

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: P196277

Luminaire Tested: **NVN-AF-05-LED-U-T2R-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196277
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: NVN-AF-05-LED-U-T2R-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21237.5 lumens
Efficiency: N/A
Efficacy: 131.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G3

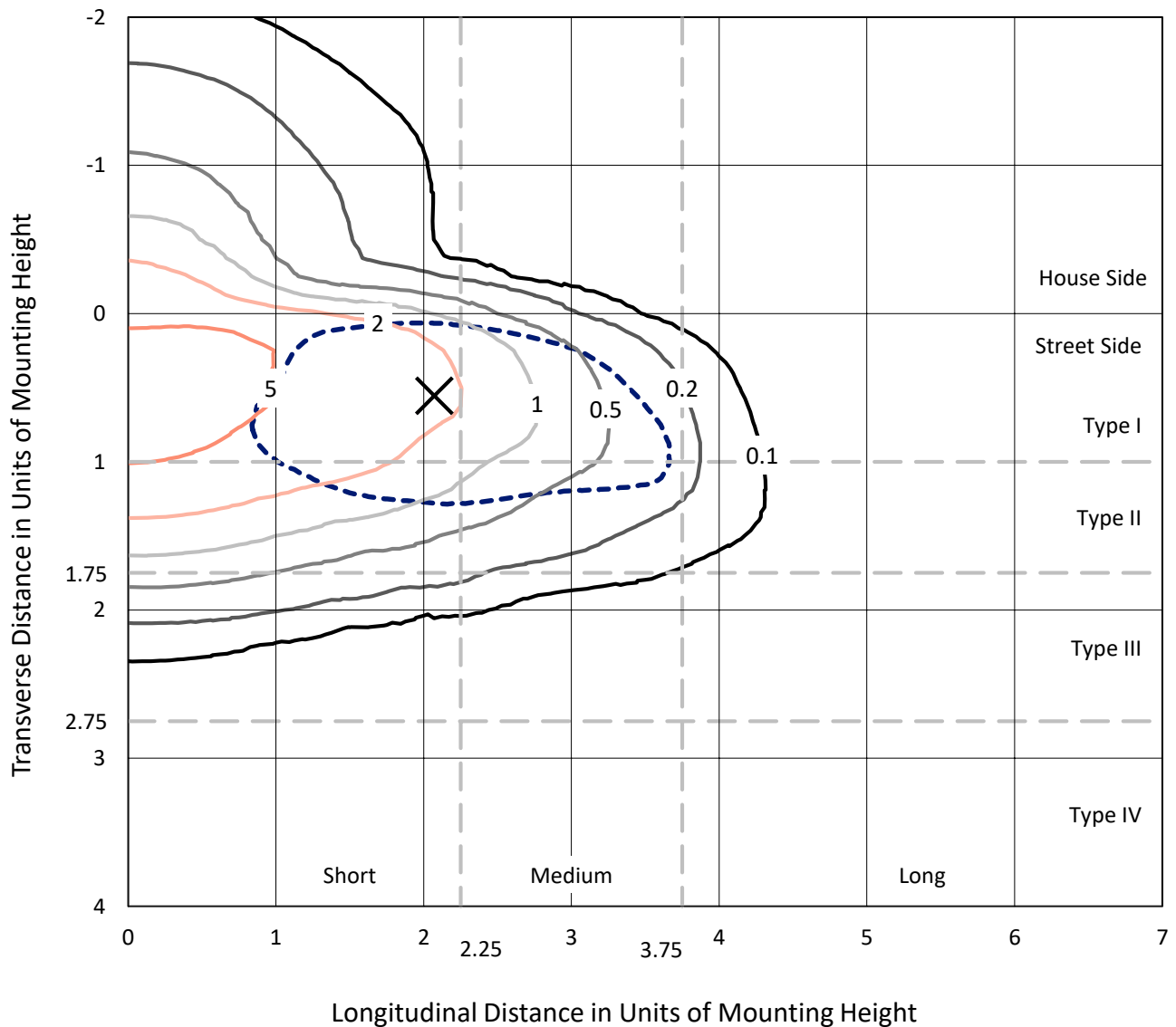
Input Watts (W): 162
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P196277
 CATALOG NUMBER: NVN-AF-05-LED-U-T2R-600

Iso-Footcandle Lines of Horizontal Illumination

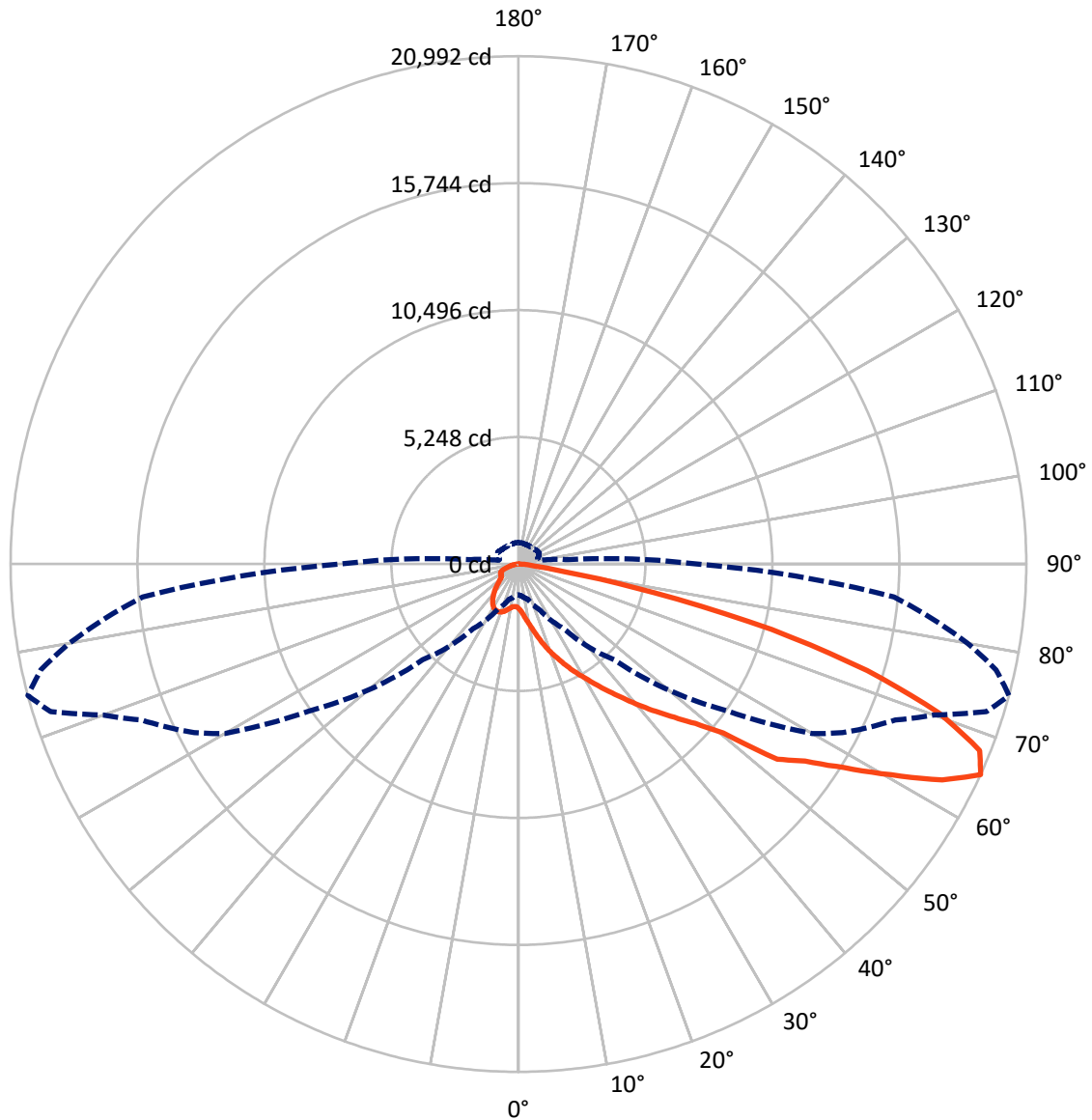
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.4 fc
 Type II - Short - Semi-Cutoff

REPORT NUMBER: P196277
CATALOG NUMBER: NVN-AF-05-LED-U-T2R-600

Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P196277

CATALOG NUMBER: NVN-AF-05-LED-U-T2R-600

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3191.2	0.0	3191.2
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	18046.2	0.0	18046.2
	% Fixture	85.0	0.0	85.0
Total	Lumens	21237.5	0.0	21237.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	217.2	1.0
10°-20°	829.7	3.9
20°-30°	1674.5	7.9
30°-40°	2843.7	13.4
40°-50°	3966.3	18.7
50°-60°	4861.2	22.9
60°-70°	4573.8	21.5
70°-80°	2005.6	9.4
80°-90°	265.4	1.2
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°	21237.5	100.0
0°-180°	21237.5	100.0

Coefficient of Utilization



REPORT NUMBER: P196277

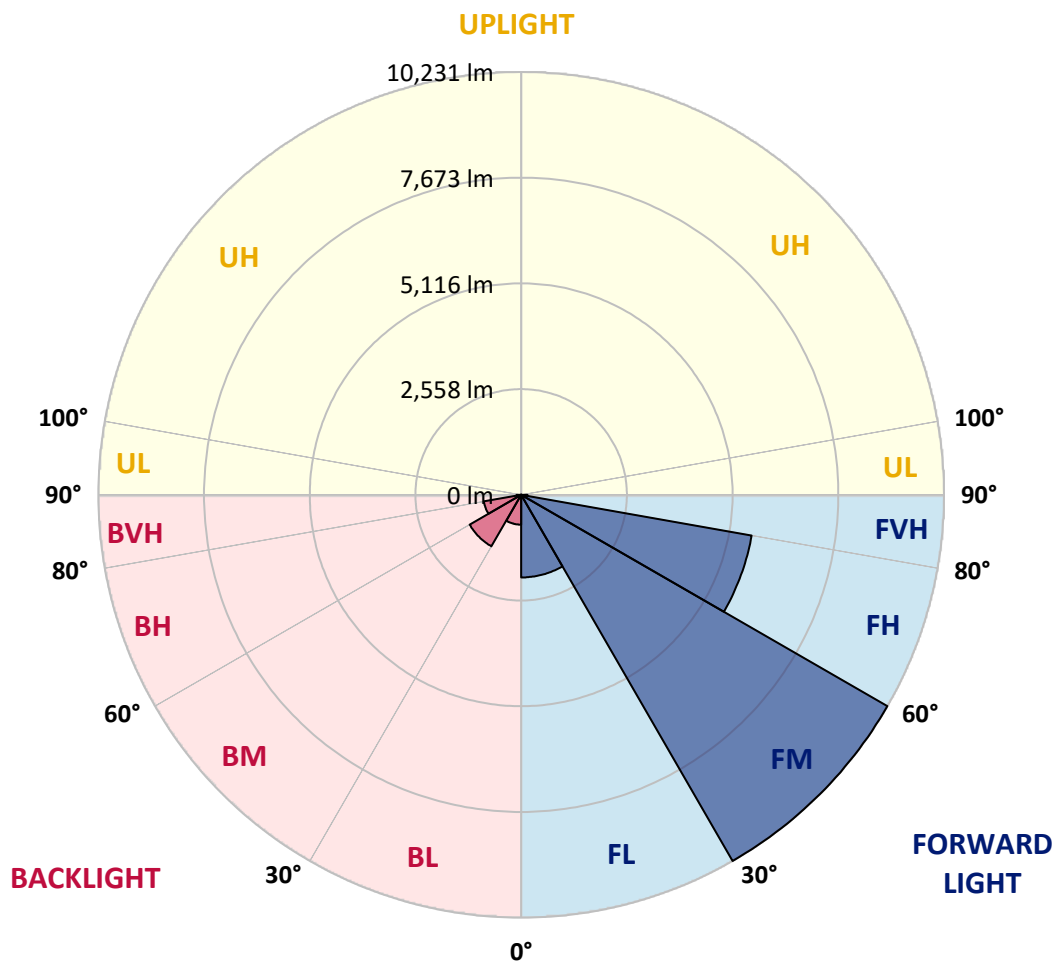
CATALOG NUMBER: NVN-AF-05-LED-U-T2R-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1999.0	9.4			
FM	(30°-60°)	10231.3	48.2			
FH	(60°-80°)	5662.1	26.7			G3/7500
FVH	(80°-90°)	153.8	0.7			G2/225
BL	(0°-30°)	722.4	3.4	B2/1000		
BM	(30°-60°)	1440.1	6.8	B2/2500		
BH	(60°-80°)	917.2	4.3	B2/1000		G2/1000
BVH	(80°-90°)	111.5	0.5			G2/225
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 Short





REPORT NUMBER: P196277

CATALOG NUMBER: NVN-AF-05-LED-U-T2R-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1
2.5°	2317.0	2290.0	2292.7	2254.9	2199.4	2138.7	2088.7	2061.7	2038.7	2032.0	1994.1
5°	3030.4	2996.5	2984.5	2897.9	2768.2	2614.3	2461.5	2402.1	2353.5	2323.7	2250.8
7.5°	3614.0	3596.4	3580.2	3500.5	3372.2	3174.9	2929.0	2841.2	2760.1	2671.0	2583.2
10°	4011.2	4004.4	3997.7	3942.2	3835.6	3664.0	3399.2	3303.2	3201.9	3088.5	2973.6
12.5°	4311.1	4311.1	4316.5	4270.6	4205.8	4073.4	3832.9	3743.7	3641.0	3522.1	3391.1
15°	4512.4	4517.9	4546.2	4559.7	4525.9	4440.8	4230.1	4151.7	4054.5	3936.9	3807.2
17.5°	4646.1	4657.0	4698.8	4743.4	4786.7	4756.9	4600.2	4527.3	4439.5	4331.4	4209.7
20°	4956.9	4943.4	4944.7	4931.2	4994.8	5017.7	4931.2	4870.5	4800.2	4701.6	4590.8
22.5°	5609.5	5583.8	5517.6	5348.7	5271.7	5263.6	5212.2	5179.8	5125.8	5063.6	4952.8
25°	6460.7	6430.9	6299.8	6021.5	5791.8	5579.8	5485.2	5464.9	5429.8	5387.9	5308.2
27.5°	7340.1	7307.7	7138.9	6787.6	6487.7	6059.3	5764.8	5737.8	5705.4	5687.8	5650.0
30°	8114.3	8079.2	7912.9	7556.3	7194.2	6683.6	6141.8	6047.2	5991.8	5997.3	5975.6
32.5°	8793.8	8762.8	8576.3	8212.9	7845.4	7349.6	6630.9	6483.6	6359.3	6313.3	6329.5
35°	9364.0	9335.6	9131.6	8765.5	8395.3	7983.2	7260.4	7038.8	6836.2	6709.2	6694.3
37.5°	9699.0	9682.8	9539.6	9228.9	8861.4	8558.7	7965.6	7719.8	7421.2	7236.0	7155.0
40°	9680.1	9697.7	9673.3	9532.9	9247.8	9027.5	8700.6	8457.5	8165.6	7890.0	7725.1
42.5°	9404.5	9428.8	9538.2	9611.2	9534.2	9400.4	9342.3	9161.3	8899.2	8607.4	8379.1
45°	9026.2	9047.8	9189.7	9453.1	9673.3	9711.2	9904.4	9813.9	9592.3	9343.7	9092.4
47.5°	8446.6	8488.5	8653.3	9072.1	9596.3	9961.1	10375.9	10417.7	10289.5	10084.0	9849.0
50°	7607.6	7663.0	7894.0	8489.9	9304.6	10217.8	11077.0	11236.5	11185.1	10977.1	10739.3
52.5°	6748.4	6803.7	7111.8	7745.5	8834.4	10323.2	11767.4	12175.5	12470.0	12684.8	12726.6
55°	5854.0	5916.1	6253.9	6983.5	8207.4	10189.4	12260.6	12724.0	13022.6	13246.8	13337.3
57.5°	4844.8	4915.1	5242.0	5979.7	7321.3	9651.7	12809.1	13465.7	13910.2	14256.0	14450.6
60°	3686.9	3774.8	4113.9	4857.0	6156.6	8622.2	13053.6	14025.0	14731.6	15250.4	15558.5
62.5°	2337.2	2426.4	2779.1	3550.5	4831.3	7215.8	12361.8	13779.1	14984.2	15751.6	16316.4
65°	1275.4	1314.6	1510.5	2091.4	3257.3	5598.6	10608.3	12279.5	14015.6	15103.2	15970.5
67.5°	956.6	961.9	982.2	1124.0	1734.7	3780.2	8294.0	9824.6	11752.6	13152.3	14188.4
70°	837.6	837.6	840.4	841.7	941.6	2048.2	5619.0	7028.1	8795.2	10211.1	11498.6
72.5°	751.2	743.1	740.4	724.1	737.6	1049.8	3058.7	4324.6	5814.9	7403.6	8604.7
75°	648.4	647.1	647.1	631.0	639.0	739.0	1326.7	2075.2	3230.3	4709.7	5891.8
77.5°	560.7	551.3	552.6	543.1	568.8	566.1	629.6	855.2	1406.5	2473.7	3454.6
80°	462.1	455.3	459.3	454.0	494.5	418.8	424.2	522.8	698.5	1084.8	1529.3
82.5°	341.8	344.5	370.2	367.4	416.1	282.3	310.8	390.5	470.1	540.4	587.7
85°	200.0	204.0	266.2	279.7	305.4	148.6	190.5	232.4	262.1	290.5	302.6
87.5°	21.6	28.3	148.6	152.6	136.5	44.6	77.0	97.3	104.0	110.8	97.3
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: P196277

CATALOG NUMBER: NVN-AF-05-LED-U-T2R-600

CANDELA DISTRIBUTION (continued):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1
2.5°	1982.0	1964.4	1945.4	1934.7	1915.8	1899.5	1869.9	1845.5	1818.5	1799.6	1791.5
5°	2214.4	2172.4	2127.8	2095.4	2054.9	2019.8	1952.2	1871.2	1845.5	1791.5	1778.0
7.5°	2517.0	2441.3	2365.7	2303.5	2233.2	2175.2	2061.7	1915.8	1896.9	1810.4	1791.5
10°	2872.2	2761.5	2649.3	2553.5	2450.8	2361.6	2194.0	1988.7	1968.5	1857.7	1838.8
12.5°	3269.5	3134.4	2989.8	2846.6	2725.0	2599.4	2371.1	2102.2	2069.7	1938.7	1913.0
15°	3678.8	3533.0	3365.4	3192.4	3042.5	2876.3	2588.6	2250.8	2191.4	2037.3	2002.2
17.5°	4082.8	3924.8	3749.1	3555.9	3380.2	3181.7	2823.7	2417.0	2314.3	2134.6	2090.0
20°	4473.3	4312.5	4127.4	3938.3	3719.3	3492.4	3064.1	2580.5	2423.8	2215.7	2157.6
22.5°	4828.5	4690.7	4505.7	4288.1	4066.6	3811.2	3308.6	2744.0	2519.6	2277.8	2203.5
25°	5202.8	5077.1	4893.4	4684.0	4426.0	4142.2	3561.3	2899.3	2596.7	2311.6	2219.7
27.5°	5581.1	5473.0	5300.1	5079.9	4802.9	4488.1	3818.0	3042.5	2658.9	2322.4	2211.6
30°	5985.1	5901.3	5741.8	5496.0	5216.3	4867.7	4097.6	3183.0	2698.0	2307.6	2175.2
32.5°	6367.4	6364.7	6222.8	5967.5	5666.2	5282.5	4392.1	3324.9	2718.3	2265.6	2111.7
35°	6764.6	6820.0	6713.2	6470.1	6152.5	5727.0	4717.7	3476.2	2719.6	2191.4	2029.2
37.5°	7215.8	7314.5	7267.1	7036.2	6702.5	6233.7	5100.1	3646.4	2711.5	2088.7	1909.0
40°	7729.2	7864.3	7863.0	7668.4	7311.7	6801.1	5544.6	3836.9	2692.6	1960.4	1767.1
42.5°	8316.9	8477.7	8522.3	8330.4	7969.7	7421.2	6053.9	4046.3	2662.8	1833.3	1617.2
45°	8989.7	9131.6	9215.4	9037.1	8674.9	8096.7	6639.0	4284.1	2626.4	1669.9	1445.6
47.5°	9709.8	9874.6	10000.3	9847.6	9461.3	8866.8	7332.0	4590.8	2612.9	1483.4	1260.5
50°	10602.9	10773.1	11044.6	10975.8	10763.6	10285.4	8797.9	5314.9	2618.2	1306.4	1105.1
52.5°	12818.5	13209.0	13552.2	13399.5	12895.5	12075.4	9989.5	5717.6	2504.8	1161.9	997.1
55°	13487.3	13930.4	14437.1	14373.6	13889.9	13063.1	10931.2	6053.9	2395.3	1056.5	926.8
57.5°	14657.2	15180.2	15888.1	15874.6	15281.5	14350.6	12143.0	6456.6	2348.1	995.7	891.7
60°	15896.1	16562.2	17540.3	17693.1	17048.6	16079.9	13575.1	6951.1	2354.8	961.9	871.5
62.5°	16801.4	17778.2	19200.8	19657.4	18898.2	17830.9	15061.2	7445.5	2314.3	922.7	847.1
65°	16856.8	18263.2	20281.6	20992.3	20223.5	18852.3	15585.5	7348.3	2071.2	870.0	807.9
67.5°	15505.7	17337.7	19789.8	20569.4	19783.1	18222.6	14666.8	6424.1	1683.4	778.2	740.4
70°	12914.4	15041.0	17586.3	18455.1	17805.2	16225.8	12764.5	5131.2	1257.8	656.6	639.0
72.5°	9980.0	11963.3	14275.0	15078.8	14581.7	13192.8	10067.9	3739.6	898.5	532.3	518.8
75°	7134.8	8823.6	10501.5	10808.2	10317.8	9042.4	6532.3	2335.9	629.6	436.4	417.5
77.5°	4417.8	5516.3	6118.8	5724.3	5098.8	4238.2	2658.9	1153.8	418.8	355.3	336.4
80°	1960.4	2300.8	2148.1	1914.5	1511.8	1243.0	811.9	512.1	270.2	274.3	263.4
82.5°	659.3	697.1	678.2	674.1	607.9	532.3	344.5	221.6	151.3	175.6	171.5
85°	321.5	336.4	337.8	350.0	304.0	236.4	93.2	87.8	64.9	94.6	98.6
87.5°	97.3	98.6	89.2	97.3	78.4	54.0	17.6	24.3	12.2	23.0	23.0
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: P196277

CATALOG NUMBER: NVN-AF-05-LED-U-T2R-600

CANDELA DISTRIBUTION (continued):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1
2.5°	1776.6	1771.2	1761.7	1750.9	1748.2	1734.7	1730.6	1723.9	1719.9	1713.1	1707.7
5°	1760.4	1750.9	1740.1	1728.0	1728.0	1709.0	1701.0	1692.9	1692.9	1680.7	1675.3
7.5°	1776.6	1764.5	1752.3	1741.5	1745.6	1723.9	1715.8	1707.7	1706.4	1694.2	1688.8
10°	1822.5	1810.4	1795.5	1784.7	1780.7	1763.1	1753.6	1741.5	1733.4	1725.3	1717.1
12.5°	1892.8	1876.6	1857.7	1834.7	1825.3	1810.4	1795.5	1779.3	1760.4	1752.3	1740.1
15°	1976.5	1949.5	1923.9	1895.5	1869.9	1854.9	1834.7	1809.0	1783.3	1772.6	1756.3
17.5°	2045.5	2017.1	1980.6	1946.9	1900.8	1888.8	1860.3	1829.2	1787.4	1783.3	1759.1
20°	2103.6	2060.3	2015.7	1975.2	1904.9	1898.2	1863.1	1826.6	1767.1	1767.1	1737.4
22.5°	2136.0	2076.5	2023.8	1969.8	1882.0	1876.6	1836.1	1792.8	1719.9	1722.5	1686.1
25°	2141.3	2069.7	2003.6	1938.7	1837.4	1827.9	1776.6	1729.3	1649.6	1644.2	1606.3
27.5°	2119.8	2036.0	1959.0	1880.6	1771.2	1750.9	1694.2	1637.4	1559.1	1545.6	1505.1
30°	2069.7	1971.1	1884.7	1794.2	1679.3	1647.0	1587.4	1529.3	1449.6	1432.1	1394.3
32.5°	1990.0	1877.9	1782.0	1691.4	1564.5	1524.0	1464.6	1406.5	1329.4	1315.9	1280.7
35°	1884.7	1759.1	1657.7	1561.7	1434.8	1393.0	1336.2	1284.8	1214.5	1209.1	1184.9
37.5°	1752.3	1621.3	1513.1	1421.3	1301.0	1279.4	1221.3	1183.5	1125.5	1130.8	1118.7
40°	1602.4	1468.5	1365.8	1284.8	1180.8	1161.9	1126.8	1098.3	1048.4	1063.3	1064.6
42.5°	1451.0	1317.3	1224.1	1151.0	1061.9	1049.8	1025.4	1009.2	971.4	1001.1	1013.2
45°	1279.4	1155.1	1075.4	1020.0	953.8	953.8	941.6	940.3	914.6	956.6	968.7
47.5°	1113.3	1016.0	960.6	926.8	880.9	902.4	898.5	909.2	890.4	933.5	944.4
50°	987.6	920.0	886.3	870.0	837.6	871.5	879.5	894.4	878.2	916.0	924.1
52.5°	907.9	863.3	844.3	840.4	817.3	859.3	872.8	886.3	867.4	902.4	901.1
55°	863.3	833.6	826.9	834.9	817.3	857.9	871.5	880.9	864.7	888.9	887.6
57.5°	847.1	830.8	834.9	847.1	834.9	868.7	875.4	886.3	870.0	880.9	886.3
60°	845.8	845.8	861.9	878.2	870.0	894.4	898.5	897.1	882.2	883.5	886.3
62.5°	837.6	857.9	885.0	910.6	907.9	937.6	940.3	922.7	910.6	897.1	893.0
65°	811.9	845.8	885.0	920.0	925.5	971.4	976.8	959.2	951.1	928.1	910.6
67.5°	755.2	798.4	844.3	887.6	897.1	959.2	971.4	978.1	982.2	967.3	944.4
70°	659.3	703.9	751.2	801.2	814.7	883.5	909.2	940.3	964.6	986.2	978.1
72.5°	536.3	576.8	617.5	663.4	683.6	755.2	789.0	843.0	880.9	936.3	959.2
75°	425.5	449.9	474.2	502.6	518.8	589.0	631.0	695.8	747.2	824.1	875.4
77.5°	335.0	347.2	359.4	371.5	378.3	417.5	451.2	516.1	575.5	672.8	748.5
80°	258.1	264.8	266.2	270.2	267.5	286.4	298.6	337.8	389.1	485.0	574.2
82.5°	166.1	171.5	174.3	181.1	167.6	191.8	200.0	204.0	231.0	301.3	364.8
85°	93.2	94.6	96.0	98.6	79.7	104.0	105.4	98.6	96.0	124.3	140.6
87.5°	23.0	21.6	23.0	23.0	9.4	21.6	21.6	14.8	10.8	20.3	16.2
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: P196277

CATALOG NUMBER: NVN-AF-05-LED-U-T2R-600

CANDELA DISTRIBUTION (continued):

	135°	145°	155°	165°	175°	180°
0°	1840.1	1840.1	1840.1	1840.1	1840.1	1840.1
2.5°	1695.5	1692.9	1694.2	1687.5	1684.7	1686.1
5°	1668.5	1663.1	1663.1	1659.0	1653.7	1653.7
7.5°	1680.7	1669.9	1665.8	1657.7	1649.6	1650.9
10°	1699.6	1680.7	1667.2	1655.0	1645.5	1645.5
12.5°	1711.7	1677.9	1657.7	1641.5	1630.7	1630.7
15°	1714.5	1663.1	1633.3	1615.9	1605.0	1605.0
17.5°	1698.2	1633.3	1595.6	1572.6	1560.4	1563.2
20°	1657.7	1578.0	1533.4	1509.1	1497.0	1498.3
22.5°	1594.2	1502.3	1451.0	1422.6	1410.4	1410.4
25°	1507.7	1407.8	1352.3	1329.4	1318.6	1318.6
27.5°	1409.1	1306.4	1257.8	1240.2	1233.5	1233.5
30°	1298.3	1213.2	1178.1	1166.0	1155.1	1155.1
32.5°	1205.1	1144.3	1132.2	1115.9	1087.6	1086.3
35°	1130.8	1124.0	1114.6	1065.9	1025.4	1020.0
37.5°	1090.3	1130.8	1071.3	987.6	955.1	953.8
40°	1068.7	1106.5	1003.8	963.3	959.2	959.2
42.5°	1017.3	1044.3	999.7	976.8	976.8	978.1
45°	963.3	986.2	1009.2	989.0	995.7	997.1
47.5°	925.5	971.4	1009.2	991.6	1005.2	1013.2
50°	890.4	957.9	989.0	989.0	1003.8	1005.2
52.5°	882.2	939.0	970.1	984.9	986.2	979.5
55°	883.5	924.1	955.1	974.1	966.0	966.0
57.5°	882.2	916.0	943.1	949.8	953.8	953.8
60°	883.5	905.2	926.8	924.1	937.6	937.6
62.5°	887.6	890.4	901.1	898.5	918.7	918.7
65°	897.1	871.5	864.7	867.4	891.7	890.4
67.5°	914.6	845.8	824.1	825.5	860.6	855.2
70°	940.3	810.6	778.2	770.1	829.5	820.1
72.5°	948.4	770.1	718.7	710.6	745.7	718.7
75°	910.6	737.6	655.2	628.2	613.4	605.3
77.5°	811.9	717.4	589.0	532.3	509.3	503.9
80°	672.8	675.6	502.6	435.1	505.2	503.9
82.5°	508.0	583.6	402.6	377.0	366.1	305.4
85°	245.9	439.1	309.3	259.4	155.4	147.3
87.5°	21.6	183.7	178.3	116.2	52.7	50.0
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)