

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: METALUX

Report Number: P601047

Luminaire Tested: UHBS-18-MV-L850-U-CDL-120V

Issue Date: 8/28/2023

Test Information

Test Method: LM-79-2019
Report Number: P601047
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ()
Test Lab: INNOVATION CENTER
Issue Date: 8/28/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: UHBS-18-MV-L850-U-CDL-120V
Description: UHB Round Select with Clear Reflector with Lens Cover at 120V 18000 LUMEN SETTING AND 5000K
Light Source: -
Ballast/Driver: Electrical Driver

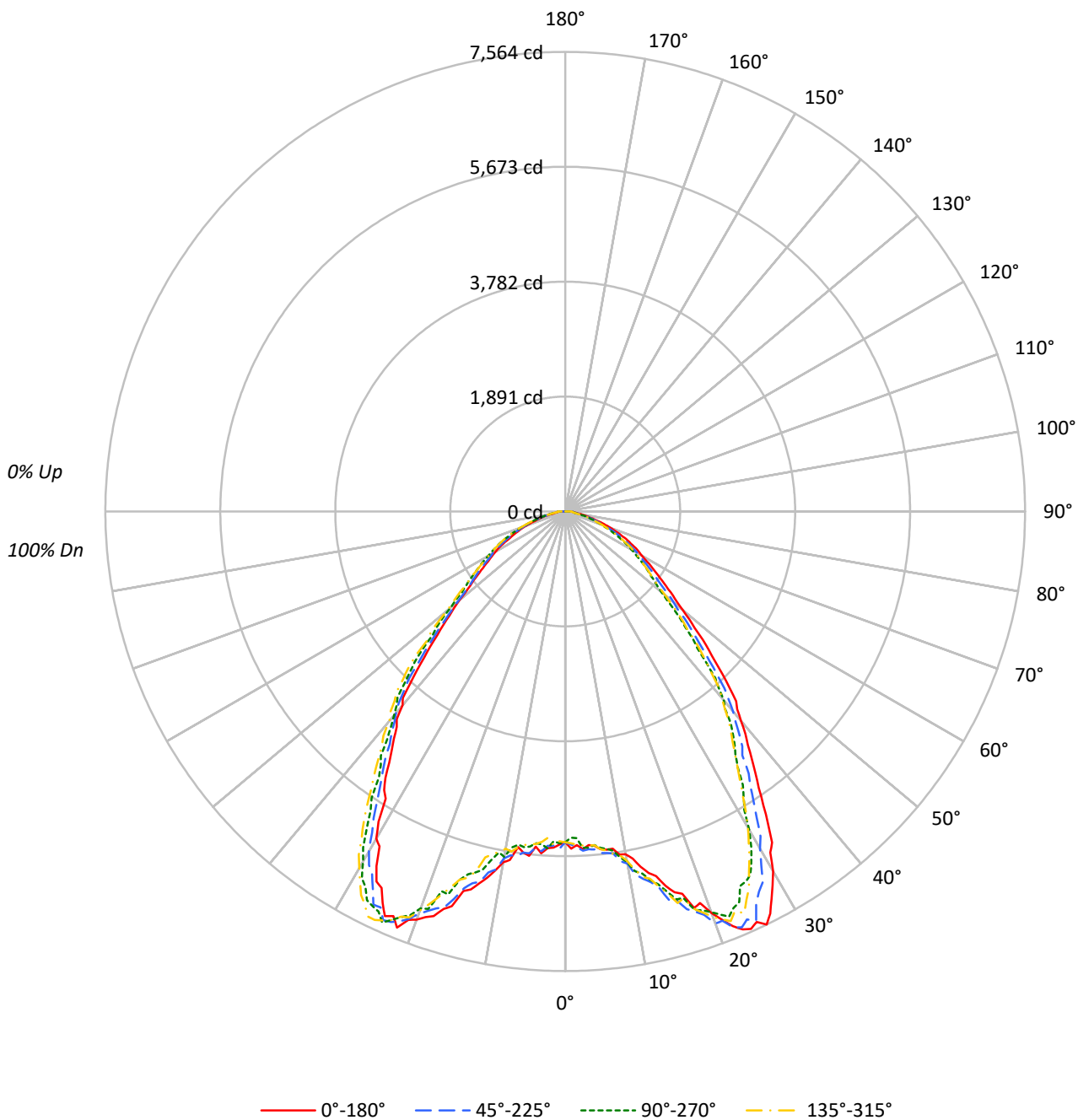
Summary

Lumens per Lamp: 14713 (1 lamp)
Luminaire Lumens: 14713.0 lumens
Efficiency: 100.0%
Efficacy: 117.9 lumens/watt
Spacing Criteria (0/90/45): 1.45 / 1.42 / 1.35
Luminous Opening: Circular (Dia: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 124.8
Input Voltage (V): 120
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: 24 FT

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CATALOG NUMBER: UHBS-18-MV-L850-U-CDL-120V

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76
3	94	85	78	73	92	84	77	72	81	75	71	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60	58
5	81	70	62	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	47	43	41
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	34
10	58	45	38	33	57	45	38	33	44	37	33	43	37	33	42	37	33	31

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	74613	74613	74613	74613
5°	76016	75803	76179	75396
10°	79723	81524	81573	80330
15°	90530	91933	91724	87693
20°	102550	102391	104262	101413
25°	112733	102875	107489	109856
30°	108248	95796	98343	105176
35°	92904	81658	84373	89339
40°	80526	72607	74461	78257
45°	67439	57808	60849	67866
50°	53683	44227	48354	52337
55°	45511	38754	40309	44632
60°	40002	34696	36302	40057
65°	36875	30201	31602	36538
70°	31900	25413	27128	30919
75°	25925	20906	21843	25677
80°	20260	15643	16543	20607
85°	22172	20081	21040	22439

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 240°
 Vertical Angle: 89°
 Luminance: 91093 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	537.1	3.7	3.7
10°-20°	1842.1	12.5	12.5
20°-30°	3261.0	22.2	22.2
30°-40°	3286.9	22.3	22.3
40°-50°	2528.7	17.2	17.2
50°-60°	1594.6	10.8	10.8
60°-70°	1029.4	7.0	7.0
70°-80°	474.5	3.2	3.2
80°-90°	158.7	1.1	1.1
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	5640.2	38.3	38.3
0°-40°	8927.1	60.7	60.7
0°-60°	13050.4	88.7	88.7
0°-90°	14713.0	100.0	100.0
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	14713.0	100.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	5444	5444	5444	5444	5444	
5°	5526	5510	5537	5480	5526	536
15°	6380	6479	6465	6181	6380	1824
25°	7455	6803	7108	7265	7455	3385
35°	5553	4881	5043	5340	5553	3497
45°	3480	2983	3140	3502	3480	2698
55°	1905	1622	1687	1868	1905	1723
65°	1137	931	974	1127	1137	1121
75°	490	395	412	485	490	531
85°	141	128	134	143	141	168
90°	111	107	108	110	111	



TEST NUMBER: P601047

CATALOG NUMBER: UHBS-18-MV-L850-U-CDL-120V

CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	5444.2	5444.2	5444.2	5444.2	5444.2	5444.2	5444.2	5444.2	5444.2	5444.2	5444.2
1°	5549.9	5464.0	5503.1	5369.0	5458.1	5467.2	5484.0	5557.4	5555.4	5460.8	5427.8
2°	5496.1	5600.9	5447.8	5380.9	5449.9	5519.7	5535.6	5455.5	5551.5	5429.4	5500.4
3°	5565.8	5634.9	5550.8	5544.9	5480.6	5534.3	5550.9	5521.0	5502.2	5551.6	5367.7
4°	5502.2	5533.8	5612.3	5544.7	5432.9	5578.5	5637.6	5620.4	5593.2	5495.7	5424.1
5°	5525.5	5579.6	5591.5	5510.0	5451.1	5582.2	5537.3	5544.7	5567.8	5480.4	5471.3
6°	5588.0	5683.5	5618.1	5567.4	5570.7	5607.8	5697.4	5636.1	5675.5	5545.1	5480.7
7°	5610.3	5613.1	5715.2	5596.0	5576.4	5667.7	5653.6	5621.6	5693.0	5565.7	5488.0
8°	5606.1	5673.2	5697.6	5636.9	5680.8	5709.0	5579.8	5730.9	5718.7	5537.8	5555.5
9°	5717.4	5810.4	5849.7	5760.6	5715.7	5743.2	5808.3	5780.2	5681.6	5597.8	5648.2
10°	5728.7	5795.3	5970.0	5858.1	5810.5	5861.7	5861.6	5816.5	5781.6	5772.3	5642.2
11°	5820.9	6055.2	6138.3	6033.9	5941.8	6066.1	6020.4	6051.4	5958.6	5716.3	5633.5
12°	5981.4	6172.7	6189.3	6092.1	6132.5	6172.8	6161.3	6080.9	6065.0	5870.2	5646.4
13°	6108.5	6242.8	6284.0	6223.5	6172.0	6230.8	6281.4	6294.3	6216.3	6053.7	5834.1
14°	6183.0	6321.8	6431.2	6326.3	6359.1	6365.1	6412.5	6330.9	6279.2	6124.7	6149.5
15°	6380.5	6584.6	6672.4	6479.4	6512.2	6486.8	6464.7	6397.1	6440.7	6180.6	6218.3
16°	6519.6	6623.8	6689.6	6644.4	6724.1	6686.3	6756.2	6650.5	6614.1	6308.9	6186.5
17°	6581.1	6815.0	6872.0	6651.4	6651.5	6672.4	6842.3	6898.1	6731.9	6592.1	6487.6
18°	6861.6	6989.8	6865.9	6896.6	6840.0	6918.3	7002.1	6902.7	6835.6	6572.1	6583.0
19°	6815.2	7035.6	7005.2	6939.8	7007.4	6963.1	7060.2	6986.5	6920.3	6918.1	6782.8
20°	7031.4	7268.7	7170.3	7020.5	7044.2	7156.5	7148.8	7044.8	7057.3	6953.4	6961.4
21°	7197.3	7241.5	7187.0	7104.8	7215.8	7170.2	7201.4	7206.5	7158.3	7113.7	7140.0
22°	7361.5	7446.3	7327.2	7194.2	7241.2	7302.5	7387.0	7272.1	7279.1	7199.2	7186.6
23°	7472.7	7497.5	7373.0	7086.7	7150.5	7133.8	7232.7	7265.9	7414.4	7304.4	7230.3
24°	7519.5	7436.0	7266.3	7038.1	7215.4	7263.0	7291.6	7315.6	7408.1	7405.1	7340.5
25°	7455.0	7471.7	7392.8	6803.1	7025.4	7083.5	7108.2	7119.9	7261.8	7264.7	7476.6
26°	7563.6	7338.8	6990.1	6777.7	6852.5	6947.3	6893.4	7094.3	7302.0	7227.4	7296.6
27°	7426.9	7115.0	6934.4	6708.1	6627.5	6689.8	6835.5	6887.0	7047.1	7180.1	7258.9
28°	7226.0	7066.1	6768.5	6523.0	6413.1	6486.0	6612.4	6679.0	6851.7	6998.9	7072.9
29°	7034.9	6816.1	6498.6	6314.4	6236.5	6225.4	6303.2	6496.8	6814.2	6898.1	6876.2
30°	6840.2	6476.6	6348.9	6053.4	5943.3	6088.2	6214.3	6264.1	6649.8	6646.1	6728.2
31°	6550.9	6332.1	6145.5	5717.4	5716.4	5822.1	5959.2	6117.8	6221.2	6455.1	6534.7
32°	6423.3	6123.7	5762.2	5539.0	5522.8	5511.4	5572.4	5739.5	6149.9	6158.3	6256.1
33°	6124.8	5806.9	5571.2	5365.8	5212.9	5340.7	5468.6	5563.4	5793.0	5879.0	5956.2
34°	5831.9	5540.9	5348.5	5074.1	5047.1	5085.3	5289.8	5330.1	5540.3	5693.8	5805.5
35°	5552.9	5360.4	5169.6	4880.7	4797.4	4940.2	5043.0	5123.4	5344.9	5339.8	5475.8
36°	5320.8	5041.3	4876.4	4743.4	4608.4	4753.6	4848.1	4888.0	5193.0	5160.4	5346.2
37°	5097.2	4939.3	4742.0	4580.1	4472.2	4584.1	4679.9	4664.7	4928.1	5036.9	5011.5
38°	4884.6	4706.5	4587.3	4424.2	4336.3	4385.0	4499.5	4543.0	4733.1	4753.9	4907.7
39°	4708.6	4523.9	4390.1	4170.6	4150.9	4200.2	4401.6	4412.7	4516.2	4551.7	4649.1
40°	4501.0	4372.3	4220.8	4058.4	3939.7	4077.6	4162.0	4264.9	4401.7	4374.2	4477.8
41°	4312.5	4184.2	4020.3	3846.3	3812.6	3919.0	4067.4	4101.3	4248.1	4222.4	4362.8
42°	4201.8	4001.3	3820.2	3689.0	3539.8	3689.2	3814.1	3854.0	4045.0	4124.6	4193.2
43°	3963.8	3774.5	3535.1	3404.5	3363.1	3448.2	3581.8	3655.5	3899.0	3886.3	4026.4
44°	3727.3	3497.6	3340.7	3122.1	3188.9	3272.0	3334.3	3439.4	3560.2	3677.0	3814.6



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	3479.5	3241.2	3145.6	2982.6	2978.2	3094.8	3139.5	3222.4	3339.2	3501.5	3661.8
46°	3285.8	3068.3	2913.6	2753.8	2775.7	2810.7	2921.2	2955.4	3139.8	3261.3	3412.6
47°	3092.0	2922.2	2727.3	2590.7	2607.2	2683.4	2736.6	2793.4	2905.0	2981.0	3031.8
48°	2862.0	2772.6	2518.2	2403.7	2423.8	2555.6	2567.7	2597.9	2690.1	2845.6	2972.8
49°	2705.5	2512.8	2380.2	2216.6	2228.8	2361.7	2425.6	2430.3	2501.0	2658.9	2734.2
50°	2517.8	2397.7	2251.6	2074.3	2092.0	2205.1	2267.9	2253.3	2347.8	2454.7	2492.8
51°	2361.8	2324.0	2088.9	1958.4	1952.7	2057.4	2107.0	2097.4	2198.3	2314.7	2355.6
52°	2248.4	2146.5	1954.5	1867.2	1824.9	1930.0	1981.6	1966.9	2055.4	2156.9	2187.7
53°	2123.2	2039.5	1854.9	1772.0	1741.9	1826.6	1882.3	1878.9	1962.7	2048.6	2051.8
54°	2011.3	1902.6	1779.7	1697.4	1670.4	1757.6	1775.6	1780.9	1882.6	1970.0	1932.7
55°	1904.7	1823.2	1708.9	1621.9	1595.2	1674.4	1687.0	1700.5	1800.0	1867.9	1811.5
56°	1801.1	1722.9	1625.7	1551.9	1511.6	1587.7	1602.0	1618.7	1709.9	1780.9	1720.3
57°	1714.5	1636.4	1542.6	1467.1	1451.8	1518.2	1511.0	1537.1	1615.5	1695.7	1632.2
58°	1627.6	1549.3	1472.5	1395.3	1392.3	1469.3	1449.7	1455.8	1535.3	1625.3	1556.1
59°	1527.1	1479.5	1423.1	1328.4	1332.6	1402.8	1388.6	1403.4	1463.6	1535.0	1471.6
60°	1459.4	1409.9	1345.5	1265.8	1269.0	1336.2	1324.4	1349.1	1392.0	1461.4	1397.2
61°	1398.6	1327.8	1282.9	1205.0	1212.1	1267.4	1262.9	1282.5	1332.2	1388.0	1340.9
62°	1344.7	1258.9	1214.7	1135.9	1148.1	1197.4	1186.7	1217.1	1262.7	1328.5	1270.2
63°	1272.7	1193.8	1146.0	1063.8	1078.1	1115.3	1111.1	1145.9	1197.6	1260.9	1206.4
64°	1200.5	1115.6	1072.4	996.1	1014.8	1046.8	1037.6	1075.5	1132.4	1201.2	1146.2
65°	1137.1	1042.8	1006.4	931.3	944.4	974.8	974.5	1011.3	1067.9	1126.7	1084.9
66°	1072.6	976.5	937.7	870.1	877.3	908.8	913.6	944.3	1000.0	1049.3	1020.1
67°	994.6	898.0	877.0	812.1	813.4	842.4	852.4	877.3	946.1	976.9	955.1
68°	932.5	830.6	809.7	747.5	750.6	775.0	793.8	819.8	880.8	905.8	894.0
69°	861.4	766.4	744.4	683.8	695.6	715.1	733.7	758.5	806.7	839.1	843.3
70°	796.1	706.9	684.4	634.2	645.6	650.6	677.0	702.0	739.6	771.6	783.0
71°	731.3	643.0	632.6	582.7	583.6	589.0	620.4	642.4	677.8	707.3	705.6
72°	672.7	584.4	581.0	530.2	531.7	530.9	561.0	592.1	621.3	640.0	645.7
73°	612.1	527.3	524.6	482.0	474.9	478.2	502.4	536.0	566.5	585.1	590.5
74°	546.5	476.1	475.7	438.0	428.2	430.5	456.1	480.1	515.4	532.7	537.5
75°	489.6	428.5	424.0	394.8	381.4	384.3	412.5	432.8	463.7	484.9	489.2
76°	433.9	388.1	378.1	352.2	338.8	340.7	369.4	390.1	415.6	437.3	444.0
77°	385.9	347.4	334.8	309.8	297.5	298.8	326.7	348.4	373.6	391.1	400.6
78°	341.9	305.5	294.2	267.4	257.4	256.9	283.6	306.3	327.8	345.2	354.7
79°	299.2	264.9	253.7	230.4	222.0	220.4	243.7	264.2	287.1	299.8	308.9
80°	256.7	231.0	217.7	198.2	190.3	192.6	209.6	226.1	248.3	261.1	263.1
81°	221.0	200.6	188.2	172.9	169.1	170.5	184.9	193.1	213.0	224.1	223.8
82°	190.1	176.9	167.9	156.8	154.8	154.9	167.7	169.7	187.0	194.1	192.0
83°	168.2	162.2	154.9	144.5	140.6	142.7	153.3	154.1	169.1	170.7	169.4
84°	153.1	147.4	144.9	135.4	131.2	133.7	143.2	142.3	156.9	156.6	153.9
85°	141.0	138.0	136.2	127.7	123.5	125.9	133.8	133.0	144.7	142.7	142.8
86°	131.5	129.6	128.3	121.2	117.1	119.0	126.0	125.0	135.3	134.1	133.5
87°	123.3	122.4	121.5	115.9	112.4	113.9	119.8	118.5	127.6	126.8	125.2
88°	116.7	117.9	115.6	111.2	108.9	110.1	115.1	113.5	121.2	120.3	118.4
89°	113.2	115.0	113.0	108.8	106.4	107.0	111.1	109.9	116.0	114.6	113.5



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	111.4	111.6	110.2	107.2	104.8	104.7	108.2	107.3	111.8	110.0	110.9



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CANDELA DISTRIBUTION (continued):

	330°	360°
0°	5444.2	5444.2
1°	5427.6	5549.9
2°	5495.8	5496.1
3°	5384.7	5565.8
4°	5472.4	5502.2
5°	5516.4	5525.5
6°	5527.1	5588.0
7°	5579.7	5610.3
8°	5611.7	5606.1
9°	5686.8	5717.4
10°	5631.4	5728.7
11°	5788.6	5820.9
12°	5882.5	5981.4
13°	5852.1	6108.5
14°	6081.3	6183.0
15°	6271.7	6380.5
16°	6426.0	6519.6
17°	6460.5	6581.1
18°	6715.2	6861.6
19°	6864.3	6815.2
20°	7024.0	7031.4
21°	7175.7	7197.3
22°	7197.5	7361.5
23°	7374.4	7472.7
24°	7398.9	7519.5
25°	7362.5	7455.0
26°	7532.5	7563.6
27°	7256.4	7426.9
28°	7230.1	7226.0
29°	7048.4	7034.9
30°	6817.0	6840.2
31°	6650.0	6550.9
32°	6371.9	6423.3
33°	6211.6	6124.8
34°	5841.3	5831.9
35°	5630.6	5552.9
36°	5335.6	5320.8
37°	5213.8	5097.2
38°	4871.8	4884.6
39°	4858.8	4708.6
40°	4518.5	4501.0
41°	4420.3	4312.5
42°	4193.4	4201.8
43°	4131.1	3963.8
44°	3857.6	3727.3



TEST NUMBER: P601047
 CATALOG NUMBER: UHBS-18-MV-L850-U-CDL-120V

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	3654.5	3479.5
46°	3419.6	3285.8
47°	3142.5	3092.0
48°	2975.2	2862.0
49°	2796.1	2705.5
50°	2575.8	2517.8
51°	2415.0	2361.8
52°	2308.5	2248.4
53°	2164.7	2123.2
54°	2043.2	2011.3
55°	1942.1	1904.7
56°	1844.5	1801.1
57°	1744.7	1714.5
58°	1648.3	1627.6
59°	1565.3	1527.1
60°	1502.1	1459.4
61°	1437.3	1398.6
62°	1372.3	1344.7
63°	1301.7	1272.7
64°	1234.0	1200.5
65°	1162.8	1137.1
66°	1091.8	1072.6
67°	1023.3	994.6
68°	942.2	932.5
69°	865.3	861.4
70°	801.5	796.1
71°	728.5	731.3
72°	662.8	672.7
73°	596.6	612.1
74°	542.1	546.5
75°	477.9	489.6
76°	429.9	433.9
77°	383.3	385.9
78°	336.8	341.9
79°	295.0	299.2
80°	251.8	256.7
81°	215.0	221.0
82°	187.1	190.1
83°	164.3	168.2
84°	148.0	153.1
85°	137.3	141.0
86°	128.4	131.5
87°	121.3	123.3
88°	115.1	116.7
89°	111.6	113.2



TEST NUMBER: P601047
CATALOG NUMBER: UHBS-18-MV-L850-U-CDL-120V

CANDELA DISTRIBUTION (continued):

	330°	360°
90°	110.0	111.4

(END OF REPORT)