

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: P197165

Luminaire Tested: **NAV-AF-05-D-UNV-SLL-8030-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197165  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)  
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-SLL-8030-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR LEFT OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14278 lumens  
Efficiency: N/A  
Efficacy: 88.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G3

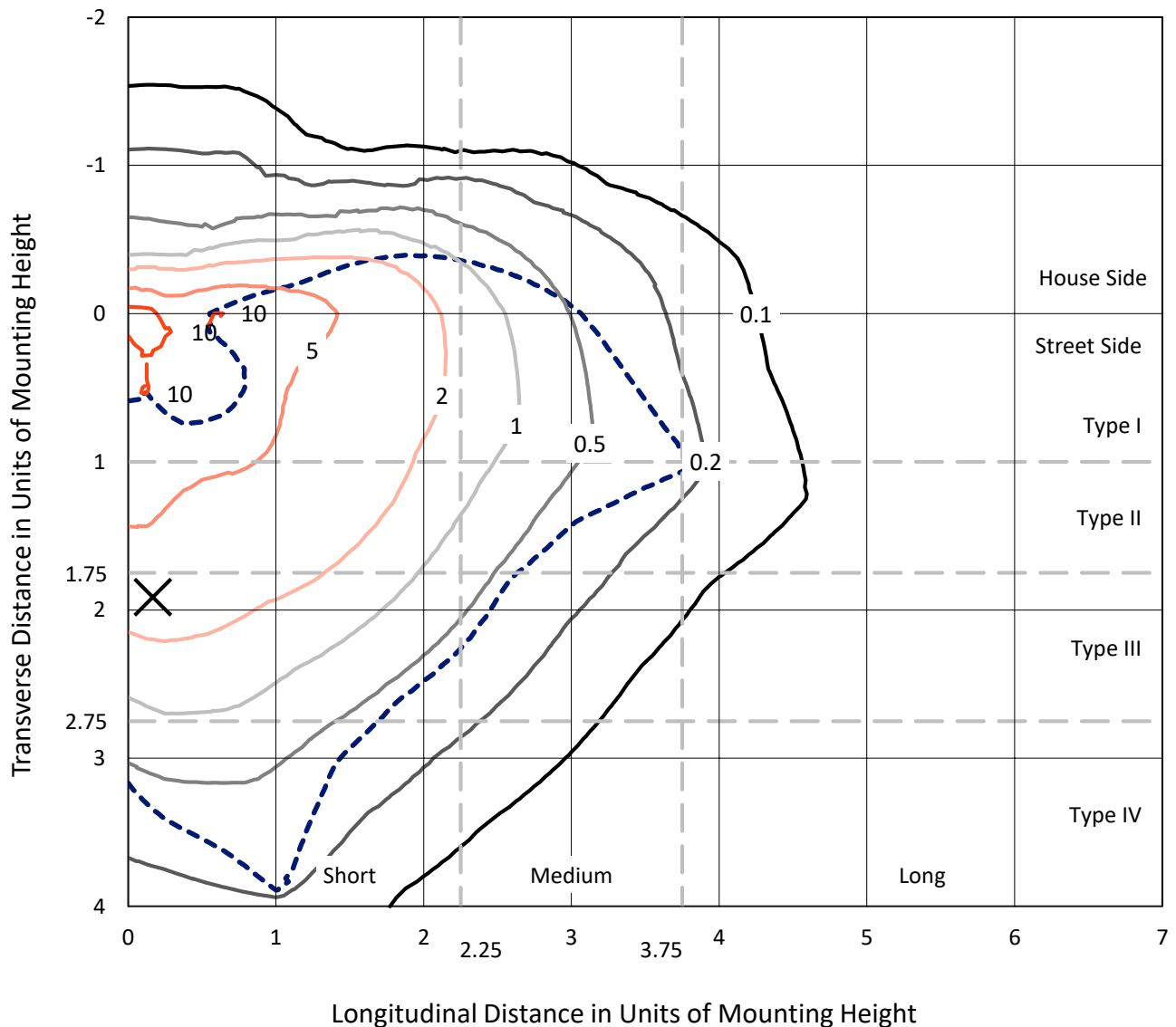
Input Watts (W): 162  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

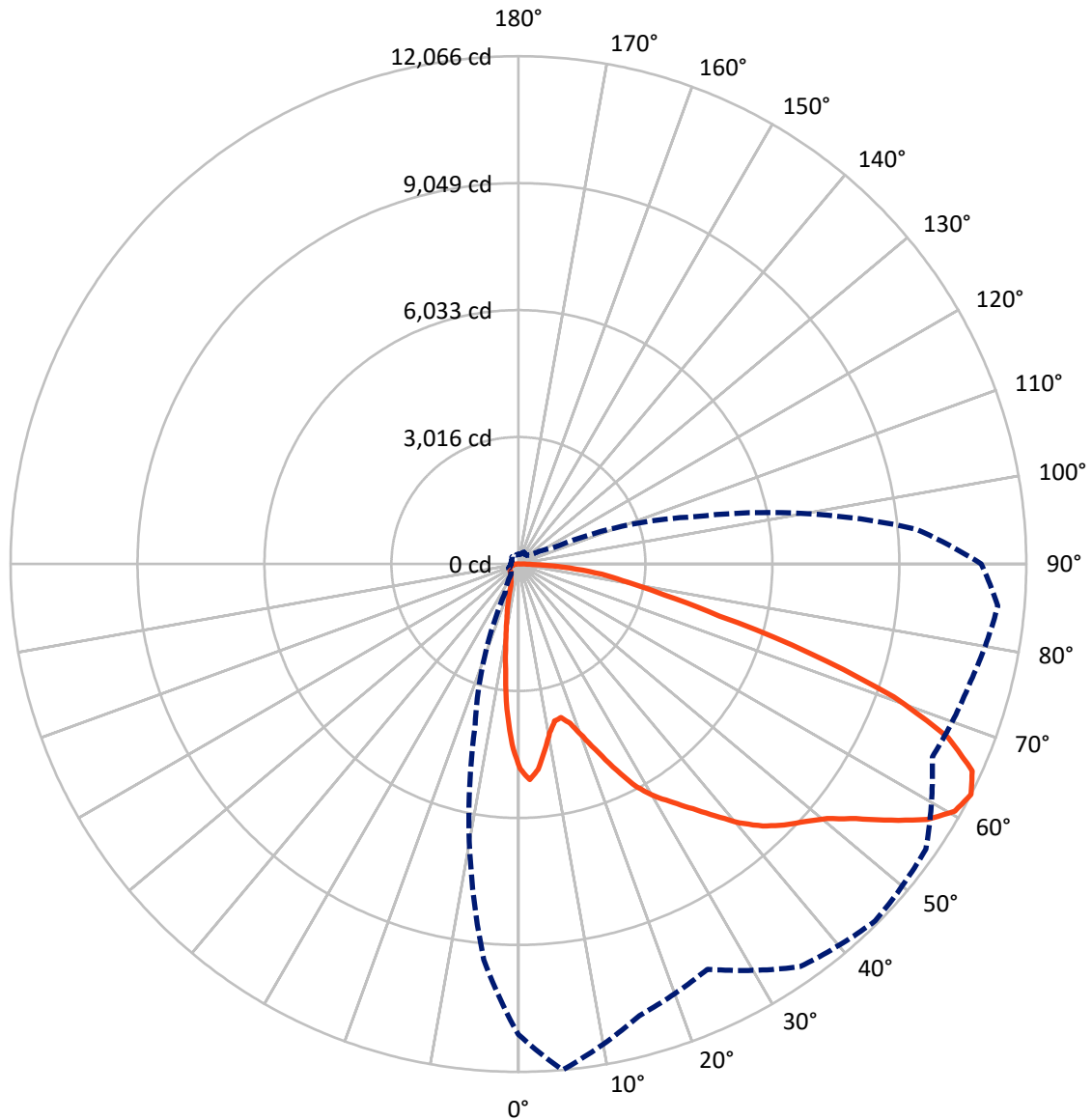
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 14 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral      - - - Horizontal Cone Through 62.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2529.4	0.0	2529.4
	% Fixture	17.7	0.0	17.7
<b>Street Side</b>	Lumens	11748.6	0.0	11748.6
	% Fixture	82.3	0.0	82.3
<b>Total</b>	Lumens	14278.0	0.0	14278.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	354.0	2.5
10°-20°	646.6	4.5
20°-30°	929.9	6.5
30°-40°	1424.3	10.0
40°-50°	2082.4	14.6
50°-60°	3029.9	21.2
60°-70°	3510.5	24.6
70°-80°	1830.0	12.8
80°-90°	470.4	3.3
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°	14278.0	100.0
0°-180°	14278.0	100.0



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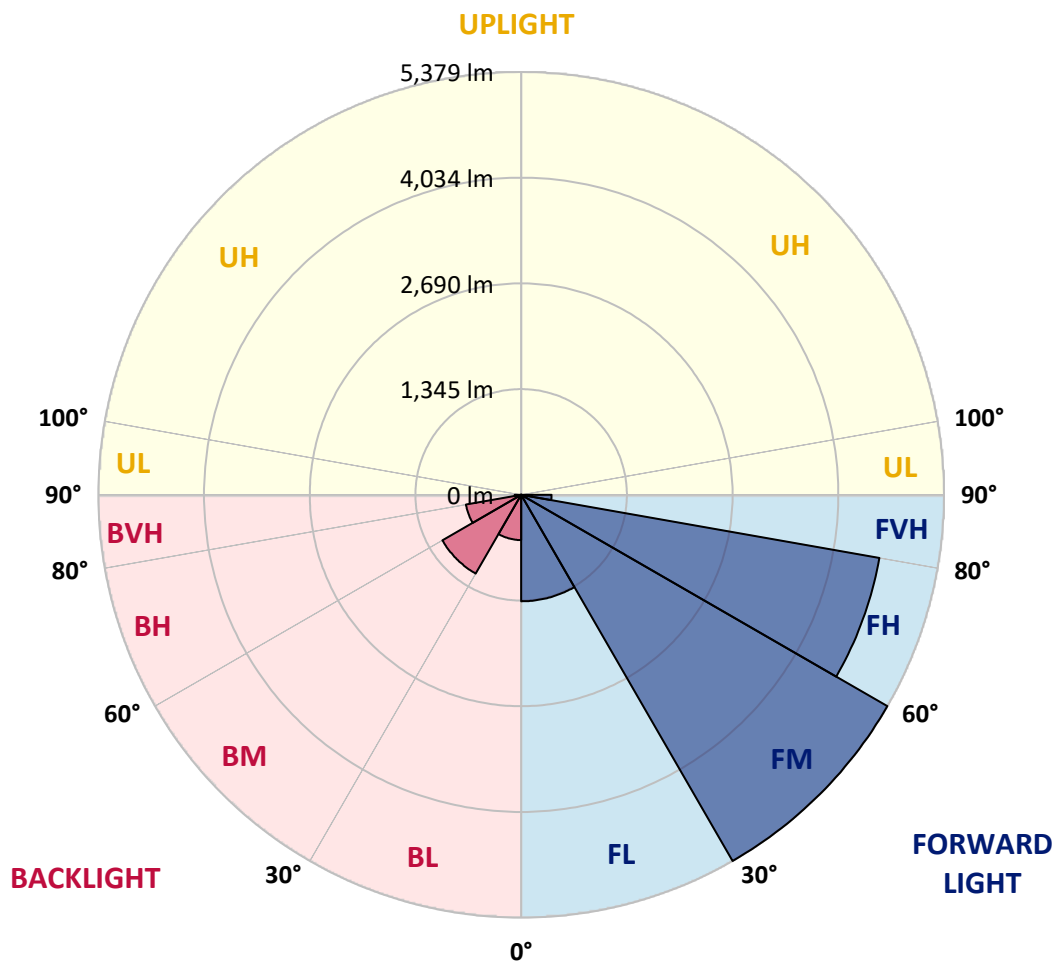
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1355.0	9.5			
FM	(30°-60°)	5379.3	37.7			
FH	(60°-80°)	4627.3	32.4			G2/5000
FVH	(80°-90°)	387.0	2.7			G3/500
BL	(0°-30°)	575.5	4.0	B2/1000		
BM	(30°-60°)	1157.3	8.1	B2/2500		
BH	(60°-80°)	713.2	5.0	B2/1000		G2/1000
BVH	(80°-90°)	83.4	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7
2.5°	5025.0	5131.6	5253.8	5413.2	5521.9	5565.4	5601.6	5540.6	5481.5	5370.8	5331.4
5°	4693.7	4898.7	5235.2	5555.0	5836.6	5998.1	6047.8	5935.0	5734.1	5444.3	5291.1
7.5°	4202.0	4472.2	4945.3	5416.3	5820.1	6089.2	6108.9	5885.3	5489.8	5014.7	4766.2
10°	3772.4	4077.8	4625.4	5152.3	5579.9	5855.3	5801.4	5487.8	5010.5	4470.1	4189.6
12.5°	3522.9	3828.3	4386.3	4921.5	5324.2	5428.7	5319.0	5055.0	4602.6	4061.2	3778.6
15°	3470.1	3784.8	4301.4	4752.7	5002.2	4934.9	4826.2	4692.7	4370.7	3927.7	3654.4
17.5°	3629.5	3981.5	4414.2	4661.6	4651.3	4489.8	4398.7	4424.6	4369.7	4072.6	3786.9
20°	3957.7	4373.8	4701.0	4636.8	4371.8	4145.1	4092.3	4295.2	4548.8	4436.0	4122.3
22.5°	4389.4	4863.5	5092.3	4708.2	4225.8	3981.5	3971.1	4287.9	4874.9	4985.7	4603.7
25°	4877.0	5429.8	5486.7	4834.5	4210.3	3967.0	3957.7	4399.7	5267.3	5530.2	5143.0
27.5°	5473.3	6001.2	5815.9	5003.3	4278.6	4009.4	4015.7	4590.2	5676.2	6068.5	5750.7
30°	5922.6	6407.0	6018.8	5168.9	4388.3	4084.0	4099.5	4796.2	5896.7	6442.2	6236.2
32.5°	6342.9	6753.8	6213.5	5332.5	4548.8	4194.8	4248.6	5053.0	6161.7	6763.2	6694.8
35°	6807.7	7142.1	6429.8	5507.4	4778.6	4389.4	4467.0	5297.3	6424.6	7084.1	7149.3
37.5°	7334.6	7586.2	6664.8	5754.8	5109.9	4749.6	4793.1	5546.8	6607.9	7439.2	7636.9
40°	7883.3	8084.1	6921.6	6085.1	5591.3	5236.2	5256.9	5866.7	6751.8	7806.7	8110.0
42.5°	8354.3	8510.6	7179.3	6495.0	6144.1	5732.1	5749.7	6211.4	6889.5	8123.5	8488.9
45°	8731.1	8846.0	7422.6	6926.7	6734.2	6351.1	6347.0	6562.3	7073.7	8390.5	8779.8
47.5°	9082.1	9143.2	7693.8	7347.0	7346.0	7148.3	7000.2	6976.4	7319.1	8615.2	9033.4
50°	9483.7	9506.5	8052.0	7771.5	8093.4	8062.4	7789.1	7502.3	7636.9	8867.8	9299.5
52.5°	10042.8	10043.8	8496.1	8185.6	8918.5	9016.9	8699.0	8097.6	8106.9	9359.5	9759.1
55°	10700.1	10745.7	9074.8	8681.4	9781.9	9949.6	9650.4	8804.6	8781.9	10152.5	10504.5
57.5°	11208.4	11449.7	9748.8	9301.5	10588.3	10806.8	10565.6	9537.6	9611.1	10970.3	11119.4
60°	11351.3	11915.5	10420.6	9997.2	11270.6	11598.7	11353.4	10329.5	10422.7	11501.4	11296.4
62.5°	11180.5	12065.6	11104.9	10620.4	11675.3	11990.0	11814.1	10848.2	11084.2	11433.1	10997.3
65°	10674.3	11848.2	11699.1	10885.5	11442.4	11554.2	11507.6	10875.1	11443.4	10787.1	10170.1
67.5°	9492.0	11009.7	11434.1	10319.2	10354.4	10234.3	10173.2	10135.9	11039.7	9744.6	8865.7
70°	7719.7	9459.9	10170.1	8635.9	8375.0	8259.1	8058.2	8555.1	9922.7	8302.5	7296.3
72.5°	5946.4	7237.3	8341.9	6546.8	6004.3	6043.7	5815.9	6541.6	8219.7	6418.4	5570.6
75°	4222.7	4934.9	6658.6	4704.1	3985.6	3983.6	3966.0	4708.2	6485.7	4606.8	4075.7
77.5°	3043.6	3552.9	5216.5	3148.1	2828.3	2864.5	2806.5	3199.9	5056.1	3313.8	3019.8
80°	2427.6	2630.5	3371.7	2099.4	2105.7	2190.5	2178.1	2188.5	3326.2	2399.7	2257.8
82.5°	1744.4	1997.0	2577.7	1608.7	1392.4	1482.5	1500.0	1623.2	2346.9	1696.7	1488.7
85°	894.4	1217.4	2371.7	1393.4	870.6	721.6	830.3	1280.6	2038.4	1016.6	725.7
87.5°	173.9	337.5	1738.2	774.4	391.3	197.7	326.1	542.5	1185.3	184.3	90.1
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):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7
2.5°	5264.1	5131.6	5007.4	4879.0	4779.7	4658.5	4539.5	4436.0	4335.5	4269.3	4290.0
5°	5135.8	4812.8	4522.9	4253.8	4096.4	3907.0	3738.2	3596.4	3486.7	3416.3	3458.7
7.5°	4550.9	4114.0	3732.0	3376.9	3153.3	2908.0	2711.3	2572.5	2487.7	2440.0	2509.4
10°	3952.5	3461.8	3033.2	2663.6	2443.1	2235.1	2057.0	1910.0	1796.1	1742.3	1770.2
12.5°	3523.9	2978.4	2529.1	2280.6	2091.2	1904.8	1720.6	1548.7	1403.8	1337.5	1324.1
15°	3363.5	2718.5	2259.9	1982.5	1794.1	1591.1	1392.4	1208.1	1070.4	1013.5	1001.1
17.5°	3433.9	2662.6	2100.5	1772.3	1499.0	1252.6	1029.0	855.1	753.6	721.6	724.7
20°	3681.3	2683.3	1972.1	1556.0	1218.5	926.5	702.9	582.8	539.4	532.1	540.4
22.5°	4020.8	2768.2	1878.9	1369.6	971.0	673.9	522.8	465.9	454.5	453.4	461.7
25°	4469.1	2933.8	1816.8	1204.0	767.1	534.2	455.5	423.4	414.1	416.2	424.4
27.5°	4997.1	3144.0	1776.5	1061.1	630.5	476.2	425.5	397.5	388.2	390.3	396.5
30°	5479.5	3328.3	1716.4	953.4	566.3	455.5	408.9	381.0	368.5	368.5	372.7
32.5°	5911.2	3487.7	1646.0	872.7	507.3	408.9	370.6	348.9	339.6	342.7	344.7
35°	6294.2	3571.5	1591.1	825.1	459.6	376.8	338.5	315.7	303.3	305.4	308.5
37.5°	6671.0	3603.6	1554.9	799.2	425.5	357.2	322.0	303.3	289.9	287.8	286.8
40°	7029.2	3596.4	1520.8	792.0	402.7	342.7	311.6	295.0	281.6	278.5	277.4
42.5°	7338.8	3572.6	1488.7	772.3	387.2	332.3	303.3	288.8	275.4	271.2	269.2
45°	7621.4	3558.1	1453.5	736.0	395.5	328.2	299.2	283.7	271.2	266.1	264.0
47.5°	7935.0	3609.8	1414.1	696.7	393.4	329.2	299.2	281.6	269.2	264.0	261.9
50°	8308.8	3784.8	1365.5	642.9	374.8	352.0	298.1	278.5	267.1	264.0	259.8
52.5°	8836.7	4068.5	1298.2	573.5	360.3	375.8	297.1	273.3	264.0	258.8	253.6
55°	9560.4	4352.1	1211.2	500.0	337.5	359.2	299.2	267.1	256.7	251.6	245.3
57.5°	10153.5	4567.4	1101.5	438.9	316.8	339.6	296.1	259.8	248.5	243.3	238.1
60°	10115.2	4588.1	996.9	399.6	304.4	305.4	303.3	254.7	241.2	237.1	232.9
62.5°	9488.9	4332.4	899.6	379.9	295.0	278.5	309.5	248.5	234.0	229.8	226.7
65°	8446.4	3737.2	847.9	379.9	286.8	264.0	270.2	240.2	226.7	222.6	220.5
67.5°	7124.5	3003.2	799.2	388.2	275.4	253.6	245.3	231.9	219.5	215.3	213.3
70°	5710.3	2363.4	765.0	384.1	265.0	242.2	231.9	220.5	208.1	207.0	205.0
72.5°	4479.4	1898.6	749.5	384.1	249.5	228.8	218.4	210.2	197.7	196.7	193.6
75°	3589.1	1425.5	685.3	376.8	234.0	211.2	201.9	194.6	182.2	183.2	181.2
77.5°	2779.6	1008.3	572.5	339.6	214.3	191.5	184.3	179.1	164.6	165.6	165.6
80°	2174.0	656.3	444.1	281.6	191.5	168.7	163.6	159.4	143.9	146.0	146.0
82.5°	1489.7	390.3	322.0	226.7	164.6	143.9	142.9	136.7	120.1	121.1	123.2
85°	813.7	256.7	214.3	167.7	129.4	117.0	114.9	111.8	96.3	96.3	97.3
87.5°	150.1	137.7	126.3	110.8	87.0	83.9	80.7	83.9	72.5	70.4	70.4
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):**

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7
2.5°	4241.3	4169.9	4120.2	4076.7	3972.2	3979.4	3993.9	4014.6	3949.4	3983.6	4026.0
5°	3416.3	3357.3	3312.7	3243.4	3097.4	3045.6	3012.5	2998.0	2900.7	2921.4	2967.0
7.5°	2518.7	2517.7	2502.2	2424.5	2248.5	2141.9	2071.5	2049.8	1989.7	2012.5	2081.8
10°	1773.4	1792.0	1784.7	1715.4	1558.0	1481.4	1465.9	1509.4	1510.4	1554.9	1674.0
12.5°	1281.6	1271.3	1261.9	1205.0	1087.0	1074.6	1109.8	1169.8	1184.3	1231.9	1356.2
15°	956.6	931.7	926.5	882.0	804.4	815.8	841.6	872.7	873.7	906.9	1009.3
17.5°	717.4	717.4	725.7	696.7	640.8	635.6	622.2	613.9	601.5	614.9	670.8
20°	557.0	582.8	603.5	587.0	536.2	511.4	485.5	469.0	459.6	460.7	477.2
22.5°	477.2	497.9	524.9	516.6	474.1	442.0	425.5	414.1	406.8	406.8	416.2
25°	436.9	450.3	475.2	471.0	434.8	408.9	395.5	384.1	375.8	374.8	384.1
27.5°	404.8	413.1	429.6	427.6	390.3	373.7	365.4	358.2	353.0	352.0	361.3
30°	375.8	379.9	388.2	385.1	357.2	340.6	337.5	334.4	331.3	332.3	345.8
32.5°	349.9	353.0	358.2	354.0	327.1	312.6	307.5	303.3	300.2	303.3	318.9
35°	320.9	330.2	336.4	334.4	305.4	287.8	276.4	266.1	261.9	265.0	282.6
37.5°	296.1	311.6	319.9	317.8	287.8	267.1	252.6	250.5	250.5	254.7	272.3
40°	286.8	298.1	305.4	302.3	272.3	251.6	243.3	240.2	241.2	245.3	264.0
42.5°	278.5	288.8	290.9	284.7	254.7	241.2	236.0	231.9	234.0	239.1	257.8
45°	271.2	279.5	278.5	269.2	240.2	230.9	230.9	227.8	228.8	232.9	252.6
47.5°	266.1	270.2	268.1	258.8	229.8	222.6	225.7	225.7	227.8	230.9	250.5
50°	257.8	260.9	258.8	250.5	221.5	215.3	218.4	222.6	224.6	227.8	245.3
52.5°	249.5	251.6	250.5	242.2	213.3	209.1	209.1	213.3	217.4	221.5	237.1
55°	241.2	243.3	244.3	238.1	207.0	202.9	201.9	201.9	206.0	212.2	228.8
57.5°	235.0	235.0	237.1	232.9	200.8	195.7	190.5	191.5	196.7	201.9	218.4
60°	227.8	228.8	231.9	227.8	192.6	184.3	180.1	185.3	187.4	192.6	210.2
62.5°	221.5	221.5	223.6	220.5	185.3	177.0	173.9	179.1	179.1	184.3	201.9
65°	216.4	215.3	215.3	214.3	178.1	169.8	167.7	169.8	170.8	176.0	193.6
67.5°	212.2	207.0	207.0	209.1	170.8	162.5	161.5	161.5	162.5	168.7	184.3
70°	202.9	198.8	197.7	205.0	163.6	153.2	153.2	151.1	153.2	156.3	172.9
72.5°	192.6	189.4	188.4	198.8	156.3	142.9	140.8	139.8	140.8	143.9	159.4
75°	179.1	177.0	179.1	194.6	149.1	131.5	128.4	127.3	127.3	128.4	144.9
77.5°	163.6	161.5	177.0	181.2	144.9	118.0	114.9	112.8	110.8	110.8	129.4
80°	144.9	143.9	170.8	153.2	138.7	103.5	98.3	95.2	93.2	92.1	110.8
82.5°	126.3	124.2	146.0	120.1	114.9	84.9	77.6	71.4	68.3	68.3	84.9
85°	103.5	102.5	114.9	88.0	79.7	62.1	51.8	46.6	42.4	42.4	54.9
87.5°	75.6	73.5	71.4	52.8	40.4	28.0	19.7	18.6	16.6	15.5	22.8
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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CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-8030-600

**CANDELA DISTRIBUTION (continued):**

	295°	305°	315°	325°	335°	345°	355°	360°
0°	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7	4867.7
2.5°	4089.2	4175.1	4337.6	4471.2	4649.2	4792.1	4954.6	5025.0
5°	3050.8	3186.4	3434.9	3647.1	3941.1	4213.4	4524.0	4693.7
7.5°	2188.5	2389.3	2577.7	2842.7	3210.3	3575.7	3977.4	4202.0
10°	1810.6	1994.9	2156.4	2344.8	2628.5	3039.4	3518.7	3772.4
12.5°	1500.0	1698.8	1869.6	2071.5	2309.6	2681.2	3227.8	3522.9
15°	1150.1	1366.5	1571.5	1814.8	2106.7	2531.1	3140.9	3470.1
17.5°	787.8	1019.7	1272.3	1569.4	1921.4	2468.0	3223.7	3629.5
20°	535.2	705.0	979.3	1331.3	1754.7	2438.0	3405.9	3957.7
22.5°	440.0	516.6	722.6	1107.7	1618.1	2471.1	3702.0	4389.4
25°	403.7	445.1	562.1	911.0	1513.5	2559.1	4102.6	4877.0
27.5°	381.0	416.2	492.8	770.2	1417.2	2679.2	4590.2	5473.3
30°	367.5	400.6	464.8	697.7	1329.2	2782.7	5009.5	5922.6
32.5°	337.5	362.3	415.1	656.3	1266.1	2866.6	5379.1	6342.9
35°	301.3	331.3	374.8	629.4	1264.0	2905.9	5726.9	6807.7
37.5°	287.8	316.8	348.9	614.9	1276.4	2939.0	6152.4	7334.6
40°	279.5	305.4	331.3	612.9	1286.8	2964.9	6568.5	7883.3
42.5°	272.3	298.1	328.2	598.4	1282.7	3000.1	6937.1	8354.3
45°	270.2	296.1	335.4	576.6	1281.6	3055.0	7230.1	8731.1
47.5°	268.1	307.5	333.3	552.8	1277.5	3170.9	7560.3	9082.1
50°	266.1	328.2	318.9	519.7	1246.4	3368.6	8004.4	9483.7
52.5°	265.0	331.3	303.3	474.1	1190.5	3661.6	8654.5	10042.8
55°	260.9	314.7	276.4	414.1	1109.8	3977.4	9351.2	10700.1
57.5°	251.6	280.5	260.9	355.1	993.8	4197.9	9865.7	11208.4
60°	274.3	241.2	250.5	325.1	855.1	4237.2	9888.5	11351.3
62.5°	261.9	219.5	240.2	314.7	757.8	3980.5	9436.1	11180.5
65°	209.1	208.1	230.9	325.1	743.3	3405.9	8672.1	10674.3
67.5°	190.5	199.8	221.5	337.5	752.6	2683.3	7547.9	9492.0
70°	178.1	189.4	209.1	348.9	769.2	2113.9	6076.8	7719.7
72.5°	165.6	175.0	196.7	360.3	757.8	1667.8	4863.5	5946.4
75°	150.1	158.4	179.1	330.2	650.1	1225.7	3864.5	4222.7
77.5°	132.5	139.8	157.4	260.9	488.6	853.0	2894.5	3043.6
80°	113.9	117.0	130.4	190.5	318.9	510.4	2203.0	2427.6
82.5°	90.1	91.1	99.4	139.8	198.8	326.1	1528.0	1744.4
85°	58.0	60.0	64.2	98.3	133.5	209.1	780.6	894.4
87.5°	19.7	22.8	22.8	47.6	65.2	115.9	239.1	173.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)