
Efficacy: 102.0 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

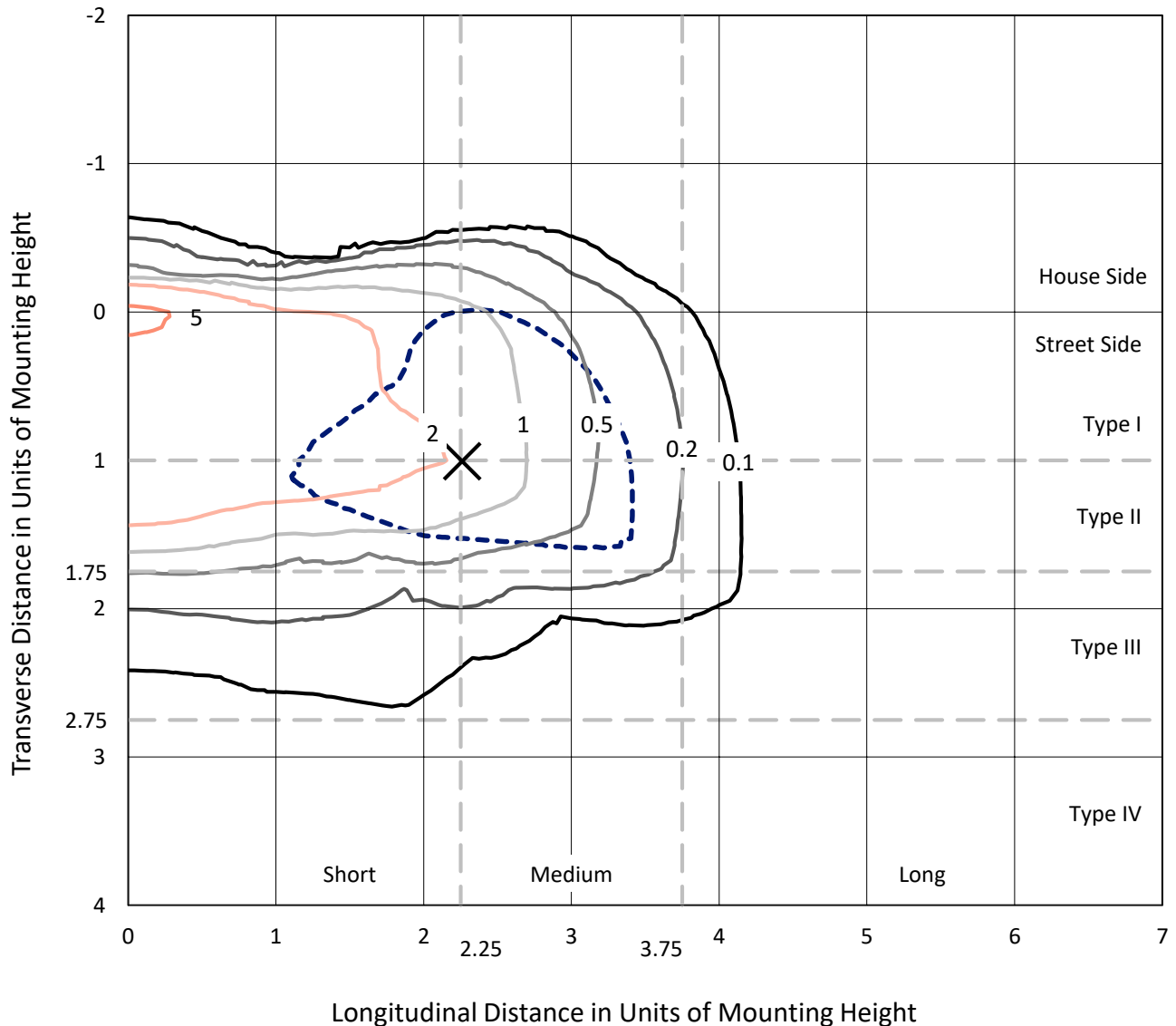
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196061
 CATALOG NUMBER: NAV-AF-05-D-UNV-SL2-600-HSS

Iso-Footcandle Lines of Horizontal Illumination

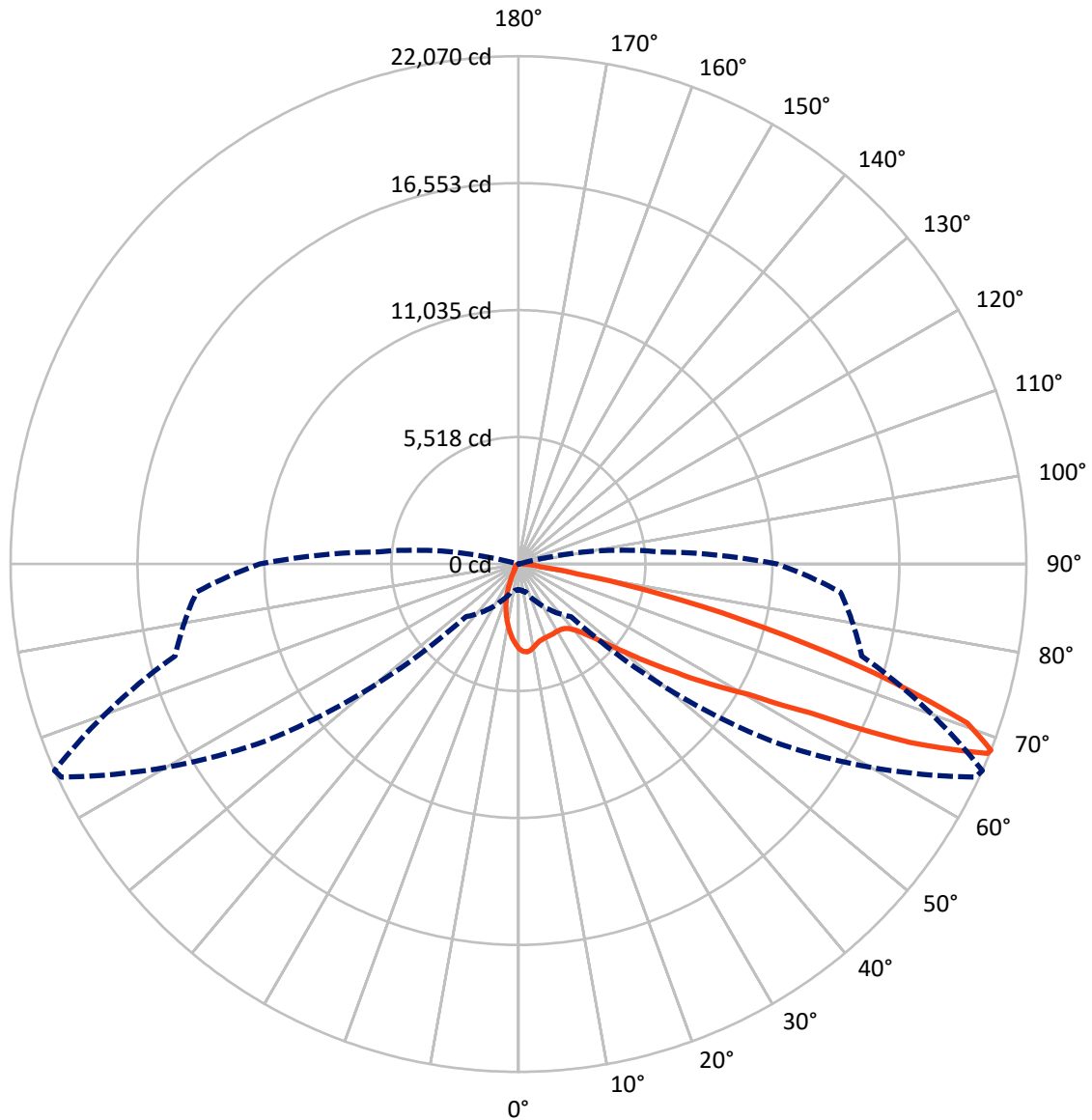
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.9 fc
 Type II - Medium - Semi-Cutoff

REPORT NUMBER: P196061
CATALOG NUMBER: NAV-AF-05-D-UNV-SL2-600-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196061

CATALOG NUMBER: NAV-AF-05-D-UNV-SL2-600-HSS

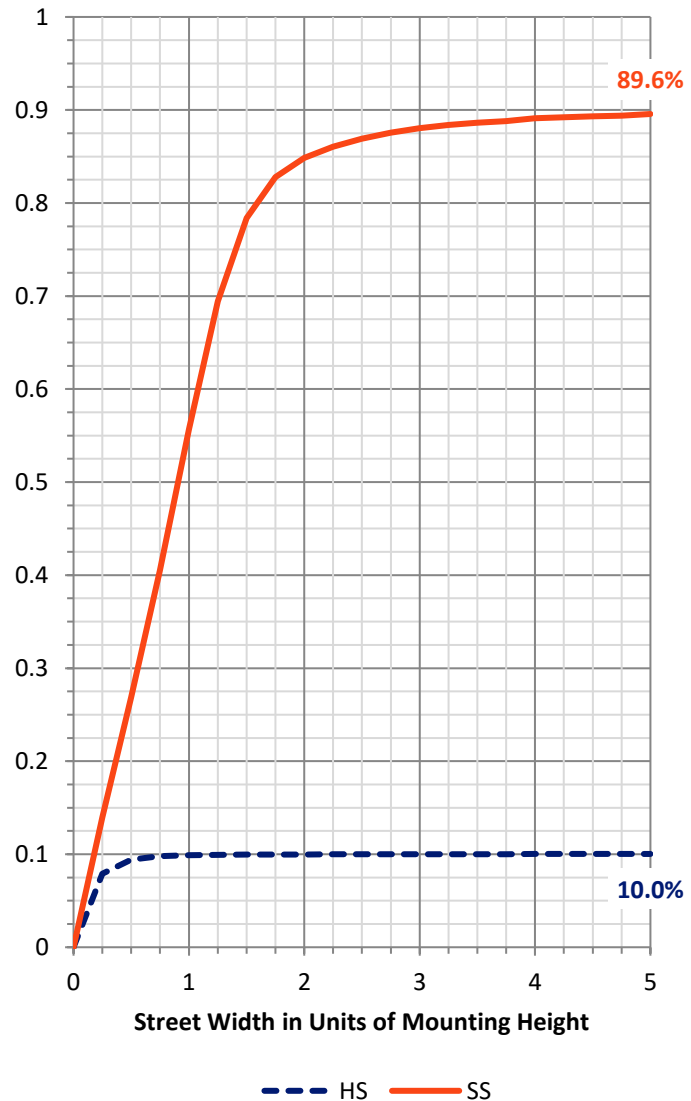
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1674.5	0.0	1674.5
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	14857.4	0.0	14857.4
	% Fixture	89.9	0.0	89.9
Total	Lumens	16531.9	0.0	16531.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	301.9	1.8
10°-20°	649.7	3.9
20°-30°	941.4	5.7
30°-40°	1441.1	8.7
40°-50°	2465.0	14.9
50°-60°	3855.9	23.3
60°-70°	4439.9	26.9
70°-80°	2221.8	13.4
80°-90°	215.2	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°	16531.9	100.0
0°-180°	16531.9	100.0



REPORT NUMBER: P196061

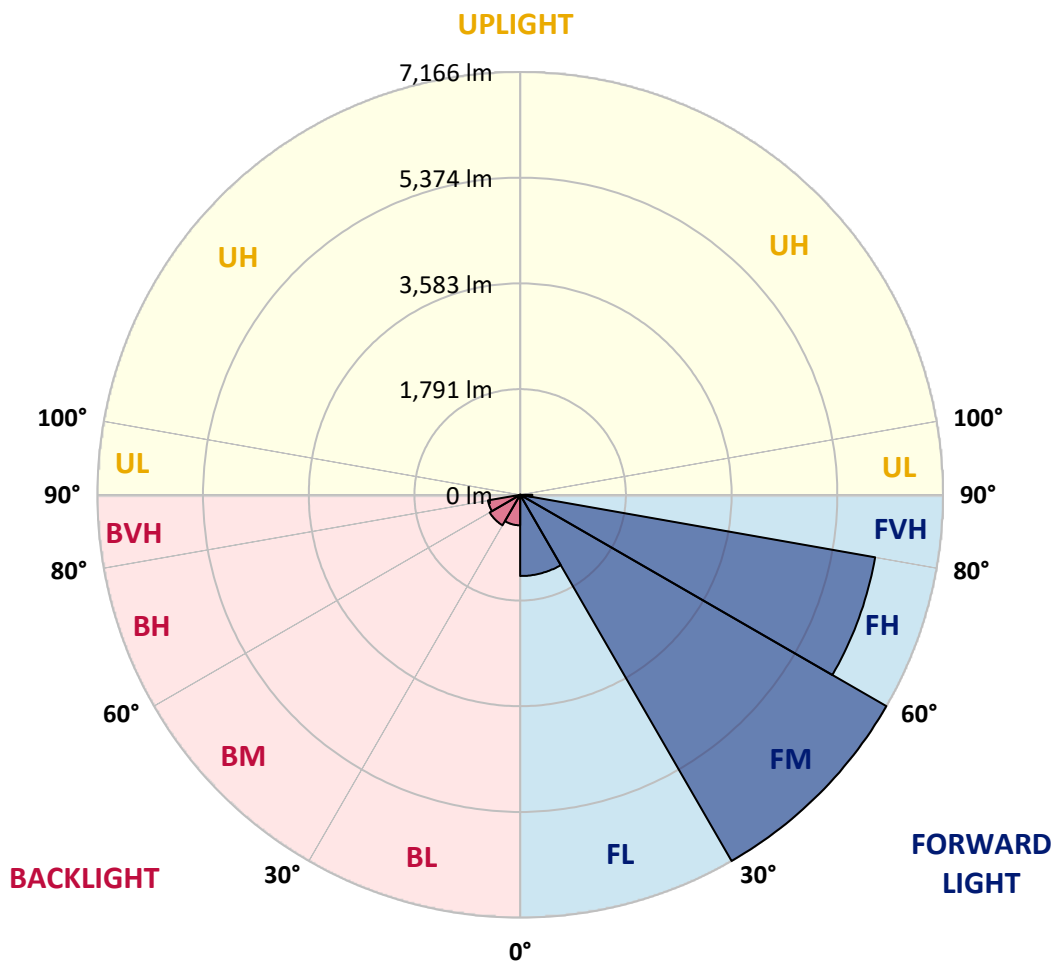
CATALOG NUMBER: NAV-AF-05-D-UNV-SL2-600-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1376.2	8.3			
FM	(30°-60°)	7165.7	43.3			
FH	(60°-80°)	6108.5	36.9			G3/7500
FVH	(80°-90°)	207.0	1.3			G2/225
BL	(0°-30°)	516.8	3.1	B2/1000		
BM	(30°-60°)	596.3	3.6	B1/1000		
BH	(60°-80°)	553.2	3.3	B2/1000		G2/1000
BVH	(80°-90°)	8.1	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Medium





REPORT NUMBER: P196061
 CATALOG NUMBER: NAV-AF-05-D-UNV-SL2-600-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	3683.1	3683.1	3683.1	3683.1	3683.1	3683.1	3683.1	3683.1	3683.1	3683.1	3683.1
2.5°	3873.9	3876.6	3875.2	3879.1	3876.6	3857.0	3836.3	3792.2	3796.1	3739.0	3675.4
5°	3601.4	3623.5	3645.5	3667.6	3720.8	3767.5	3823.3	3836.3	3836.3	3787.0	3693.6
7.5°	3323.7	3325.0	3349.7	3379.4	3450.8	3536.5	3666.3	3783.1	3785.6	3798.6	3696.1
10°	3114.7	3121.2	3138.1	3170.5	3241.9	3326.2	3471.6	3654.6	3668.9	3764.9	3670.1
12.5°	2952.5	2960.3	2978.4	3016.1	3080.9	3168.0	3321.1	3530.0	3549.4	3732.4	3662.4
15°	2827.9	2838.3	2852.6	2890.2	2960.3	3052.4	3219.8	3446.9	3470.4	3719.4	3687.0
17.5°	2776.0	2776.0	2774.7	2800.6	2870.7	2964.2	3139.3	3402.8	3432.7	3729.9	3728.6
20°	2798.1	2794.2	2766.9	2760.4	2803.3	2896.7	3075.8	3374.3	3408.1	3749.3	3779.2
22.5°	2914.9	2907.0	2846.1	2795.4	2782.5	2844.7	3032.9	3354.8	3395.1	3789.5	3846.7
25°	3162.8	3139.3	3055.0	2940.8	2838.3	2831.8	3003.1	3344.4	3387.3	3836.3	3920.7
27.5°	3484.6	3478.1	3343.1	3190.0	2992.7	2874.6	2994.0	3336.7	3379.4	3870.0	3980.3
30°	3884.3	3886.9	3731.2	3531.3	3232.8	2995.3	3022.6	3332.8	3376.9	3872.6	4006.3
32.5°	4297.0	4299.6	4169.9	3955.6	3561.2	3203.0	3103.0	3350.9	3391.2	3862.3	4005.1
35°	4694.1	4698.0	4620.2	4447.6	3999.8	3491.1	3254.9	3413.2	3441.7	3868.7	4002.4
37.5°	5196.4	5211.9	5115.9	4955.0	4550.1	3914.1	3502.8	3539.1	3562.4	3922.0	4021.8
40°	6052.9	6032.1	5757.1	5484.4	5147.1	4429.4	3860.9	3755.9	3763.6	4059.5	4095.9
42.5°	7050.9	7025.0	6553.8	6084.1	5761.0	5051.0	4319.1	4088.0	4086.8	4290.6	4256.8
45°	7910.1	7894.5	7398.8	6771.9	6441.0	5737.5	4883.6	4567.0	4551.4	4690.2	4550.1
47.5°	8520.1	8507.1	8132.0	7503.9	7227.5	6492.9	5588.3	5219.7	5187.3	5213.3	5026.4
50°	8579.8	8565.5	8434.4	8030.8	8146.3	7601.2	6459.1	6075.0	6033.5	5993.3	5746.6
52.5°	8021.7	8020.4	8089.2	8063.2	8790.0	9027.4	7527.3	7132.7	7083.4	6980.8	6735.6
55°	6880.9	6874.4	7135.3	7514.3	8775.7	10499.2	9155.9	8391.6	8326.7	8121.6	7799.8
57.5°	5027.7	4993.9	5539.0	6342.3	8159.3	11142.9	11742.5	9955.5	9847.7	9197.5	8701.7
60°	2776.0	2789.0	3489.8	4441.0	6699.2	11015.7	14122.7	11778.9	11495.9	10125.5	9625.8
62.5°	1556.0	1588.5	2110.2	2886.3	4271.0	9984.0	15399.7	14916.9	14235.6	11207.8	10793.8
65°	1177.1	1196.5	1458.7	2227.1	2692.9	6976.9	15603.5	19304.7	18716.8	12848.2	12653.5
67.5°	1108.4	1123.9	1252.4	1846.7	2452.8	3618.3	14069.5	21900.4	21974.3	15085.7	14094.1
68°	1116.1	1135.6	1264.1	1776.7	2448.9	3236.7	13415.4	21913.3	22070.4	15446.4	14044.8
70°	1025.3	1030.4	1336.7	1742.9	2373.7	2550.2	9704.9	20411.8	20693.4	15876.0	12749.5
72.5°	391.9	393.2	599.6	1509.4	2486.6	2564.4	4888.8	16133.0	16147.2	13816.4	9939.8
75°	203.8	171.3	188.2	472.4	2375.0	2499.6	2452.8	11015.7	10946.9	9344.1	6090.5
77.5°	140.1	119.4	125.9	163.6	987.7	2498.3	1771.5	6334.5	6320.3	3975.2	1737.8
80°	79.2	68.7	75.3	137.6	346.5	2345.1	1650.8	2722.8	2565.8	698.3	281.6
82.5°	40.2	33.8	40.2	115.5	215.4	1475.6	1605.4	1068.1	951.2	166.1	183.0
85°	10.3	10.3	19.4	80.5	133.7	484.1	1439.3	770.9	693.0	72.6	129.8
87.5°	2.6	1.3	7.8	29.9	48.0	105.2	798.1	429.5	369.9	37.6	75.3
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: P196061
 CATALOG NUMBER: NAV-AF-05-D-UNV-SL2-600-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3683.1	3683.1	3683.1	3683.1	3683.1	3683.1	3683.1	3683.1	3683.1	3683.1	3683.1
2.5°	3649.4	3613.1	3541.7	3461.3	3404.2	3341.9	3305.5	3261.4	3227.6	3197.7	3219.8
5°	3636.4	3566.3	3408.1	3230.2	3080.9	2938.2	2831.8	2730.6	2654.0	2606.0	2625.4
7.5°	3602.7	3498.9	3241.9	2964.2	2720.2	2490.5	2303.6	2136.1	2006.4	1936.3	1958.3
10°	3545.5	3399.0	3053.7	2668.3	2326.9	2002.5	1724.8	1475.6	1287.4	1199.2	1220.0
12.5°	3504.0	3310.7	2859.0	2382.8	1933.7	1473.0	1104.4	818.9	672.3	584.0	591.8
15°	3485.9	3241.9	2677.4	2081.7	1504.1	946.1	597.0	432.2	381.6	363.4	364.7
17.5°	3488.5	3187.4	2504.8	1768.9	1070.7	543.8	366.0	329.6	321.8	317.9	317.9
20°	3495.0	3132.9	2325.7	1443.2	685.3	350.4	304.9	293.3	289.4	284.2	285.5
22.5°	3514.4	3091.4	2145.2	1116.1	421.8	285.5	270.0	259.5	253.1	245.3	246.5
25°	3544.3	3060.3	1967.4	803.3	297.2	249.2	234.9	220.7	209.0	199.9	201.1
27.5°	3562.4	3016.1	1778.0	547.7	246.5	218.0	198.6	179.1	166.1	158.4	157.0
30°	3549.4	2944.7	1562.6	359.5	218.0	188.2	164.8	142.8	129.8	123.3	123.3
32.5°	3514.4	2852.6	1325.0	262.2	193.3	162.2	133.7	114.2	105.2	101.3	102.5
35°	3474.2	2756.5	1072.0	221.9	173.9	137.6	109.0	93.4	89.5	88.3	88.3
37.5°	3452.2	2673.5	829.3	201.1	155.7	114.2	89.5	80.5	76.6	76.6	76.6
40°	3476.8	2609.9	613.9	185.6	137.6	94.7	75.3	68.7	67.5	67.5	67.5
42.5°	3582.0	2587.9	449.1	172.6	119.4	79.2	64.9	59.7	58.4	59.7	59.7
45°	3787.0	2635.8	340.0	159.6	102.5	64.9	55.9	51.9	51.9	53.2	53.2
47.5°	4134.8	2759.1	279.1	146.7	85.6	54.5	48.0	45.4	45.4	46.7	46.7
50°	4674.7	2987.5	250.5	132.4	71.4	46.7	40.2	39.0	39.0	40.2	41.5
52.5°	5494.9	3422.3	236.2	118.2	58.4	39.0	33.8	32.4	33.8	35.1	35.1
55°	6407.3	3979.1	219.3	103.8	49.3	32.4	27.2	27.2	28.5	31.1	31.1
57.5°	7257.3	4516.3	203.8	85.6	42.9	26.0	22.1	22.1	24.7	27.2	27.2
60°	8155.4	5043.2	183.0	68.7	36.3	20.8	18.2	18.2	22.1	24.7	26.0
62.5°	9265.0	5655.8	155.7	54.5	28.5	15.5	13.0	16.9	20.8	24.7	24.7
65°	10869.1	6417.6	122.0	42.9	22.1	11.7	10.3	15.5	19.4	23.3	24.7
67.5°	11451.7	6320.3	92.2	35.1	16.9	9.1	9.1	14.3	19.4	23.3	23.3
68°	11239.0	6107.4	88.3	33.8	15.5	9.1	9.1	14.3	19.4	23.3	23.3
70°	9793.2	4992.6	72.6	26.0	13.0	7.8	7.8	13.0	19.4	22.1	23.3
72.5°	7332.6	3317.1	62.3	16.9	11.7	7.8	6.4	13.0	18.2	22.1	22.1
75°	4206.2	1377.0	53.2	13.0	10.3	6.4	6.4	11.7	18.2	22.1	22.1
77.5°	1188.8	321.8	42.9	10.3	9.1	6.4	5.2	11.7	16.9	20.8	20.8
80°	218.0	96.1	33.8	9.1	7.8	6.4	5.2	11.7	16.9	20.8	20.8
82.5°	144.0	45.4	24.7	9.1	7.8	6.4	5.2	10.3	15.5	19.4	19.4
85°	107.7	32.4	15.5	9.1	7.8	6.4	5.2	10.3	15.5	19.4	19.4
87.5°	59.7	14.3	11.7	10.3	9.1	6.4	5.2	9.1	14.3	18.2	18.2
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)