

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: P601046

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

Issue Date: 8/28/2023

Test Information

Test Method: LM-79-2019
Report Number: P601046
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-L840-U-CDL-120V
Description: UHB Round Select with Clear Reflector with Lens Cover at 120V 18000 LUMEN SETTING AND 4000K
Light Source: -
Ballast/Driver: Electrical Driver

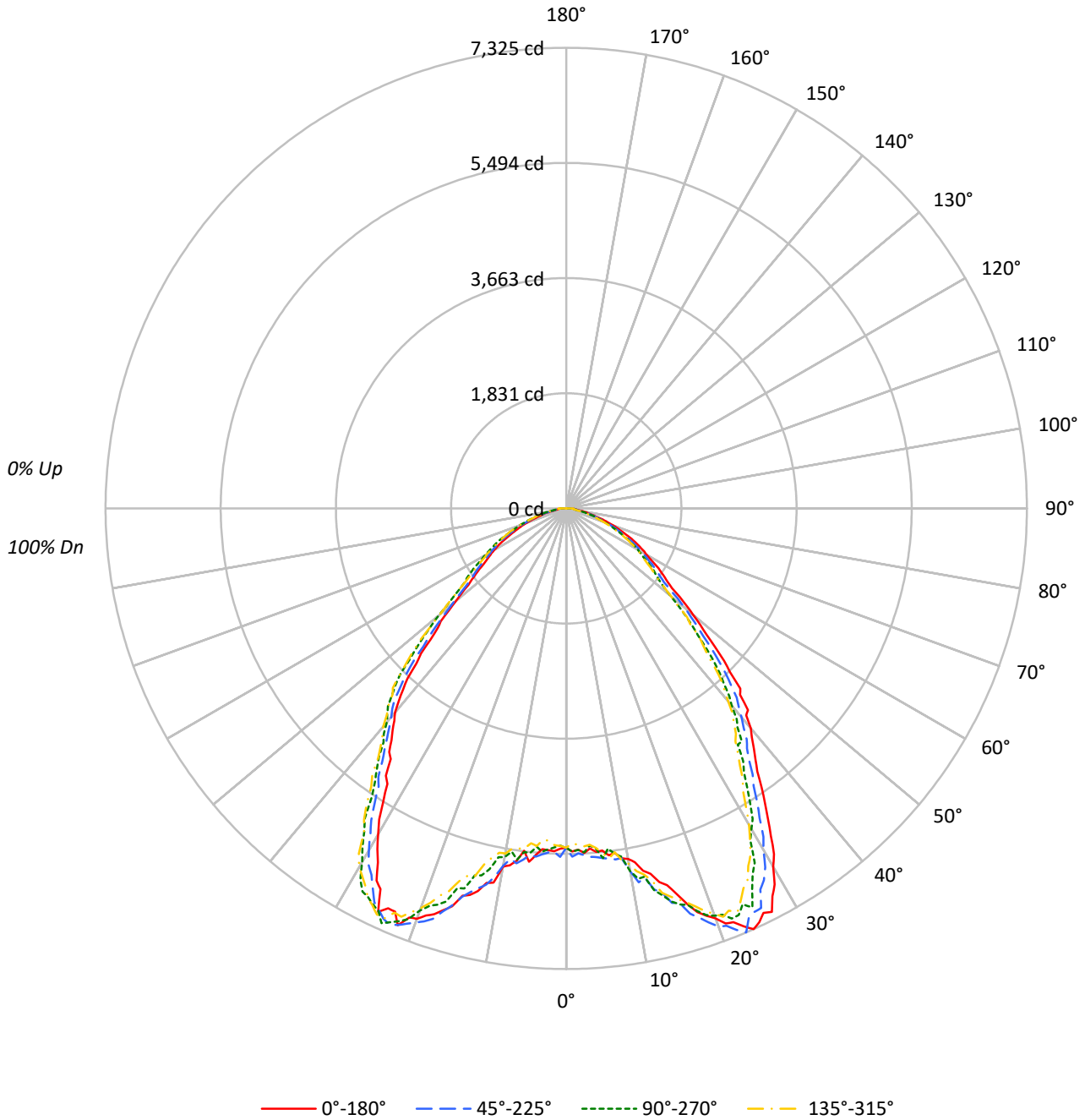
Summary

Lumens per Lamp: 14638 (1 lamp)
Luminaire Lumens: 14638.0 lumens
Efficiency: 100.0%
Efficacy: 118.7 lumens/watt
Spacing Criteria (0/90/45): 1.44 / 1.43 / 1.37
Luminous Opening: Circular (Dia: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 123.3
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-L840-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	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	106	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	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66				
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58				
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51				
6	75	63	55	49	73	62	54	49	60	54	48	59	53	48	57	52	48	46				
7	70	58	50	44	68	57	49	44	55	48	43	54	48	43	53	47	43	41				
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37				
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	39	35	34				
10	58	45	38	33	56	45	37	33	44	37	33	43	37	32	42	36	32	31				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	73961	73961	73961	73961
5°	75446	74795	76094	74269
10°	78774	81471	80483	78333
15°	87996	91831	90469	88769
20°	101144	100526	101309	99280
25°	109810	105868	107049	106877
30°	104214	93176	94646	102611
35°	90696	82081	81419	88648
40°	81699	73166	75735	79352
45°	71420	61235	63226	72447
50°	56263	46308	48779	56422
55°	45661	40068	40223	46070
60°	40561	35943	36146	40808
65°	37151	31589	31463	36515
70°	31804	26647	26459	31259
75°	25708	21853	21213	26344
80°	20962	16258	15848	21475
85°	21684	19137	19813	22046

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 240°
 Vertical Angle: 89°
 Luminance: 88423 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	529.6	3.6	3.6
10°-20°	1813.9	12.4	12.4
20°-30°	3163.8	21.6	21.6
30°-40°	3233.7	22.1	22.1
40°-50°	2616.3	17.9	17.9
50°-60°	1612.8	11.0	11.0
60°-70°	1033.5	7.1	7.1
70°-80°	478.1	3.3	3.3
80°-90°	156.3	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°	5507.3	37.6	37.6
0°-40°	8741.0	59.7	59.7
0°-60°	12970.1	88.6	88.6
0°-90°	14638.0	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°	14638.0	100.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	5397	5397	5397	5397	5397	
5°	5484	5437	5531	5398	5484	528
15°	6202	6472	6376	6256	6202	1800
25°	7262	7001	7079	7068	7262	3278
35°	5421	4906	4866	5298	5421	3415
45°	3685	3159	3262	3738	3685	2809
55°	1911	1677	1683	1928	1911	1750
65°	1146	974	970	1126	1146	1128
75°	486	413	401	498	486	532
85°	138	122	126	140	138	168
90°	105	102	105	106	105	



TEST NUMBER: P601046

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

CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	5396.6	5396.6	5396.6	5396.6	5396.6	5396.6	5396.6	5396.6	5396.6	5396.6	5396.6
1°	5455.2	5509.0	5569.1	5456.2	5415.1	5240.2	5411.3	5501.3	5582.2	5365.0	5408.6
2°	5431.6	5460.8	5515.9	5437.0	5384.0	5319.1	5453.7	5427.7	5506.4	5394.3	5375.2
3°	5486.9	5468.3	5573.9	5474.2	5352.6	5414.1	5442.8	5502.1	5461.3	5428.7	5337.2
4°	5420.6	5536.0	5572.9	5371.7	5340.8	5382.8	5431.2	5535.4	5496.0	5473.1	5355.6
5°	5484.0	5576.3	5554.2	5436.7	5412.6	5426.9	5531.1	5500.0	5618.2	5398.5	5356.1
6°	5468.4	5530.4	5653.0	5594.0	5522.8	5504.0	5649.8	5568.2	5516.4	5511.7	5352.8
7°	5560.8	5577.7	5641.3	5449.2	5600.3	5614.3	5484.6	5627.1	5629.0	5503.6	5452.9
8°	5529.6	5590.4	5682.1	5549.0	5535.7	5511.4	5657.3	5673.8	5726.7	5640.6	5465.6
9°	5632.8	5674.1	5587.0	5607.8	5644.6	5679.8	5746.7	5666.1	5620.6	5527.9	5490.9
10°	5660.5	5791.4	5938.9	5854.3	5762.9	5723.1	5783.3	5770.3	5774.4	5628.8	5614.3
11°	5731.9	6029.2	6085.4	6000.1	5867.7	5888.3	6063.9	6017.9	5917.0	5649.9	5606.5
12°	5893.2	6004.3	5994.0	5988.6	5934.5	5974.0	6086.1	6073.5	6163.5	5865.9	5666.2
13°	5965.3	6173.2	6264.7	6235.2	6109.2	6050.2	6245.5	6240.0	6146.9	5991.1	5880.2
14°	6124.6	6281.4	6319.3	6341.6	6296.6	6303.8	6336.2	6327.7	6250.5	6015.5	6064.9
15°	6201.9	6455.5	6531.4	6472.2	6358.9	6418.7	6376.2	6371.3	6419.4	6256.4	6003.7
16°	6380.3	6515.6	6531.9	6551.2	6424.1	6512.1	6581.6	6528.3	6602.2	6282.0	6164.5
17°	6577.7	6688.0	6793.6	6590.3	6539.4	6560.4	6680.3	6738.2	6665.4	6540.0	6401.3
18°	6750.7	6814.4	6869.9	6727.5	6621.8	6688.0	6787.0	6827.3	6894.6	6625.7	6406.3
19°	6851.2	6967.5	6956.5	6838.9	6702.9	6838.0	6846.0	6936.3	6953.5	6686.1	6638.2
20°	6935.0	7077.6	7076.9	6892.6	6822.3	6893.3	6946.3	7027.5	6993.7	6807.2	6847.5
21°	7070.7	7155.0	7061.1	6920.7	6933.7	6982.1	6967.7	7072.8	7078.6	6993.5	6899.7
22°	7098.7	7225.7	7228.8	7034.7	6900.6	6896.5	7149.6	7138.6	7150.4	7077.8	7023.8
23°	7219.5	7422.2	7227.6	7025.1	6989.3	6957.0	6966.8	7179.4	7202.6	7149.6	6914.6
24°	7323.8	7150.6	7115.4	6891.5	6800.5	6844.9	6962.8	7047.9	7239.2	7220.0	7085.8
25°	7261.7	7210.7	6951.9	7001.0	6634.3	6702.7	7079.1	7090.3	7011.9	7067.7	7196.7
26°	7156.2	7239.2	6900.3	6746.1	6573.4	6580.2	6734.5	6858.7	7072.8	7006.9	7065.1
27°	7201.2	6860.7	6746.9	6530.9	6379.7	6381.2	6643.5	6703.1	6849.3	6939.9	6881.5
28°	6984.9	6824.6	6561.2	6383.6	6204.0	6276.7	6376.9	6405.0	6792.4	6902.6	6740.8
29°	6835.9	6637.4	6418.7	6037.1	6053.4	6010.3	6194.4	6383.1	6581.3	6751.9	6727.6
30°	6585.3	6398.0	6145.3	5887.8	5801.3	5823.9	5980.7	6101.3	6456.0	6484.0	6554.9
31°	6414.7	6236.6	5948.3	5757.5	5502.4	5614.5	5771.6	5889.4	6203.3	6290.0	6368.7
32°	6144.7	5909.3	5702.1	5516.8	5333.1	5278.1	5491.8	5683.0	6019.6	6057.2	6089.4
33°	5894.8	5647.6	5506.2	5275.0	5151.8	5156.1	5223.4	5411.9	5782.6	5879.4	5880.5
34°	5652.5	5398.1	5258.8	5052.6	4967.7	4918.6	5128.5	5191.9	5477.3	5525.1	5666.6
35°	5420.9	5279.5	5049.8	4906.0	4751.0	4773.5	4866.4	5084.8	5328.3	5298.5	5414.9
36°	5168.1	5014.3	4877.6	4642.4	4552.9	4603.7	4789.0	4845.3	5105.3	5123.2	5262.2
37°	4998.8	4850.1	4704.6	4641.2	4486.2	4486.4	4613.9	4690.2	4901.1	4946.6	4987.9
38°	4850.6	4706.8	4620.8	4421.1	4336.1	4313.6	4487.4	4504.0	4747.4	4717.8	4785.3
39°	4687.7	4549.6	4420.5	4310.6	4209.4	4221.4	4342.8	4364.2	4569.7	4611.8	4670.7
40°	4566.6	4404.1	4272.5	4089.6	3961.5	4049.5	4233.2	4180.7	4476.2	4435.4	4527.2
41°	4360.9	4216.1	4141.7	3952.1	3811.4	3875.1	4060.2	4093.2	4341.8	4337.7	4366.6
42°	4319.7	4169.0	3928.6	3736.8	3645.4	3727.5	3874.9	3957.5	4168.6	4237.6	4243.5
43°	4052.0	3917.7	3768.6	3580.6	3458.5	3502.4	3701.1	3735.5	3962.8	4059.4	4003.7
44°	3985.1	3733.9	3565.4	3370.2	3183.0	3292.6	3427.0	3552.5	3765.7	3909.3	3990.3



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	3684.9	3527.5	3331.3	3159.4	3069.0	3084.1	3262.1	3315.6	3529.8	3737.9	3762.4
46°	3491.1	3338.2	3097.8	2915.0	2930.6	2963.6	2999.9	3078.9	3238.9	3466.1	3540.3
47°	3243.6	3044.7	2918.6	2743.0	2669.5	2720.7	2789.7	2876.9	3052.6	3255.8	3326.4
48°	2996.2	2863.5	2765.1	2558.1	2520.6	2649.5	2686.6	2714.4	2814.0	3048.8	3112.5
49°	2828.3	2698.5	2551.3	2369.6	2281.0	2390.3	2469.6	2491.9	2607.6	2844.3	2846.3
50°	2638.8	2568.3	2354.2	2171.9	2113.2	2228.0	2287.8	2285.2	2438.0	2646.3	2611.7
51°	2465.6	2390.8	2172.0	2009.0	1976.2	2078.5	2140.3	2145.0	2256.4	2417.4	2400.1
52°	2291.9	2181.5	1999.2	1898.3	1842.5	1933.5	1975.5	1990.2	2104.1	2259.2	2255.6
53°	2103.6	2024.0	1870.6	1806.4	1759.9	1813.6	1875.2	1856.8	1976.5	2106.5	2092.1
54°	1996.6	1919.5	1788.1	1746.9	1688.0	1742.8	1774.2	1767.7	1900.1	1989.1	1944.7
55°	1911.0	1828.3	1721.5	1676.9	1608.6	1663.5	1683.4	1696.7	1822.6	1928.1	1834.7
56°	1832.4	1753.0	1644.7	1595.9	1517.5	1573.8	1587.5	1618.4	1739.9	1837.3	1738.8
57°	1749.5	1668.9	1565.4	1514.6	1451.4	1493.5	1506.7	1535.6	1652.2	1751.2	1672.8
58°	1651.6	1564.8	1490.8	1434.9	1385.5	1435.0	1445.1	1459.4	1562.0	1656.0	1571.3
59°	1551.4	1496.1	1435.2	1373.1	1323.1	1383.3	1383.7	1393.2	1487.3	1562.1	1470.5
60°	1479.8	1427.5	1363.0	1311.3	1260.5	1314.1	1318.7	1340.9	1412.8	1488.8	1411.2
61°	1420.3	1358.1	1298.6	1248.9	1201.2	1247.9	1253.8	1284.9	1352.1	1415.5	1335.4
62°	1349.8	1270.1	1234.9	1174.8	1132.4	1180.0	1185.3	1214.2	1283.1	1341.0	1275.4
63°	1284.5	1194.0	1162.3	1100.6	1063.1	1103.3	1114.6	1153.2	1210.9	1277.3	1208.9
64°	1220.9	1120.6	1092.0	1035.4	997.6	1032.6	1040.8	1092.4	1150.1	1212.8	1152.0
65°	1145.6	1053.8	1019.7	974.1	933.9	964.3	970.2	1020.2	1079.4	1126.0	1093.6
66°	1064.3	977.9	951.0	911.8	865.3	894.6	902.9	954.2	1015.2	1053.2	1023.2
67°	1000.3	915.7	880.0	843.9	801.4	829.4	843.0	885.9	952.4	974.2	973.0
68°	923.5	844.3	815.1	779.7	745.5	766.4	783.3	824.2	886.0	901.6	919.3
69°	863.0	777.3	754.3	717.9	687.7	700.5	721.1	766.3	817.9	838.0	842.8
70°	793.7	708.1	694.0	665.0	632.5	638.1	660.3	707.4	755.6	780.1	770.5
71°	726.5	650.6	636.2	612.6	580.9	576.3	601.8	646.5	698.7	716.0	707.0
72°	666.6	592.9	580.5	551.8	523.3	519.6	543.0	589.4	636.9	655.6	638.5
73°	608.1	537.9	528.6	503.4	475.2	464.7	491.8	537.2	579.8	602.2	591.2
74°	544.9	481.8	482.2	460.1	424.9	416.0	443.6	485.8	524.9	544.7	546.7
75°	485.5	438.4	432.9	412.7	380.3	369.8	400.6	437.7	476.4	497.5	495.9
76°	435.6	392.6	388.2	364.4	337.3	330.3	359.0	390.5	427.2	446.6	447.0
77°	394.1	358.9	346.2	322.1	296.9	288.7	316.8	347.7	380.6	399.3	398.7
78°	351.1	317.9	304.5	279.9	258.1	247.1	272.4	307.0	336.2	357.9	357.1
79°	308.4	275.3	262.7	242.5	221.7	211.9	232.9	266.4	292.0	317.5	315.2
80°	265.6	238.8	226.4	206.0	189.1	182.4	200.8	227.3	251.9	272.1	273.2
81°	229.9	206.8	194.5	172.3	166.2	161.7	175.0	195.3	217.7	233.2	232.3
82°	199.2	179.8	168.3	152.4	152.1	147.8	159.4	170.6	189.7	200.5	199.2
83°	169.2	161.7	150.9	139.6	138.2	137.0	143.8	154.3	169.2	173.3	171.3
84°	150.6	143.8	139.3	129.9	128.9	128.5	134.0	141.4	153.5	156.7	151.8
85°	137.9	131.9	129.8	121.7	121.5	121.2	126.0	131.4	140.9	140.2	139.0
86°	128.1	123.5	122.1	115.1	115.2	115.1	119.4	123.5	131.5	129.9	128.8
87°	120.4	116.8	116.0	110.1	109.9	110.1	113.9	117.1	124.1	122.2	120.5
88°	114.0	111.5	110.8	106.1	106.0	106.4	109.6	112.0	117.9	115.7	113.9
89°	108.8	107.3	106.9	103.5	103.6	104.1	106.9	108.3	112.6	110.5	108.5



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	105.1	104.5	104.4	102.0	102.6	103.1	105.3	105.9	108.6	106.5	104.4

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CANDELA DISTRIBUTION (continued):

	330°	360°
0°	5396.6	5396.6
1°	5326.4	5455.2
2°	5343.1	5431.6
3°	5243.0	5486.9
4°	5204.3	5420.6
5°	5428.4	5484.0
6°	5352.9	5468.4
7°	5440.0	5560.8
8°	5463.1	5529.6
9°	5463.2	5632.8
10°	5531.5	5660.5
11°	5547.9	5731.9
12°	5693.5	5893.2
13°	5744.1	5965.3
14°	6014.8	6124.6
15°	6091.3	6201.9
16°	6161.8	6380.3
17°	6324.8	6577.7
18°	6527.7	6750.7
19°	6627.7	6851.2
20°	6688.3	6935.0
21°	6854.3	7070.7
22°	6985.0	7098.7
23°	7052.2	7219.5
24°	7209.0	7323.8
25°	7053.3	7261.7
26°	6988.3	7156.2
27°	7017.1	7201.2
28°	6861.9	6984.9
29°	6646.6	6835.9
30°	6619.2	6585.3
31°	6435.2	6414.7
32°	6037.8	6144.7
33°	5922.8	5894.8
34°	5687.6	5652.5
35°	5393.6	5420.9
36°	5231.5	5168.1
37°	4954.6	4998.8
38°	4798.9	4850.6
39°	4612.4	4687.7
40°	4524.0	4566.6
41°	4329.4	4360.9
42°	4214.1	4319.7
43°	4088.4	4052.0
44°	3949.1	3985.1

TEST NUMBER: P601046
CATALOG NUMBER: UHBS-18-MV-L840-U-CDL-120V

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	3724.9	3684.9
46°	3501.9	3491.1
47°	3325.9	3243.6
48°	3098.4	2996.2
49°	2834.9	2828.3
50°	2637.7	2638.8
51°	2451.7	2465.6
52°	2298.6	2291.9
53°	2131.3	2103.6
54°	2006.4	1996.6
55°	1894.4	1911.0
56°	1806.7	1832.4
57°	1716.1	1749.5
58°	1629.1	1651.6
59°	1546.2	1551.4
60°	1498.9	1479.8
61°	1402.7	1420.3
62°	1335.5	1349.8
63°	1278.6	1284.5
64°	1204.1	1220.9
65°	1133.5	1145.6
66°	1082.0	1064.3
67°	1004.8	1000.3
68°	928.6	923.5
69°	855.3	863.0
70°	790.6	793.7
71°	725.6	726.5
72°	657.9	666.6
73°	602.6	608.1
74°	538.0	544.9
75°	485.7	485.5
76°	436.2	435.6
77°	391.1	394.1
78°	351.2	351.1
79°	305.7	308.4
80°	264.3	265.6
81°	226.1	229.9
82°	194.9	199.2
83°	166.4	169.2
84°	147.9	150.6
85°	135.7	137.9
86°	126.2	128.1
87°	118.5	120.4
88°	112.3	114.0
89°	107.5	108.8



TEST NUMBER: P601046
CATALOG NUMBER: UHBS-18-MV-L840-U-CDL-120V

CANDELA DISTRIBUTION (continued):

	330°	360°
90°	103.7	105.1

(END OF REPORT)