

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: McGRAW-EDISON

Report Number: P821251

Luminaire Tested: **TT-D5-735-24VDC-DL-UPL**

Issue Date: 5/10/2022

Test Information

Test Method: LM-79-08
Report Number: P821251
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G2-2002-677-2) AND
Test Lab: INNOVATION CENTER
Issue Date: 5/10/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TT-D5-735-24VDC-DL-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
3500K, 70 CRI LEDS AND DRIVE LANE DISTRIBUTION
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

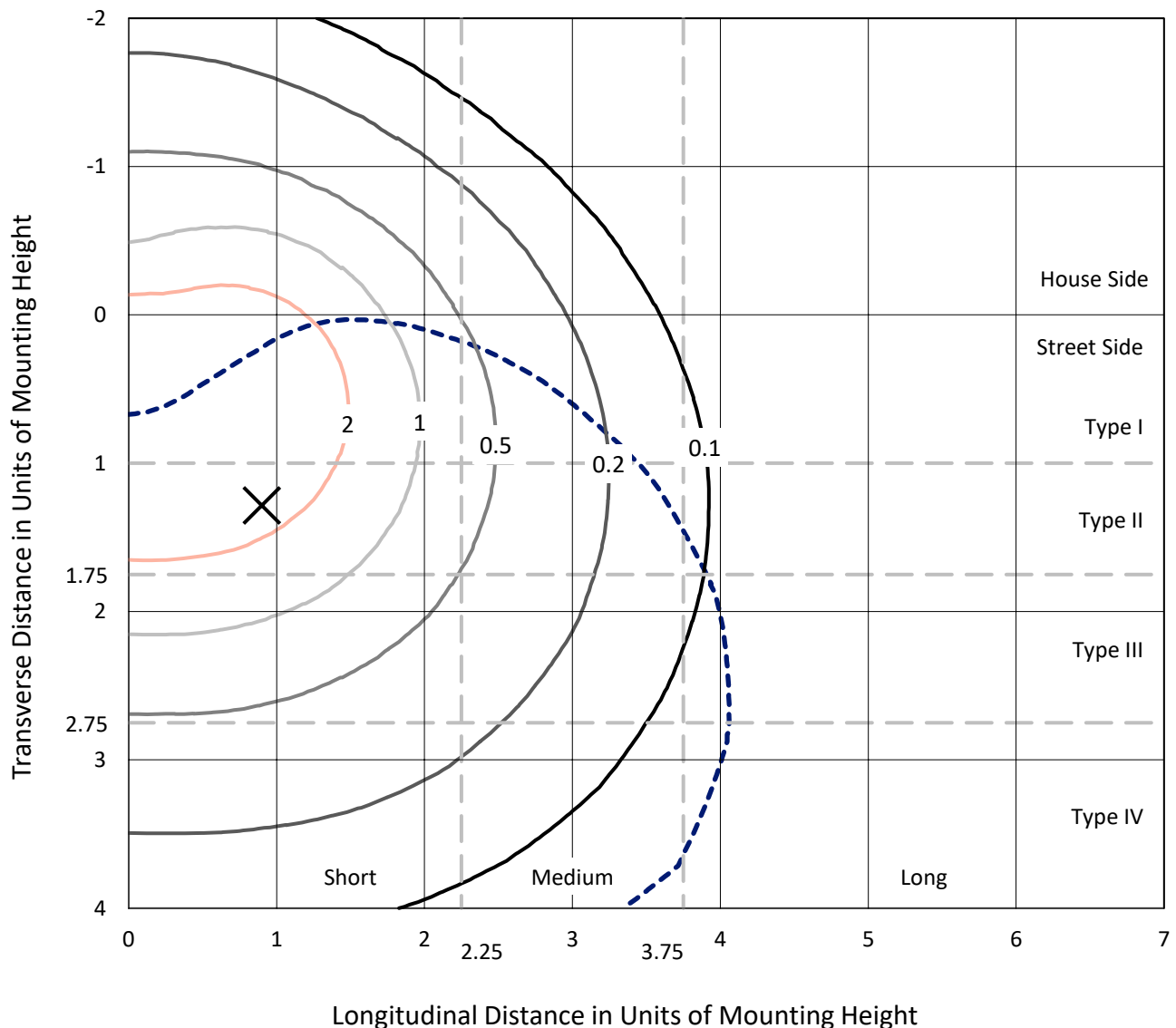
Lumens per Lamp: N/A
Luminaire Lumens: 8773.7 lumens
Efficiency: N/A
Efficacy: 120.2 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type IV - Short
BUG Rating: B2 - U4 - G3

Input Watts (W): 73
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

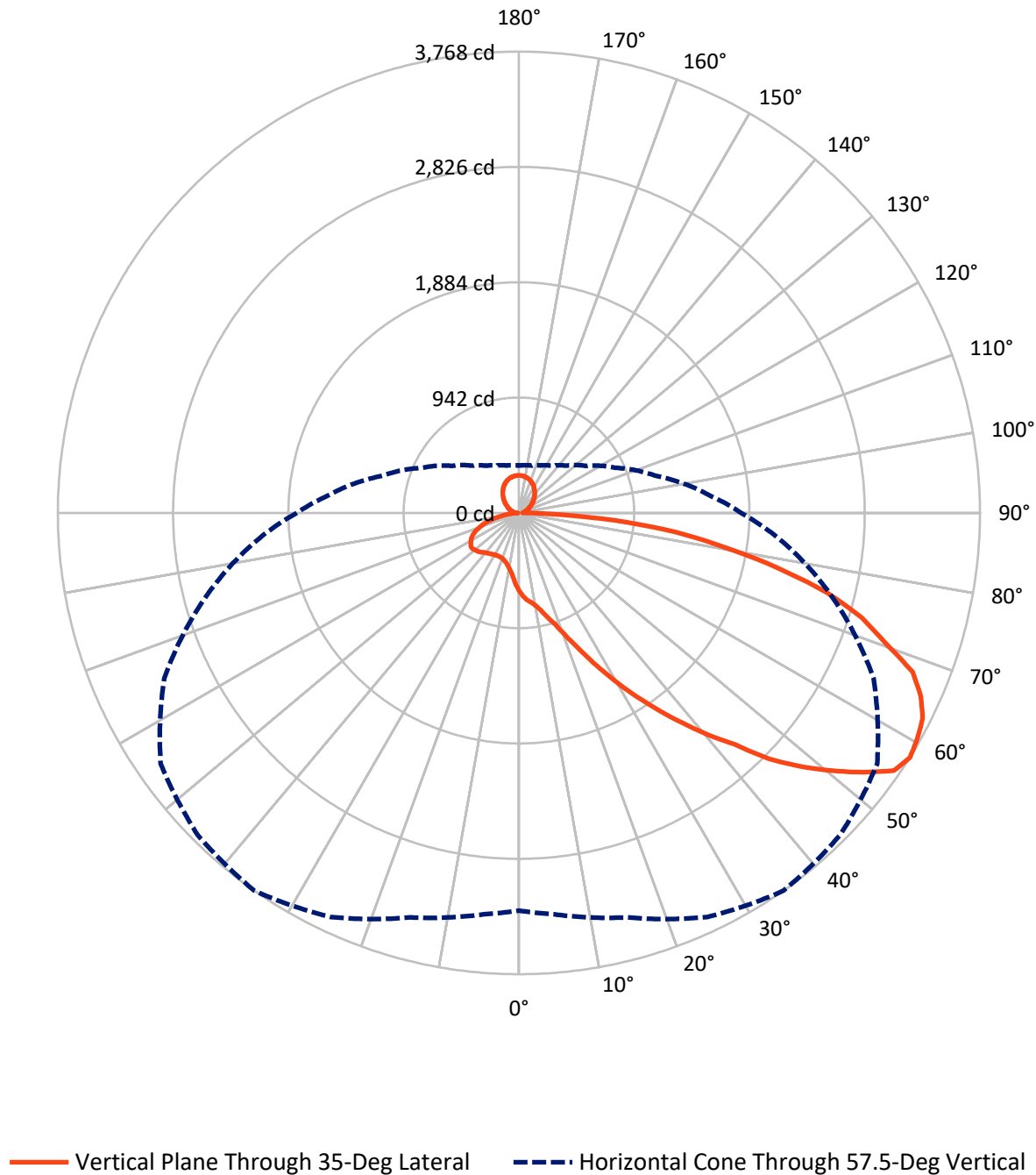
✕ Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 4.9 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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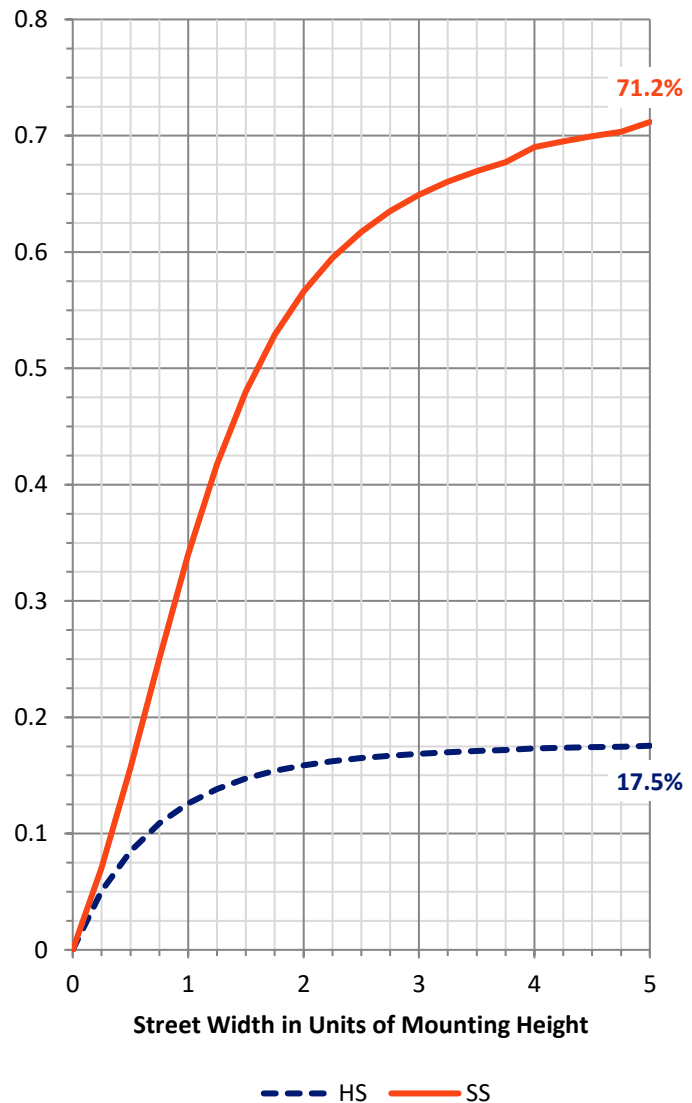
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1556.5	415.9	1972.3
	% Fixture	17.7	4.7	22.5
Street Side	Lumens	6385.5	415.9	6801.4
	% Fixture	72.8	4.7	77.5
Total	Lumens	7942.0	831.7	8773.7
	% Fixture	90.5	9.5	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.4	0.7
10°-20°	187.3	2.1
20°-30°	396.0	4.5
30°-40°	742.0	8.5
40°-50°	1235.0	14.1
50°-60°	1743.0	19.9
60°-70°	1833.8	20.9
70°-80°	1343.4	15.3
80°-90°	402.1	4.6
90°-100°	42.6	0.5
100°-110°	66.0	0.8
110°-120°	91.9	1.0
120°-130°	119.0	1.4
130°-140°	138.7	1.6
140°-150°	140.5	1.6
150°-160°	121.9	1.4
160°-170°	82.2	0.9
170°-180°	28.9	0.3
0°-90°	7942.0	90.5
0°-180°	8773.7	100.0



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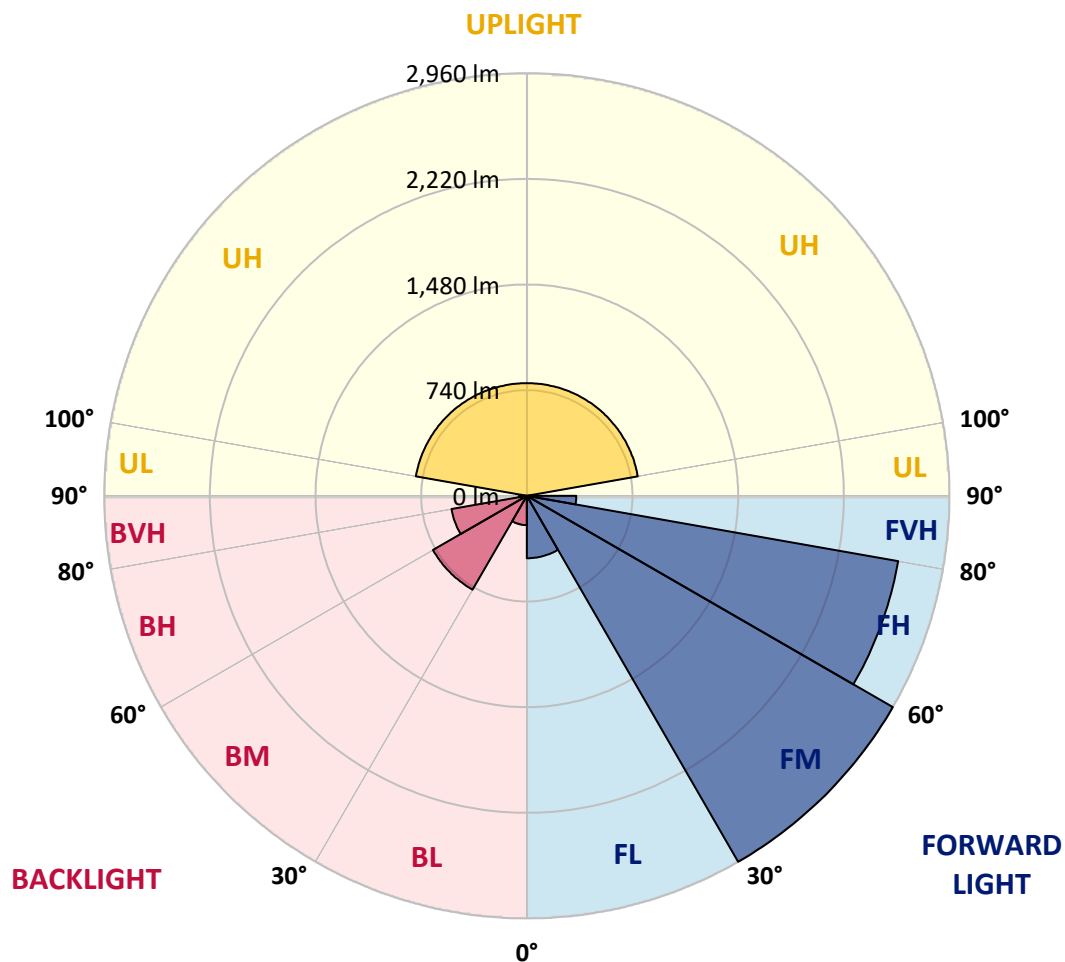
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	437.3	5.0			
FM	(30°-60°)	2960.4	33.7			
FH	(60°-80°)	2641.4	30.1			G2/5000
FVH	(80°-90°)	346.4	3.9			G3/500
BL	(0°-30°)	205.4	2.3	B1/500		
BM	(30°-60°)	759.6	8.7	B1/1000		
BH	(60°-80°)	535.8	6.1	B2/1000		G2/1000
BVH	(80°-90°)	55.7	0.6			G1/100
UL	(90°-100°)	42.6	0.5		U2/50	
UH	(100°-180°)	789.1	9.0		U4/1000	

BUG Rating: B2-U4-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6
2.5°	697.5	694.1	691.1	686.2	682.8	681.8	675.4	667.6	656.8	647.5	642.6
5°	734.3	733.8	732.3	726.4	715.6	700.4	686.2	670.0	652.4	634.8	626.4
7.5°	769.1	765.6	763.7	755.3	739.6	723.0	701.4	677.4	651.9	626.9	614.2
10°	812.7	807.8	804.4	788.2	772.0	748.5	720.0	689.2	658.8	627.4	612.2
12.5°	868.6	864.6	850.4	842.6	822.0	795.0	759.3	722.0	682.8	642.6	623.0
15°	928.4	929.3	923.9	903.9	887.2	854.8	816.6	770.0	717.1	668.6	644.1
17.5°	1008.3	1006.8	996.5	983.3	957.8	924.9	877.9	828.4	766.6	702.9	674.9
20°	1102.4	1097.5	1088.2	1070.0	1054.8	1016.1	962.7	900.9	827.4	751.9	714.2
22.5°	1222.0	1211.2	1205.3	1189.1	1170.5	1134.2	1077.4	995.5	909.2	815.6	767.1
25°	1339.1	1345.0	1342.1	1332.7	1309.2	1264.6	1204.3	1114.1	996.0	886.7	831.8
27.5°	1486.2	1488.6	1489.6	1485.7	1462.6	1422.0	1360.7	1241.6	1109.7	973.9	901.4
30°	1639.1	1633.7	1640.6	1642.5	1631.2	1584.2	1509.2	1378.8	1221.0	1058.7	977.4
32.5°	1791.0	1796.9	1811.1	1802.3	1804.3	1750.8	1669.0	1515.6	1339.6	1148.4	1062.7
35°	1954.8	1962.6	1972.4	1989.1	1988.1	1945.4	1827.3	1673.4	1468.0	1251.9	1140.6
37.5°	2122.4	2120.4	2135.1	2173.4	2180.7	2140.0	2016.5	1839.1	1602.8	1356.3	1232.3
40°	2281.2	2299.3	2327.8	2353.7	2385.1	2327.3	2207.2	2006.2	1749.4	1464.6	1318.5
42.5°	2466.5	2473.8	2516.0	2574.3	2582.6	2538.0	2407.2	2198.9	1895.0	1567.5	1412.6
45°	2663.0	2672.8	2712.5	2796.8	2865.0	2836.1	2658.6	2411.1	2075.3	1707.7	1516.6
47.5°	2832.6	2861.5	2925.3	3022.8	3095.4	3080.2	2910.1	2619.4	2247.9	1825.4	1617.0
50°	2983.6	3018.4	3105.2	3245.8	3310.5	3290.4	3124.8	2825.3	2373.8	1927.3	1690.1
52.5°	3136.5	3185.1	3264.5	3418.4	3519.3	3527.2	3342.4	2982.6	2519.9	2034.2	1770.0
55°	3219.4	3254.7	3387.5	3574.2	3716.9	3720.8	3512.0	3130.2	2620.9	2081.2	1807.7
57.5°	3248.3	3290.9	3420.3	3641.4	3767.9	3715.4	3573.3	3196.8	2649.3	2098.4	1815.5
60°	3208.1	3250.7	3398.3	3634.0	3740.9	3766.4	3546.3	3196.3	2635.1	2076.3	1791.5
62.5°	3150.7	3205.1	3348.3	3578.2	3701.7	3715.9	3511.5	3160.1	2614.0	2038.6	1756.2
65°	3005.2	3038.0	3247.3	3418.9	3609.5	3592.4	3431.6	3033.6	2539.5	1941.0	1670.0
67.5°	2860.1	2894.4	3048.3	3283.6	3468.4	3449.7	3291.4	2911.1	2396.4	1850.4	1579.8
70°	2615.5	2637.5	2849.8	3032.6	3170.8	3239.5	3035.1	2706.7	2246.4	1698.4	1442.5
72.5°	2356.7	2391.5	2543.4	2772.8	2929.2	2907.1	2804.7	2455.2	2001.8	1521.9	1300.4
75°	2025.8	2059.2	2227.3	2448.8	2600.8	2583.1	2466.5	2156.2	1779.3	1317.1	1125.9
77.5°	1713.1	1702.8	1851.3	2019.5	2157.7	2198.4	2067.0	1823.4	1467.5	1082.3	916.6
80°	1316.1	1355.3	1448.4	1604.8	1709.2	1732.2	1630.8	1443.0	1172.5	847.0	702.9
82.5°	926.9	947.5	1061.2	1159.7	1290.6	1282.3	1212.2	1048.0	851.4	594.6	484.3
85°	505.8	510.3	613.2	682.3	783.3	795.5	746.0	633.8	487.2	338.2	249.5
87.5°	88.7	87.2	126.5	185.3	235.3	252.9	210.3	164.7	66.7	39.7	20.6
90°	30.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
92.5°	34.8	34.2	34.2	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8
95°	39.4	39.4	39.4	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5
97.5°	44.6	44.6	44.6	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2
100°	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
102.5°	55.9	55.9	55.9	55.9	55.9	55.9	55.9	56.4	55.9	55.9	55.9
105°	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.9	62.0	62.0	62.0
107.5°	68.6	68.6	69.0	69.0	69.0	69.0	69.0	69.5	69.0	69.0	69.0
110°	75.1	75.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	83.1	83.1	84.0	84.0	84.0	84.0	84.6	84.6	84.0	84.0	84.0
115°	91.1	91.1	92.0	92.0	92.0	92.0	93.0	93.0	92.0	92.0	92.0
117.5°	100.5	100.5	101.0	101.4	101.4	101.4	102.4	102.4	101.4	101.4	101.4
120°	109.9	109.9	109.9	110.8	110.8	110.8	111.8	111.8	110.8	110.8	110.8
122.5°	120.7	120.7	121.2	121.6	121.6	121.6	122.6	122.6	122.1	122.1	121.6
125°	131.5	131.5	132.4	132.4	132.4	132.4	133.4	133.4	133.4	133.4	132.4
127.5°	143.2	143.2	144.2	144.2	144.2	144.2	145.1	145.1	145.1	145.1	144.2
130°	155.0	155.0	155.9	155.9	155.9	155.9	156.8	156.8	156.8	156.8	155.9
132.5°	167.2	167.2	167.6	167.6	167.6	168.1	168.6	168.6	168.6	168.6	168.1
135°	179.4	179.4	179.4	179.4	179.4	180.3	180.3	180.3	180.3	180.3	180.3
137.5°	191.2	190.6	191.2	190.6	191.2	191.6	191.6	191.6	191.6	191.6	191.6
140°	202.9	201.9	202.9	201.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9
142.5°	213.7	213.2	213.7	212.7	213.7	213.7	213.7	213.7	213.7	213.7	213.7
145°	224.5	224.5	224.5	223.5	224.5	224.5	224.5	224.5	224.5	224.5	224.5
147.5°	235.8	235.3	235.8	234.8	235.8	235.8	235.8	235.8	235.8	235.8	235.8
150°	247.0	246.1	247.0	246.1	247.0	247.0	247.0	247.0	247.0	247.0	247.0
152.5°	256.0	255.5	256.4	255.5	256.0	256.0	256.4	256.0	256.0	256.0	256.0
155°	264.9	264.9	265.8	264.9	264.9	264.9	265.8	264.9	264.9	264.9	264.9
157.5°	272.4	272.4	273.3	272.4	272.4	272.4	273.3	272.4	272.4	272.4	272.4
160°	279.9	279.9	280.8	279.9	279.9	279.9	280.8	279.9	279.9	279.9	279.9
162.5°	286.0	286.0	286.9	286.0	286.0	286.0	286.9	286.0	286.0	286.0	286.0
165°	292.1	292.1	293.0	292.1	292.1	292.1	293.0	292.1	292.1	292.1	292.1
167.5°	295.8	295.8	296.8	295.8	295.8	295.8	296.8	295.8	295.8	295.8	295.8
170°	299.6	299.6	300.5	299.6	299.6	299.6	300.5	299.6	299.6	299.6	299.6
172.5°	302.0	302.0	302.8	302.0	302.0	302.0	302.8	302.0	302.0	302.0	302.0
175°	304.3	304.3	305.2	304.3	304.3	304.3	305.2	304.3	304.3	304.3	304.3
177.5°	305.2	305.2	305.7	305.2	305.2	305.2	305.7	305.2	305.2	305.2	305.2
180°	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6	640.6
2.5°	637.2	627.4	618.1	609.3	600.9	594.1	591.1	588.7	588.2	583.8
5°	616.1	600.4	583.3	567.6	553.4	538.2	525.9	522.0	521.5	524.0
7.5°	602.4	578.4	554.9	536.2	515.2	495.1	476.9	465.7	462.7	461.7
10°	597.5	568.1	539.7	511.2	487.7	463.2	441.1	427.4	419.6	417.6
12.5°	603.9	566.6	531.3	498.0	466.1	439.2	414.2	397.0	388.2	385.3
15°	621.0	573.0	528.4	488.2	453.4	419.6	395.1	373.0	362.7	361.2
17.5°	643.6	587.2	530.4	483.3	442.1	406.3	377.9	354.9	342.1	340.2
20°	675.9	605.3	539.7	483.8	437.2	397.0	365.2	340.7	326.9	325.5
22.5°	721.5	634.3	554.9	490.2	437.2	391.6	357.3	331.8	317.6	316.2
25°	773.5	667.6	575.4	499.0	438.7	390.7	352.9	326.0	311.7	310.3
27.5°	833.3	708.3	597.5	510.3	444.1	391.6	351.4	324.5	310.8	308.8
30°	900.4	748.5	621.5	522.5	450.9	393.6	351.9	324.0	310.8	308.8
32.5°	967.6	792.6	648.5	538.7	458.8	399.0	354.9	327.4	313.7	312.2
35°	1038.2	841.1	678.4	555.4	470.1	406.3	359.8	331.3	317.6	316.2
37.5°	1111.2	890.1	709.3	575.9	481.8	413.7	366.6	338.2	325.0	323.5
40°	1187.2	940.6	742.1	597.0	493.1	423.5	375.0	347.0	333.3	331.8
42.5°	1252.8	986.2	772.5	615.1	507.8	432.8	385.8	356.3	343.6	342.1
45°	1345.5	1038.2	803.9	637.7	525.5	449.5	398.5	371.1	359.3	356.3
47.5°	1422.9	1091.1	835.7	659.3	540.2	460.7	410.8	382.8	370.6	368.6
50°	1486.2	1124.4	860.7	670.5	548.0	468.1	420.6	392.1	381.3	377.9
52.5°	1552.8	1162.2	874.0	683.8	560.7	478.4	427.4	402.9	391.1	387.7
55°	1574.4	1164.1	883.8	686.2	558.8	480.8	431.8	403.4	394.1	390.7
57.5°	1575.9	1163.6	870.5	669.6	545.1	470.1	427.4	400.5	389.7	386.7
60°	1548.4	1134.7	844.1	649.5	530.4	454.9	415.2	389.2	380.9	377.9
62.5°	1514.1	1108.2	811.2	622.0	509.3	439.7	401.0	380.9	369.6	366.1
65°	1427.3	1038.6	761.2	584.8	478.9	416.6	378.4	358.8	350.0	347.5
67.5°	1350.4	964.1	711.2	546.0	444.6	388.2	353.4	336.2	329.4	327.9
70°	1225.4	883.3	633.8	485.7	400.5	346.1	320.1	307.3	299.0	296.1
72.5°	1098.4	775.4	558.8	427.9	347.0	311.3	285.3	271.5	267.1	264.7
75°	932.8	651.9	471.0	362.7	298.0	260.3	242.1	231.8	226.5	226.0
77.5°	763.2	522.0	379.4	287.2	235.8	209.8	197.0	187.2	186.3	188.2
80°	584.8	394.1	281.8	215.2	174.5	158.3	151.5	145.1	144.1	142.6
82.5°	388.7	261.3	178.4	136.3	117.1	107.8	105.9	101.5	100.5	99.5
85°	189.7	125.5	86.3	67.6	62.3	57.8	57.3	59.3	58.8	57.3
87.5°	19.6	16.2	15.7	12.3	11.3	10.3	10.3	9.3	11.3	8.3
90°	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	30.1
92.5°	33.8	33.8	33.8	33.8	33.8	33.8	33.8	34.2	34.2	34.8
95°	38.5	38.5	38.5	38.5	38.5	38.5	38.5	39.4	39.4	39.4
97.5°	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.6	44.6	44.6
100°	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
102.5°	55.9	55.9	56.4	55.9	55.9	55.9	55.9	55.9	55.9	55.9
105°	62.0	62.0	62.9	62.0	62.0	62.0	62.0	62.0	62.0	62.0
107.5°	69.0	69.0	69.5	69.0	69.0	69.0	69.0	69.0	68.6	68.6
110°	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	75.1	75.1

REPORT NUMBER: P821251

CATALOG NUMBER: TT-D5-735-24VDC-DL-UPL

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	84.0	84.0	84.6	84.6	84.0	84.0	84.0	84.0	83.1	83.1
115°	92.0	92.0	93.0	93.0	92.0	92.0	92.0	92.0	91.1	91.1
117.5°	101.4	101.4	102.4	102.4	101.4	101.4	101.4	101.0	100.5	100.5
120°	110.8	110.8	111.8	111.8	110.8	110.8	110.8	109.9	109.9	109.9
122.5°	122.1	122.1	122.6	122.6	121.6	121.6	121.6	121.2	120.7	120.7
125°	133.4	133.4	133.4	133.4	132.4	132.4	132.4	132.4	131.5	131.5
127.5°	145.1	145.1	145.1	145.1	144.2	144.2	144.2	144.2	143.2	143.2
130°	156.8	156.8	156.8	156.8	155.9	155.9	155.9	155.9	155.0	155.0
132.5°	168.6	168.6	168.6	168.6	168.1	167.6	167.6	167.6	167.2	167.2
135°	180.3	180.3	180.3	180.3	180.3	179.4	179.4	179.4	179.4	179.4
137.5°	191.6	191.6	191.6	191.6	191.6	191.2	190.6	191.2	190.6	191.2
140°	202.9	202.9	202.9	202.9	202.9	202.9	201.9	202.9	201.9	202.9
142.5°	213.7	213.7	213.7	213.7	213.7	213.7	212.7	213.7	213.2	213.7
145°	224.5	224.5	224.5	224.5	224.5	224.5	223.5	224.5	224.5	224.5
147.5°	235.8	235.8	235.8	235.8	235.8	235.8	234.8	235.8	235.3	235.8
150°	247.0	247.0	247.0	247.0	247.0	247.0	246.1	247.0	246.1	247.0
152.5°	256.0	256.0	256.0	256.4	256.0	256.0	255.5	256.4	255.5	256.0
155°	264.9	264.9	264.9	265.8	264.9	264.9	264.9	265.8	264.9	264.9
157.5°	272.4	272.4	272.4	273.3	272.4	272.4	272.4	273.3	272.4	272.4
160°	279.9	279.9	279.9	280.8	279.9	279.9	279.9	280.8	279.9	279.9
162.5°	286.0	286.0	286.0	286.9	286.0	286.0	286.0	286.9	286.0	286.0
165°	292.1	292.1	292.1	293.0	292.1	292.1	292.1	293.0	292.1	292.1
167.5°	295.8	295.8	295.8	296.8	295.8	295.8	295.8	296.8	295.8	295.8
170°	299.6	299.6	299.6	300.5	299.6	299.6	299.6	300.5	299.6	299.6
172.5°	302.0	302.0	302.0	302.8	302.0	302.4	302.0	302.8	302.0	302.0
175°	304.3	304.3	304.3	305.2	304.3	305.2	304.3	305.2	304.3	304.3
177.5°	305.2	305.2	305.2	305.7	305.2	305.7	305.2	305.7	305.2	305.2
180°	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2

(END OF REPORT)