

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: P600903

Luminaire Tested: UHBS-18-MV-L840-U 120V

Issue Date: 8/26/2022

Test Information

Test Method: LM-79-2019
Report Number: P600903
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ()
Test Lab: INNOVATION CENTER
Issue Date: 8/26/2022
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: UHBS-18-MV-L840-U 120V
Description: UHB Round Select AT 18000 LUMEN SETTING AND 4000K
Light Source: -
Ballast/Driver: -

Summary

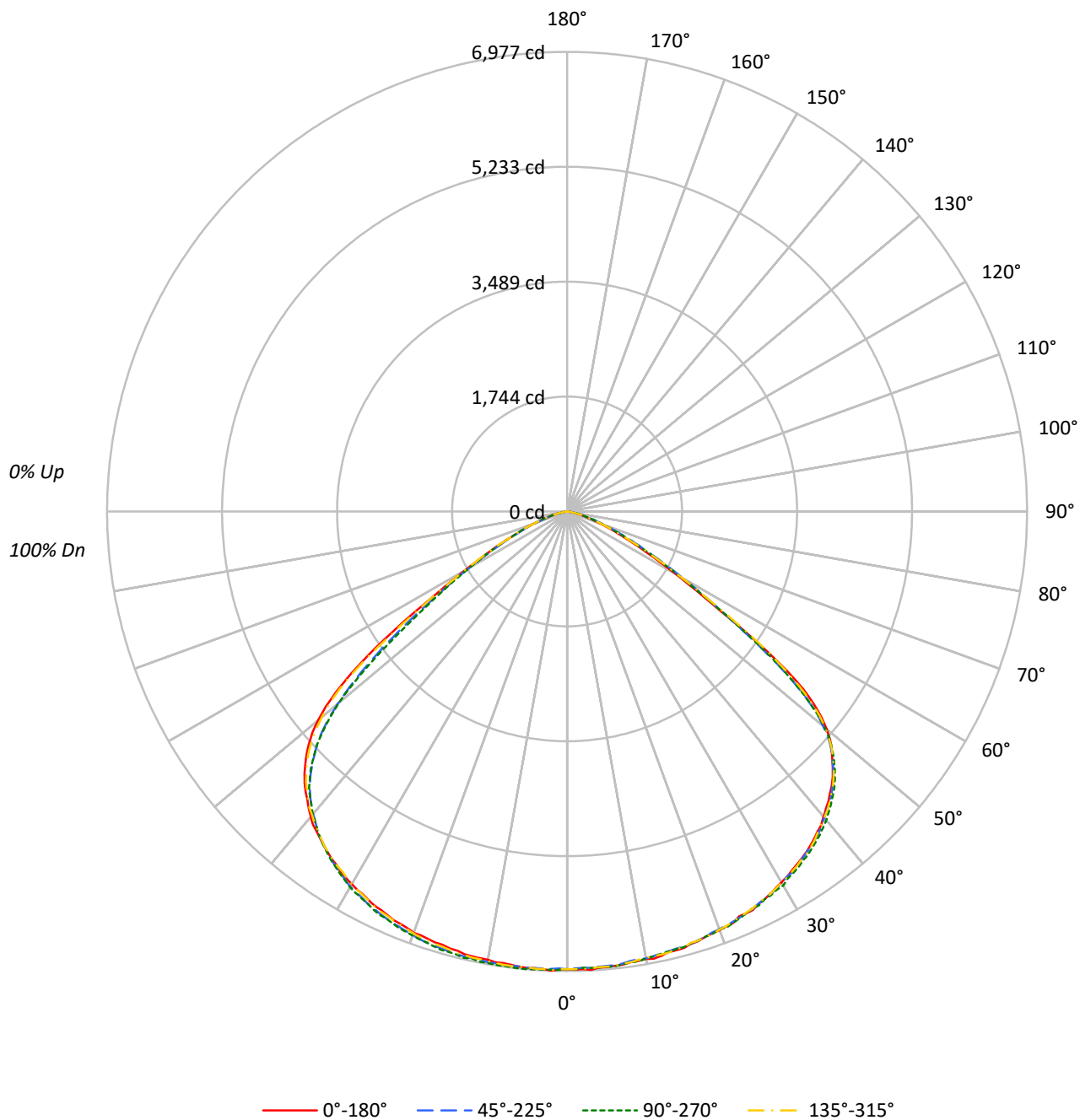
Lumens per Lamp: 18353 (1 lamp)
Luminaire Lumens: 18353.0 lumens
Efficiency: 100.0%
Efficacy: 152.8 lumens/watt
Spacing Criteria (0/90/45): 1.4 / 1.41 / 1.5
Luminous Opening: Circular (Dia: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 120.1
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: 24 FT



TEST NUMBER: P600903
CATALOG NUMBER: UHBS-18-MV-L840-U 120V

Luminous Intensity Polar Plot



TEST NUMBER: P600903

CATALOG NUMBER: UHBS-18-MV-L840-U 120V

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	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		100
1	111	107	104	100	108	105	102	99	101	98	96		97	95	93		88
2	102	95	89	85	100	93	88	84	90	86	82		87	83	80		76
3	94	85	78	72	92	83	77	71	80	75	70		78	73	69		66
4	87	76	68	62	84	75	67	61	72	66	61		70	64	60		57
5	80	68	60	54	78	67	59	53	65	58	53		63	57	52		50
6	74	61	53	47	72	61	53	47	59	52	47		57	51	46		44
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		39
8	64	51	43	37	62	50	42	37	49	42	37		48	41	37		35
9	59	47	39	33	58	46	38	33	45	38	33		44	38	33		31
10	56	43	35	30	54	42	35	30	41	35	30		41	34	30		28

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	95231	95231	95231	95231
5°	95508	95467	95669	95939
10°	95986	95864	96175	96856
15°	97308	97129	97465	98237
20°	98671	98490	99251	99918
25°	100947	100562	100949	102098
30°	102924	103774	103348	104226
35°	105712	106518	105745	105969
40°	108233	109419	108228	107355
45°	110461	111372	109166	106430
50°	109557	108706	105110	96425
55°	88661	85777	80745	68098
60°	52353	54771	48757	46553
65°	33243	35941	31803	31664
70°	21206	23774	20456	21274
75°	12947	14975	12539	12889
80°	6772	7687	5525	4585
85°	1054	1462	755	629

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 111372 cd/sqm

TEST NUMBER: P600903
 CATALOG NUMBER: UHBS-18-MV-L840-U 120V

ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	661.9	3.6	3.6
10°-20°	1943.8	10.6	10.6
20°-30°	3086.2	16.8	16.8
30°-40°	3961.3	21.6	21.6
40°-50°	4308.5	23.5	23.5
50°-60°	3007.9	16.4	16.4
60°-70°	1078.5	5.9	5.9
70°-80°	287.4	1.6	1.6
80°-90°	17.5	0.1	0.1
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°	5691.9	31.0	31.0
0°-40°	9653.3	52.6	52.6
0°-60°	16969.6	92.5	92.5
0°-90°	18353.0	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°	18353.0	100.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	6949	6949	6949	6949	6949	
5°	6942	6939	6954	6974	6942	661
15°	6858	6846	6869	6924	6858	1938
25°	6676	6650	6676	6752	6676	3074
35°	6318	6367	6320	6334	6318	3955
45°	5699	5746	5632	5491	5699	4375
55°	3711	3590	3379	2850	3711	3217
65°	1025	1108	981	976	1025	1074
75°	244	283	237	243	244	281
85°	7	9	5	4	7	20
90°	2	3	2	1	2	

TEST NUMBER: P600903

CATALOG NUMBER: UHBS-18-MV-L840-U 120V

CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	6948.6	6948.6	6948.6	6948.6	6948.6	6948.6	6948.6	6948.6	6948.6	6948.6	6948.6
1°	6956.0	6949.0	6925.8	6955.4	6955.5	6940.5	6954.9	6937.9	6940.9	6960.5	6944.7
2°	6951.9	6930.8	6939.3	6934.8	6946.4	6951.1	6975.5	6944.9	6951.8	6961.5	6965.1
3°	6969.8	6932.4	6937.1	6937.8	6942.9	6946.4	6954.8	6937.2	6959.1	6963.3	6950.7
4°	6940.9	6925.8	6925.6	6940.3	6929.5	6936.4	6948.7	6948.0	6952.2	6968.9	6959.1
5°	6942.3	6934.4	6918.1	6939.3	6922.3	6950.4	6954.0	6944.4	6958.6	6973.6	6952.2
6°	6937.1	6936.8	6920.7	6942.7	6934.3	6941.4	6949.0	6940.8	6945.0	6977.1	6953.4
7°	6932.2	6919.2	6907.0	6929.7	6919.0	6918.3	6934.9	6940.4	6962.1	6969.6	6952.3
8°	6912.0	6892.3	6891.3	6907.5	6904.7	6919.1	6924.3	6960.6	6951.2	6964.7	6957.9
9°	6907.7	6886.5	6886.1	6915.0	6892.8	6895.2	6929.4	6941.5	6948.9	6966.5	6948.4
10°	6897.3	6900.1	6879.7	6888.5	6878.5	6889.2	6910.9	6934.1	6958.5	6959.8	6932.0
11°	6916.4	6888.1	6868.6	6880.6	6874.4	6887.9	6909.1	6926.5	6945.8	6962.5	6939.6
12°	6895.9	6857.8	6857.8	6866.8	6868.8	6881.8	6906.9	6935.3	6930.2	6938.1	6935.8
13°	6861.8	6852.7	6852.5	6855.2	6872.8	6869.3	6899.0	6931.6	6932.4	6956.0	6927.7
14°	6866.1	6840.8	6842.6	6848.4	6846.9	6850.2	6871.3	6919.7	6933.7	6933.3	6925.2
15°	6858.2	6832.1	6838.5	6845.6	6840.1	6858.4	6869.3	6911.3	6918.7	6923.7	6914.8
16°	6827.5	6832.6	6820.1	6820.9	6810.4	6811.3	6843.6	6911.0	6897.2	6924.0	6893.6
17°	6818.6	6812.7	6797.7	6814.9	6799.9	6822.4	6842.7	6887.6	6900.6	6904.0	6894.3
18°	6791.2	6782.0	6789.9	6787.9	6790.7	6793.4	6823.0	6869.9	6903.2	6881.0	6846.2
19°	6773.6	6768.6	6755.5	6778.9	6773.1	6781.7	6805.5	6849.6	6873.1	6871.4	6861.7
20°	6765.4	6752.9	6742.0	6753.0	6753.1	6761.5	6805.2	6838.9	6854.1	6850.9	6843.7
21°	6745.1	6735.3	6742.3	6762.6	6730.9	6752.5	6772.1	6806.2	6837.6	6833.2	6808.2
22°	6734.9	6714.3	6716.9	6733.6	6701.0	6719.2	6752.2	6792.7	6805.8	6818.9	6778.2
23°	6678.2	6698.5	6696.3	6705.5	6689.3	6706.2	6738.6	6787.0	6787.6	6786.6	6769.8
24°	6678.8	6685.3	6676.3	6682.3	6662.3	6678.2	6702.5	6736.8	6778.0	6759.2	6731.1
25°	6675.6	6641.9	6675.2	6650.1	6654.5	6649.3	6675.7	6711.6	6751.2	6751.7	6716.5
26°	6625.4	6623.7	6623.7	6650.5	6606.4	6624.8	6657.4	6693.3	6699.8	6716.2	6701.2
27°	6605.7	6597.7	6593.8	6606.7	6584.6	6600.1	6625.6	6673.7	6678.0	6674.7	6649.6
28°	6573.3	6571.5	6584.8	6594.5	6574.6	6576.9	6587.6	6651.2	6623.5	6646.8	6622.6
29°	6534.1	6530.7	6563.8	6565.6	6533.2	6542.4	6564.1	6606.2	6610.5	6618.9	6578.2
30°	6503.8	6499.5	6524.4	6557.5	6501.7	6512.1	6530.6	6577.0	6575.9	6586.1	6546.1
31°	6470.0	6468.2	6477.7	6499.1	6481.8	6482.7	6499.7	6531.7	6523.7	6535.9	6508.7
32°	6432.1	6457.0	6454.2	6473.6	6450.6	6438.6	6469.4	6477.1	6488.0	6492.6	6467.8
33°	6394.6	6412.3	6407.7	6443.3	6420.8	6398.9	6406.6	6420.7	6447.1	6440.9	6422.3
34°	6357.0	6369.0	6365.3	6393.0	6373.9	6360.5	6372.9	6398.5	6378.8	6391.8	6364.3
35°	6318.4	6306.4	6354.5	6366.6	6357.2	6324.6	6320.4	6342.5	6320.3	6333.8	6324.4
36°	6273.2	6272.4	6290.6	6318.5	6295.5	6285.9	6272.7	6264.7	6271.3	6277.2	6275.3
37°	6225.7	6218.7	6269.3	6274.7	6252.0	6240.9	6219.3	6227.5	6201.3	6216.7	6210.1
38°	6169.5	6184.5	6207.5	6227.8	6182.0	6176.9	6167.3	6162.4	6127.8	6148.0	6146.2
39°	6124.6	6123.5	6156.1	6172.9	6136.5	6120.2	6119.9	6075.5	6053.6	6069.4	6094.4
40°	6049.7	6059.7	6076.5	6116.0	6083.9	6056.4	6049.4	6007.8	5973.1	6000.6	6001.9
41°	5984.6	5990.8	6024.0	6048.9	6024.3	6006.7	5975.3	5935.4	5890.3	5905.8	5942.2
42°	5922.4	5925.9	5958.0	5981.9	5955.1	5935.8	5887.7	5854.7	5793.8	5826.2	5851.1
43°	5848.5	5863.9	5897.5	5907.0	5872.2	5876.0	5815.7	5754.0	5690.9	5737.7	5766.4
44°	5780.6	5774.9	5819.9	5833.0	5819.9	5790.6	5730.6	5648.4	5566.3	5614.9	5670.0

TEST NUMBER: P600903

CATALOG NUMBER: UHBS-18-MV-L840-U 120V

CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	5699.2	5699.6	5717.4	5746.2	5725.8	5701.6	5632.4	5523.3	5415.7	5491.2	5538.2
46°	5600.3	5587.9	5635.2	5644.0	5634.2	5617.4	5515.3	5380.7	5278.4	5332.0	5426.9
47°	5497.4	5487.9	5516.6	5535.2	5520.2	5508.6	5402.5	5246.2	5123.6	5180.2	5299.0
48°	5399.6	5382.2	5401.7	5415.2	5412.1	5401.8	5266.5	5072.4	4924.1	4981.5	5133.3
49°	5286.3	5253.1	5250.4	5281.4	5276.8	5262.0	5118.1	4874.5	4702.6	4765.5	4951.9
50°	5138.4	5073.9	5075.4	5098.5	5117.2	5108.0	4929.8	4635.9	4436.5	4522.5	4732.3
51°	4963.3	4895.9	4859.8	4885.9	4925.2	4935.8	4704.3	4381.2	4141.8	4210.8	4496.7
52°	4755.7	4633.7	4574.3	4616.9	4692.9	4710.4	4433.3	4086.7	3823.1	3886.8	4211.0
53°	4494.6	4330.5	4262.0	4315.6	4414.1	4414.7	4117.0	3763.9	3491.6	3533.2	3877.9
54°	4146.7	3988.8	3916.3	3964.1	4097.1	4068.0	3759.4	3424.5	3173.5	3175.6	3504.6
55°	3710.6	3555.9	3546.7	3589.9	3752.8	3700.7	3379.3	3071.8	2881.5	2850.0	3127.6
56°	3243.9	3138.8	3187.5	3206.9	3388.0	3273.1	2969.1	2736.6	2595.0	2568.4	2788.1
57°	2792.8	2812.0	2851.0	2831.6	2998.9	2857.7	2594.7	2434.0	2329.8	2327.8	2499.5
58°	2432.5	2525.9	2563.8	2512.7	2626.0	2492.3	2271.7	2180.6	2081.8	2103.2	2230.2
59°	2160.3	2265.1	2292.7	2235.6	2308.9	2203.8	2013.0	1929.7	1886.9	1890.9	1987.6
60°	1910.0	2021.5	2044.2	1998.2	2035.6	1965.8	1778.8	1720.1	1678.9	1698.4	1761.5
61°	1681.1	1799.1	1833.9	1770.2	1787.0	1732.4	1581.8	1532.0	1508.1	1518.2	1574.6
62°	1486.3	1614.5	1622.1	1584.5	1574.7	1547.1	1413.0	1376.4	1340.5	1378.0	1399.7
63°	1310.5	1438.0	1440.5	1404.7	1397.9	1379.5	1256.2	1220.4	1177.9	1241.0	1250.2
64°	1158.9	1264.5	1305.1	1244.1	1230.7	1229.3	1124.4	1092.9	1050.9	1112.6	1109.9
65°	1025.1	1134.8	1161.3	1108.3	1078.5	1089.7	980.7	964.1	951.2	976.4	982.2
66°	905.0	1002.9	1030.3	990.1	945.1	952.5	856.9	852.7	844.2	861.9	878.1
67°	805.8	886.1	913.1	870.7	835.7	836.2	759.9	748.2	745.6	769.7	771.3
68°	701.8	782.1	809.5	768.9	735.8	741.7	669.7	655.5	656.3	684.9	683.2
69°	611.3	686.9	709.9	676.9	648.7	651.2	588.3	572.9	572.6	606.1	606.0
70°	529.2	602.7	619.0	593.3	570.2	570.9	510.5	500.2	498.4	530.9	529.1
71°	458.7	526.9	543.8	516.8	496.8	492.8	442.5	432.6	431.9	461.3	460.1
72°	397.3	459.2	471.2	446.6	430.1	425.8	380.9	370.7	370.5	396.5	397.3
73°	341.4	394.9	406.9	388.3	368.6	364.5	327.7	318.2	316.7	340.5	341.5
74°	291.3	336.1	348.6	335.0	314.9	308.6	280.3	267.3	267.8	290.6	288.2
75°	244.5	284.9	298.5	282.8	264.4	257.4	236.8	224.0	223.5	243.4	240.3
76°	206.0	238.2	250.8	236.8	220.2	213.8	196.7	185.6	183.6	201.4	195.6
77°	171.1	197.6	209.1	196.8	181.7	176.1	162.4	149.3	147.7	164.4	157.3
78°	139.8	161.5	172.1	160.5	146.1	142.2	128.7	115.0	112.6	129.8	117.1
79°	112.3	127.1	137.4	127.5	113.5	111.5	99.2	84.2	77.7	93.3	82.2
80°	85.8	96.5	106.1	97.4	84.4	83.0	70.0	56.4	48.5	58.1	57.1
81°	59.8	68.9	76.5	68.3	59.9	55.5	41.3	31.9	24.6	28.0	34.2
82°	34.9	42.3	48.8	40.8	35.8	29.7	20.3	16.2	14.0	16.1	18.4
83°	17.5	23.0	25.7	22.2	19.8	17.0	12.5	10.8	9.2	9.7	11.4
84°	11.0	13.4	15.3	14.4	13.1	11.0	7.6	6.6	5.9	5.9	6.8
85°	6.7	8.2	9.7	9.3	8.3	6.4	4.8	4.5	4.2	4.0	4.2
86°	4.2	4.8	5.7	5.9	5.1	4.4	3.7	3.4	3.3	3.1	3.2
87°	3.4	3.7	4.0	4.2	3.9	3.5	3.2	3.0	2.9	2.7	2.8
88°	3.0	3.1	3.2	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.4
89°	2.7	2.7	2.8	3.1	3.0	2.9	2.4	1.9	1.7	1.5	1.8



TEST NUMBER: P600903
CATALOG NUMBER: UHBS-18-MV-L840-U 120V

CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	1.9	2.3	2.5	2.7	2.5	2.0	1.7	1.8	1.8	1.4	1.4

TEST NUMBER: P600903

CATALOG NUMBER: UHBS-18-MV-L840-U 120V

CANDELA DISTRIBUTION (continued):

	330°	360°
0°	6948.6	6948.6
1°	6947.8	6956.0
2°	6979.6	6951.9
3°	6960.5	6969.8
4°	6953.9	6940.9
5°	6944.6	6942.3
6°	6948.5	6937.1
7°	6954.5	6932.2
8°	6940.4	6912.0
9°	6927.1	6907.7
10°	6925.2	6897.3
11°	6910.1	6916.4
12°	6913.4	6895.9
13°	6897.4	6861.8
14°	6897.0	6866.1
15°	6863.0	6858.2
16°	6849.2	6827.5
17°	6835.4	6818.6
18°	6840.5	6791.2
19°	6810.1	6773.6
20°	6789.7	6765.4
21°	6765.4	6745.1
22°	6745.9	6734.9
23°	6721.3	6678.2
24°	6696.6	6678.8
25°	6688.0	6675.6
26°	6634.7	6625.4
27°	6605.5	6605.7
28°	6573.1	6573.3
29°	6549.9	6534.1
30°	6513.8	6503.8
31°	6473.8	6470.0
32°	6413.7	6432.1
33°	6398.7	6394.6
34°	6368.6	6357.0
35°	6306.1	6318.4
36°	6261.3	6273.2
37°	6200.0	6225.7
38°	6138.1	6169.5
39°	6082.5	6124.6
40°	6028.6	6049.7
41°	5975.2	5984.6
42°	5891.6	5922.4
43°	5808.6	5848.5
44°	5733.4	5780.6

TEST NUMBER: P600903
 CATALOG NUMBER: UHBS-18-MV-L840-U 120V

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	5646.4	5699.2
46°	5543.5	5600.3
47°	5415.2	5497.4
48°	5300.6	5399.6
49°	5130.8	5286.3
50°	4980.9	5138.4
51°	4787.6	4963.3
52°	4547.5	4755.7
53°	4240.9	4494.6
54°	3852.2	4146.7
55°	3382.7	3710.6
56°	2969.4	3243.9
57°	2613.1	2792.8
58°	2320.9	2432.5
59°	2063.0	2160.3
60°	1832.8	1910.0
61°	1638.8	1681.1
62°	1460.3	1486.3
63°	1283.0	1310.5
64°	1155.2	1158.9
65°	1010.4	1025.1
66°	891.7	905.0
67°	777.8	805.8
68°	675.4	701.8
69°	597.4	611.3
70°	521.6	529.2
71°	451.0	458.7
72°	389.8	397.3
73°	335.8	341.4
74°	284.7	291.3
75°	238.8	244.5
76°	197.3	206.0
77°	161.9	171.1
78°	128.8	139.8
79°	99.7	112.3
80°	70.0	85.8
81°	41.0	59.8
82°	20.9	34.9
83°	12.9	17.5
84°	8.1	11.0
85°	4.9	6.7
86°	3.6	4.2
87°	3.0	3.4
88°	2.7	3.0
89°	2.3	2.7



TEST NUMBER: P600903
CATALOG NUMBER: UHBS-18-MV-L840-U 120V

CANDELA DISTRIBUTION (continued):

	330°	360°
90°	1.4	1.9

(END OF REPORT)