

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: STREETWORKS

Report Number: P196240

Luminaire Tested: **NVN-AF-04-LED-U-SLR**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196240
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: STREETWORKS
Catalog Number: NVN-AF-04-LED-U-SLR
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22042.5 lumens
Efficiency: N/A
Efficacy: 98.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

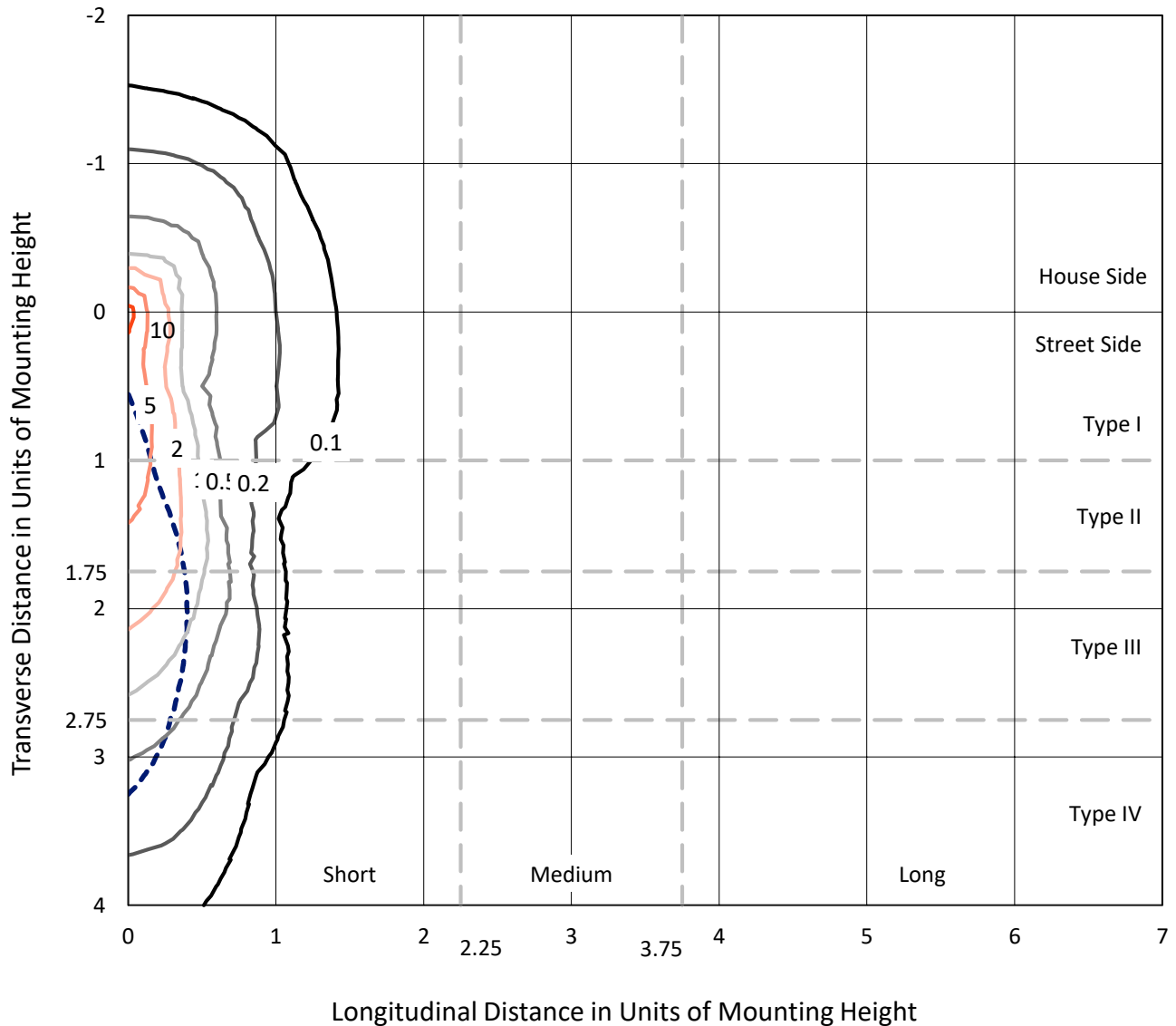
Input Watts (W): 225
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

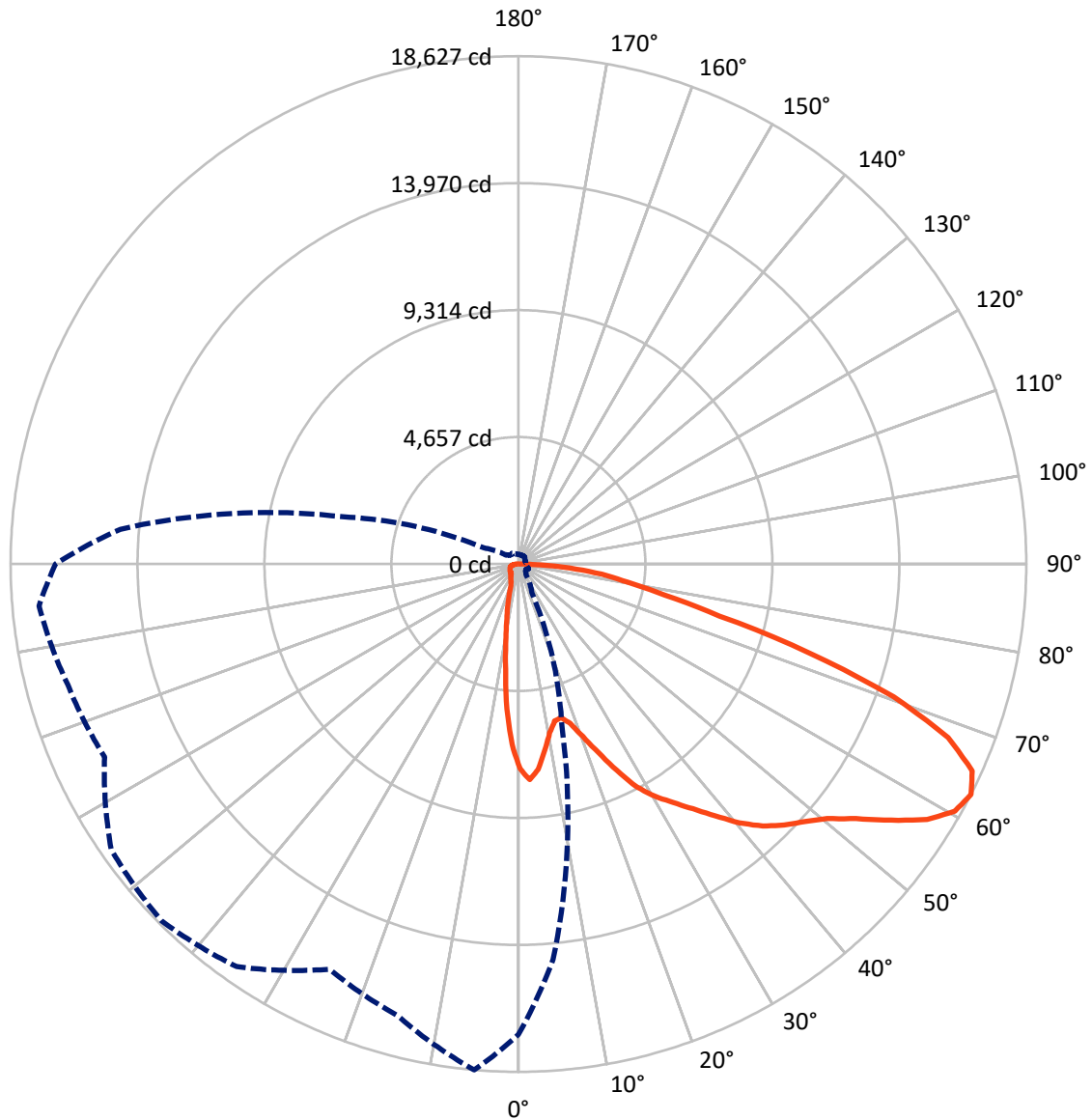
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 12 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3904.9	0.0	3904.9
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	18137.7	0.0	18137.7
	% Fixture	82.3	0.0	82.3
Total	Lumens	22042.5	0.0	22042.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	546.5	2.5
10°-20°	998.2	4.5
20°-30°	1435.7	6.5
30°-40°	2198.9	10.0
40°-50°	3214.8	14.6
50°-60°	4677.6	21.2
60°-70°	5419.6	24.6
70°-80°	2825.1	12.8
80°-90°	726.2	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°	22042.5	100.0
0°-180°	22042.5	100.0



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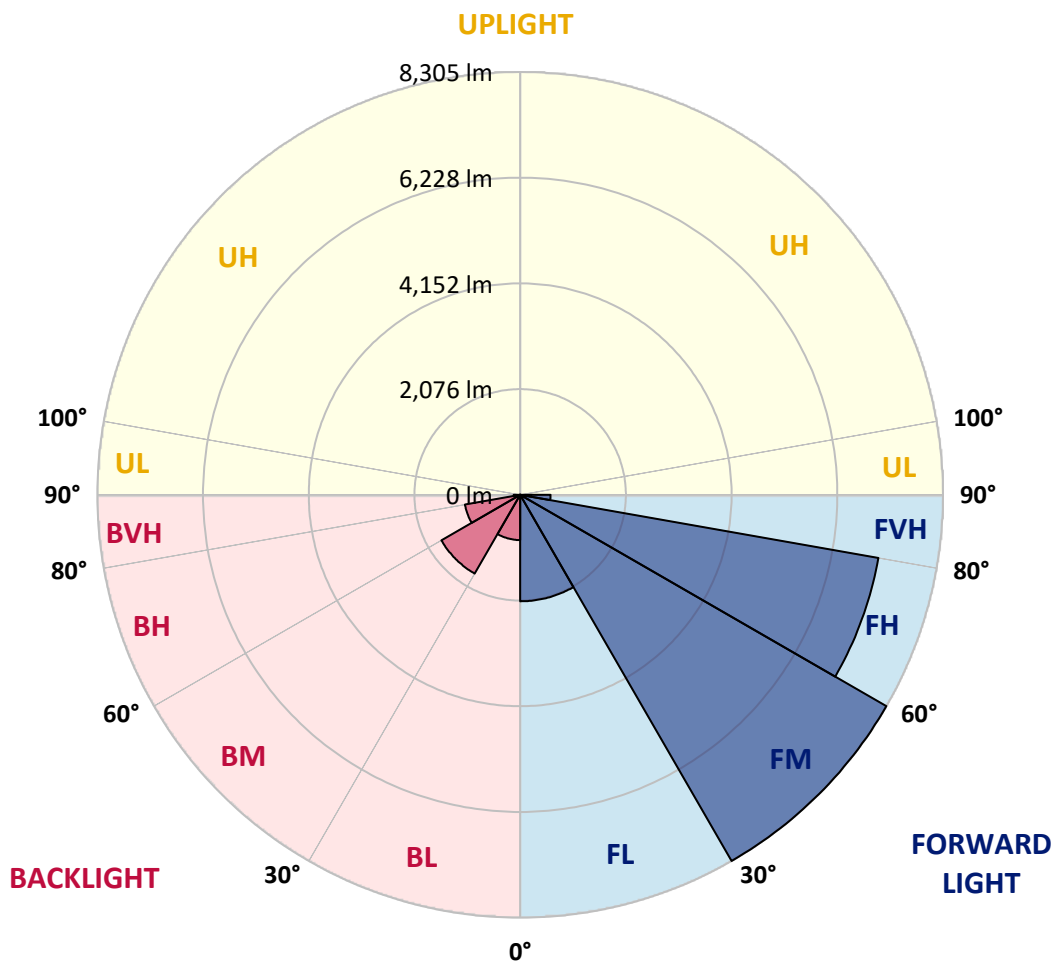
CATALOG NUMBER: NVN-AF-04-LED-U-SLR

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2091.9	9.5			
FM (30°-60°)	8304.6	37.7			
FH (60°-80°)	7143.7	32.4			G3/7500
FVH (80°-90°)	597.4	2.7			G4/750
BL (0°-30°)	888.4	4.0	B2/1000		
BM (30°-60°)	1786.6	8.1	B2/2500		
BH (60°-80°)	1101.1	5.0	B3/2500		G3/2500
BVH (80°-90°)	128.8	0.6			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7
2.5°	7757.6	7649.0	7398.1	7177.5	6902.7	6696.4	6445.5	6312.9	6215.4	6149.9	6097.1
5°	7246.3	6984.1	6504.6	6084.3	5630.4	5302.9	4919.3	4709.9	4580.5	4510.1	4478.2
7.5°	6487.1	6140.3	5520.1	4956.0	4388.7	3979.5	3688.7	3378.6	3214.0	3106.9	3071.7
10°	5823.9	5432.3	4692.3	4057.8	3619.9	3329.1	3079.7	2795.2	2584.3	2400.5	2331.8
12.5°	5438.7	4983.2	4139.4	3565.6	3198.1	2886.4	2622.6	2315.8	2093.7	1901.9	1828.3
15°	5357.2	4849.0	3907.6	3252.4	2801.7	2426.0	2109.6	1775.6	1558.3	1400.0	1348.9
17.5°	5603.3	4976.8	3810.1	2966.3	2422.9	1964.2	1574.2	1216.2	1035.6	949.3	928.5
20°	6109.9	5258.1	3763.7	2709.0	2055.3	1511.9	1088.4	826.2	736.7	711.2	709.6
22.5°	6776.3	5715.1	3814.9	2497.9	1710.1	1115.5	797.5	679.2	642.5	628.1	628.1
25°	7529.1	6333.7	3950.7	2336.5	1406.5	867.9	687.2	623.3	592.9	578.6	580.1
27.5°	8449.7	7086.4	4136.1	2187.9	1189.1	760.8	642.5	588.1	557.8	543.4	545.0
30°	9143.3	7733.7	4296.0	2052.0	1077.2	717.6	618.5	567.3	533.8	513.0	511.5
32.5°	9792.2	8304.2	4425.4	1954.6	1013.2	640.9	559.3	521.0	492.2	468.3	463.5
35°	10509.8	8841.3	4486.2	1951.4	971.7	578.6	511.5	465.0	436.3	409.2	404.4
37.5°	11323.2	9498.1	4537.3	1970.6	949.3	538.6	489.1	444.3	420.3	393.1	386.8
40°	12170.4	10140.6	4577.3	1986.6	946.1	511.5	471.5	431.5	407.5	378.8	372.4
42.5°	12897.5	10709.6	4631.6	1980.1	923.7	506.7	460.3	420.3	397.9	369.2	361.2
45°	13479.2	11161.8	4716.3	1978.6	890.2	517.8	457.1	417.2	389.9	359.6	353.2
47.5°	14021.0	11671.7	4895.3	1972.1	853.4	514.6	474.6	413.9	386.8	356.4	351.6
50°	14641.1	12357.2	5200.6	1924.3	802.3	492.2	506.7	410.7	378.8	351.6	346.8
52.5°	15504.1	13361.0	5652.8	1837.9	732.0	468.3	511.5	409.2	366.0	342.0	335.6
55°	16519.0	14436.6	6140.3	1713.2	639.2	426.7	485.9	402.7	353.2	327.7	318.0
57.5°	17303.7	15230.8	6480.7	1534.3	548.2	402.7	433.1	388.3	337.3	311.7	303.6
60°	17524.3	15266.0	6541.5	1320.1	501.9	386.8	372.4	423.5	324.5	297.3	289.3
62.5°	17260.6	14567.6	6145.1	1169.8	485.9	370.8	338.8	404.4	311.7	284.5	276.5
65°	16479.0	13388.2	5258.1	1147.5	501.9	356.4	321.2	322.8	298.9	271.7	263.7
67.5°	14653.9	11652.5	4142.5	1161.9	521.0	342.0	308.4	294.1	284.5	260.5	250.9
70°	11917.8	9381.5	3263.5	1187.4	538.6	322.8	292.5	274.9	266.9	241.3	236.5
72.5°	9180.1	7508.4	2574.7	1169.8	556.2	303.6	270.1	255.7	246.1	222.2	217.4
75°	6519.1	5966.1	1892.3	1003.7	509.8	276.5	244.5	231.7	223.7	198.1	196.6
77.5°	4698.7	4468.6	1316.9	754.3	402.7	243.0	215.7	204.6	199.8	171.0	171.0
80°	3747.8	3401.0	787.9	492.2	294.1	201.4	180.6	175.8	171.0	142.2	143.8
82.5°	2692.9	2358.9	503.4	306.9	215.7	153.4	140.7	139.0	131.0	105.5	105.5
85°	1380.9	1205.0	322.8	206.1	151.8	99.1	92.7	89.5	84.7	65.6	65.6
87.5°	268.5	369.2	179.0	100.7	73.6	35.2	35.2	30.4	35.2	23.9	25.6
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°	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7
2.5°	6197.9	6165.8	6143.5	6132.3	6293.7	6360.8	6437.5	6547.8	6623.0	6591.0	6693.3
5°	4628.3	4650.7	4701.9	4781.8	5007.1	5114.2	5183.0	5274.0	5339.6	5274.0	5382.8
7.5°	3164.4	3198.1	3306.7	3471.3	3743.0	3862.9	3886.8	3888.4	3874.0	3766.9	3840.5
10°	2330.2	2263.1	2287.0	2405.3	2648.2	2755.3	2766.5	2737.7	2732.9	2689.7	2772.9
12.5°	1805.9	1713.2	1658.9	1678.2	1860.3	1948.2	1962.6	1978.6	2044.1	2064.8	2167.1
15°	1347.3	1299.4	1259.4	1241.8	1361.6	1430.4	1438.4	1476.7	1545.5	1564.6	1652.6
17.5°	947.8	960.6	981.3	989.3	1075.6	1120.3	1107.5	1107.5	1118.7	1114.0	1163.5
20°	723.9	749.5	789.5	827.9	906.1	931.7	899.8	859.8	834.2	821.4	832.7
22.5°	639.2	656.8	682.4	732.0	797.5	810.3	768.7	736.7	712.8	700.0	701.6
25°	592.9	610.5	631.3	671.3	727.2	733.6	695.2	674.4	655.3	642.5	639.2
27.5°	553.0	564.2	576.9	602.5	660.0	663.3	637.7	624.9	612.1	602.5	599.3
30°	516.2	521.0	525.8	551.4	594.5	599.3	586.6	580.1	575.3	569.0	569.0
32.5°	468.3	474.6	482.6	505.0	546.6	553.0	545.0	540.2	532.2	529.0	524.2
35°	410.7	426.7	444.3	471.5	516.2	519.5	509.8	495.4	476.3	471.5	468.3
37.5°	386.8	389.9	412.4	444.3	490.6	493.9	481.1	457.1	442.7	444.3	447.5
40°	370.8	375.6	388.3	420.3	466.7	471.5	460.3	442.7	428.3	429.9	434.8
42.5°	358.0	364.4	372.4	393.1	439.5	449.1	445.9	429.9	415.5	418.7	425.1
45°	351.6	356.4	356.4	370.8	415.5	429.9	431.5	418.7	407.5	410.7	418.7
47.5°	348.4	348.4	343.6	354.8	399.6	413.9	417.2	410.7	404.4	407.5	415.5
50°	343.6	337.3	332.5	342.0	386.8	399.6	402.7	397.9	401.1	407.5	412.4
52.5°	329.2	322.8	322.8	329.2	374.0	386.8	388.3	385.1	391.6	399.6	407.5
55°	311.7	311.7	313.2	319.7	367.5	377.2	375.6	372.4	378.8	388.3	396.4
57.5°	295.6	294.1	302.1	310.1	359.6	366.0	362.8	362.8	367.5	375.6	383.6
60°	286.1	278.0	284.5	297.3	351.6	358.0	353.2	351.6	359.6	366.0	372.4
62.5°	276.5	268.5	273.3	286.1	340.4	345.2	342.0	342.0	350.1	354.8	361.2
65°	262.1	258.9	262.1	274.9	330.8	332.5	332.5	334.0	340.4	343.6	350.1
67.5°	249.3	249.3	250.9	263.7	322.8	319.7	319.7	327.7	329.2	332.5	338.8
70°	233.3	236.5	236.5	252.6	316.4	305.2	306.9	313.2	316.4	319.7	321.2
72.5°	215.7	217.4	220.5	241.3	306.9	290.8	292.5	297.3	298.9	303.6	305.2
75°	196.6	198.1	203.0	230.2	300.4	276.5	273.3	276.5	279.7	282.8	281.3
77.5°	174.2	177.4	182.2	223.7	279.7	273.3	249.3	252.6	255.7	255.7	254.1
80°	147.0	151.8	159.8	214.2	236.5	263.7	222.2	223.7	225.4	225.4	222.2
82.5°	110.3	119.9	131.0	177.4	185.4	225.4	191.8	195.0	190.2	187.0	185.4
85°	71.9	79.9	95.9	123.1	135.8	177.4	158.3	159.8	150.3	148.6	148.6
87.5°	28.7	30.4	43.2	62.3	81.5	110.3	113.4	116.7	108.6	108.6	111.9
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°	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7
2.5°	6848.2	7008.1	7191.9	7378.9	7532.3	7730.5	7922.2	8126.8	8230.8	8291.4	8462.5
5°	5552.2	5771.1	6031.6	6324.1	6567.0	6982.6	7430.0	7928.7	8168.4	8405.0	8852.4
7.5°	3971.5	4185.7	4489.3	4868.1	5213.4	5761.6	6351.3	7025.7	7358.1	7741.7	8475.2
10°	2948.7	3175.6	3450.5	3771.7	4112.2	4682.8	5344.4	6101.9	6467.9	6901.0	7735.2
12.5°	2390.9	2656.2	2940.7	3228.3	3520.8	3904.4	4598.1	5440.3	5833.5	6269.8	7105.6
15°	1865.1	2149.6	2456.4	2769.6	3060.6	3488.9	4196.9	5192.6	5641.7	6063.5	6747.6
17.5°	1320.1	1588.6	1933.8	2314.2	2736.1	3242.8	4110.5	5301.2	5846.3	6287.4	6746.1
20°	899.8	1085.1	1430.4	1881.1	2402.1	3044.6	4142.5	5683.2	6364.1	6848.2	7022.5
22.5°	719.2	807.1	1040.4	1499.1	2114.4	2900.8	4273.6	6207.4	7107.2	7696.9	7526.0
25°	653.7	703.2	824.7	1184.3	1858.7	2804.8	4529.3	6899.4	7939.8	8537.5	8131.6
27.5°	613.7	656.8	735.2	973.3	1638.2	2742.5	4853.7	7714.5	8878.0	9368.7	8762.9
30°	588.1	631.3	703.2	874.2	1471.9	2649.9	5138.2	8459.3	9627.6	9945.6	9103.3
32.5°	538.6	572.1	631.3	783.1	1347.3	2541.1	5384.3	9125.7	10335.6	10441.1	9512.5
35°	487.4	522.6	581.8	709.6	1273.8	2456.4	5513.8	9717.1	11037.1	10936.5	9918.4
37.5°	468.3	497.1	551.4	656.8	1233.8	2400.5	5563.3	10298.8	11789.9	11484.7	10201.3
40°	455.5	481.1	529.0	621.7	1222.6	2347.8	5552.2	10851.8	12520.3	12052.0	10423.5
42.5°	445.9	468.3	513.0	597.7	1192.2	2298.3	5515.3	11329.7	13105.2	12541.1	10636.0
45°	437.9	461.9	506.7	610.5	1136.3	2243.8	5493.0	11766.0	13554.3	12953.4	10920.5
47.5°	434.8	461.9	508.2	607.3	1075.6	2183.2	5572.9	12250.2	13945.9	13300.2	11299.3
50°	429.9	460.3	543.4	578.6	992.5	2108.0	5843.0	12827.2	14356.6	13690.2	11789.9
52.5°	422.0	458.7	580.1	556.2	885.4	2004.2	6280.9	13642.3	15066.2	14449.4	12515.5
55°	412.4	461.9	554.5	521.0	771.9	1869.9	6718.8	14759.3	16216.9	15673.6	13557.6
57.5°	401.1	457.1	524.2	489.1	677.6	1700.5	7051.3	15675.2	17166.2	16936.2	14837.7
60°	393.1	468.3	471.5	469.8	616.9	1539.0	7083.2	15616.1	17439.6	17756.0	16090.7
62.5°	383.6	477.8	429.9	455.5	586.6	1388.9	6688.5	14649.1	16977.7	17650.5	17111.9
65°	370.8	417.2	407.5	442.7	586.6	1309.0	5769.5	13039.8	15700.8	16653.2	17666.6
67.5°	358.0	378.8	391.6	425.1	599.3	1233.8	4636.4	10998.9	13687.0	15043.8	17043.2
70°	340.4	358.0	374.0	409.2	592.9	1181.1	3648.7	8815.7	11264.1	12817.6	15318.8
72.5°	324.5	337.3	353.2	385.1	592.9	1157.1	2931.1	6915.5	8599.9	9908.8	12689.7
75°	300.4	311.7	326.0	361.2	581.8	1058.0	2200.7	5540.9	6292.1	7112.0	10012.7
77.5°	276.5	284.5	295.6	330.8	524.2	883.8	1556.6	4291.2	4662.0	5115.9	7805.6
80°	246.1	252.6	260.5	295.6	434.8	685.6	1013.2	3356.2	3485.7	3704.6	5135.0
82.5°	210.9	220.5	222.2	254.1	350.1	497.1	602.5	2299.8	2298.3	2619.5	3623.1
85°	172.6	177.4	180.6	199.8	258.9	330.8	396.4	1256.2	1120.3	1569.4	3146.9
87.5°	129.4	124.7	129.4	134.2	171.0	195.0	212.6	231.7	139.0	284.5	1830.0
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: NVN-AF-04-LED-U-SLR

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7	7514.7
2.5°	8553.6	8647.8	8592.0	8524.8	8357.0	8110.9	7922.2	7757.6
5°	9162.5	9336.7	9260.0	9010.7	8575.9	8082.1	7562.7	7246.3
7.5°	9085.7	9431.0	9400.6	8985.1	8361.8	7634.6	6904.2	6487.1
10°	8472.1	8956.3	9039.4	8614.3	7954.3	7140.8	6295.3	5823.9
12.5°	7804.0	8211.5	8380.9	8219.5	7597.9	6771.6	5910.1	5438.7
15°	7244.6	7450.8	7618.6	7722.5	7337.3	6640.5	5843.0	5357.2
17.5°	6830.8	6790.8	6931.4	7180.7	7196.7	6814.7	6146.7	5603.3
20°	6631.0	6317.6	6399.2	6749.2	7158.3	7257.4	6752.4	6109.9
22.5°	6619.7	6130.7	6146.7	6523.9	7268.6	7861.6	7508.4	6776.3
25°	6792.4	6109.9	6124.3	6499.9	7463.6	8470.4	8382.6	7529.1
27.5°	7086.4	6199.4	6189.9	6605.4	7724.1	8978.6	9264.8	8449.7
30°	7404.4	6328.9	6304.9	6774.8	7979.8	9292.0	9891.2	9143.3
32.5°	7800.8	6559.1	6475.9	7022.5	8232.3	9592.4	10426.6	9792.2
35°	8178.0	6896.2	6776.3	7377.3	8502.5	9926.4	11026.0	10509.8
37.5°	8563.1	7399.7	7332.5	7888.7	8884.4	10289.2	11711.7	11323.2
40°	9057.0	8115.7	8083.7	8631.9	9394.3	10685.5	12480.3	12170.4
42.5°	9589.2	8876.5	8849.2	9485.3	10027.1	11083.6	13138.8	12897.5
45°	10131.0	9798.5	9805.0	10396.2	10693.5	11459.1	13656.6	13479.2
47.5°	10770.2	10807.1	11035.6	11340.8	11342.5	11877.8	14115.3	14021.0
50°	11582.2	12024.9	12446.8	12494.7	11997.7	12430.8	14676.3	14641.1
52.5°	12501.2	13429.7	13920.3	13768.5	12637.0	13116.5	15505.8	15504.1
55°	13592.7	14898.5	15360.3	15101.4	13402.5	14009.8	16589.3	16519.0
57.5°	14724.3	16311.3	16683.6	16346.4	14359.9	15050.3	17676.1	17303.7
60°	15946.9	17527.4	17906.2	17399.6	15433.9	16087.5	18395.3	17524.3
62.5°	16747.5	18238.7	18510.4	18024.5	16396.0	17143.9	18627.0	17260.6
65°	16789.1	17765.6	17837.5	17664.9	16805.0	18061.3	18291.4	16479.0
67.5°	15648.0	15705.6	15799.8	15985.2	15930.8	17652.1	16996.8	14653.9
70°	13207.5	12440.4	12750.5	12929.5	13332.2	15700.8	14604.4	11917.8
72.5°	10099.1	8978.6	9330.3	9269.6	10107.1	12878.3	11173.0	9180.1
75°	7268.6	6122.7	6149.9	6153.0	7262.2	10279.6	7618.6	6519.1
77.5°	4940.0	4332.7	4422.2	4366.3	4860.1	8053.4	5485.1	4698.7
80°	3378.6	3362.6	3381.8	3250.7	3241.1	5205.4	4061.0	3747.8
82.5°	2506.0	2315.8	2288.6	2149.6	2483.6	3979.5	3083.0	2692.9
85°	1977.0	1281.8	1114.0	1344.1	2151.2	3661.4	1879.5	1380.9
87.5°	837.5	503.4	305.2	604.2	1195.4	2683.4	521.0	268.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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