

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: P601042

Luminaire Tested: UHBS-12-MV-L840-U-CDL-120V

Issue Date: 8/28/2023

**Test Information**

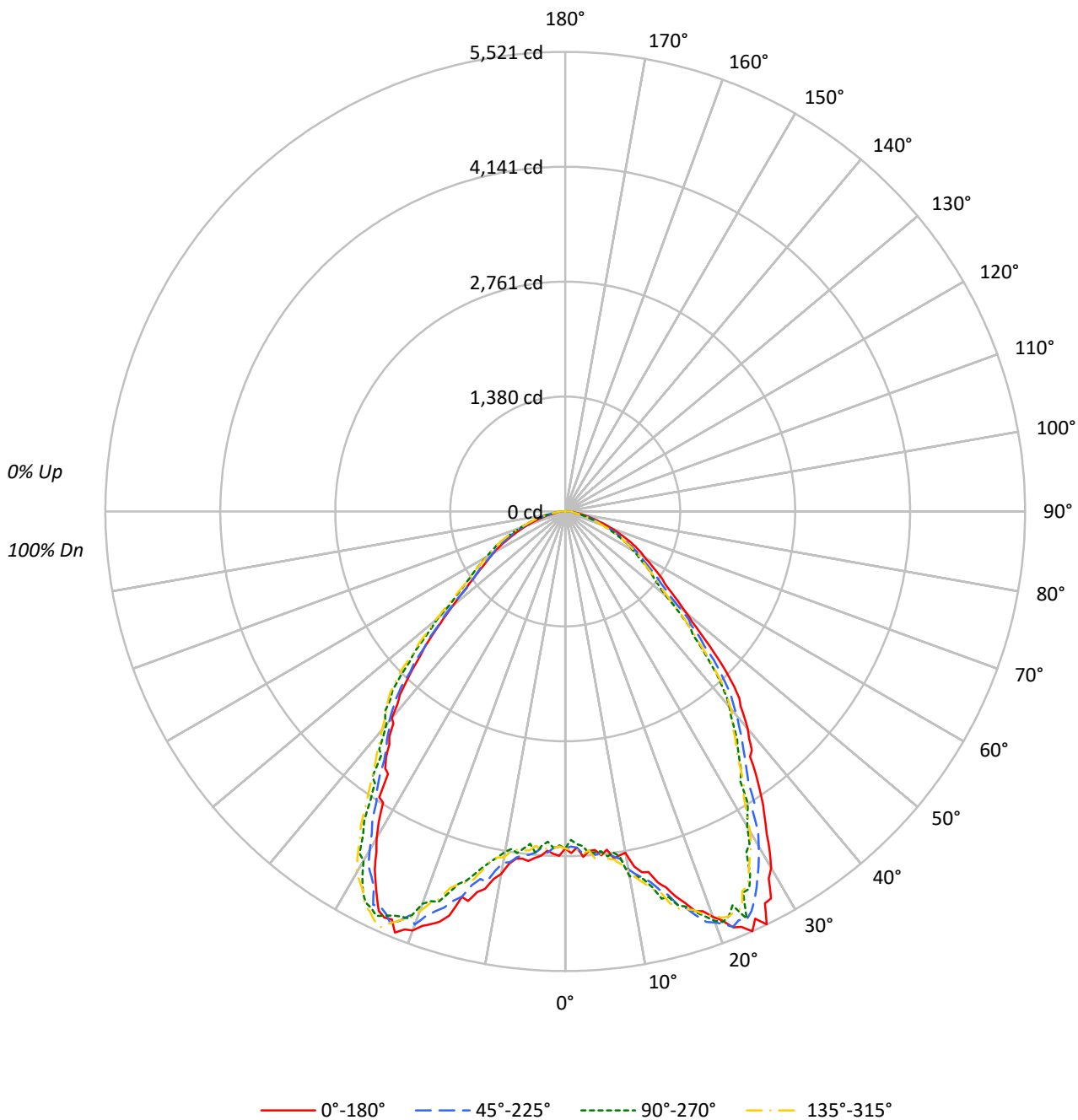
Test Method: LM-79-2019  
Report Number: P601042  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( )  
Test Lab: INNOVATION CENTER  
Issue Date: 8/28/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: UHBS-12-MV-L840-U-CDL-120V  
Description: UHB Round Select with Clear Reflector with Lens Cover at 120V 12000 LUMEN SETTING AND 4000K  
Light Source: -  
Ballast/Driver: Electrical Driver

**Summary**

Lumens per Lamp: 10966 (1 lamp)  
Luminaire Lumens: 10966.0 lumens  
Efficiency: 100.0%  
Efficacy: 128.9 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): 85.1  
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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### 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	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66
4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	69	64	60	58
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	53	51
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41
8	65	53	45	40	64	52	45	40	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	40	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	36	32	31

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	55467	55467	55467	55467
5°	56151	56532	57476	56573
10°	57952	61937	61558	57746
15°	66357	68049	68023	65164
20°	75576	76283	78128	73133
25°	81605	76374	80094	81079
30°	78251	69197	71620	76643
35°	68031	61037	63020	66639
40°	61000	54928	57900	59707
45°	53232	44757	47813	54149
50°	40602	33916	37538	42508
55°	34145	29390	30632	33597
60°	30113	26168	27120	29899
65°	27779	22836	23258	27172
70°	23798	19074	19274	23173
75°	19232	15483	15610	19523
80°	15359	11562	12036	16203
85°	16464	14514	14954	16275

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 89°  
 Luminance: 65964 cd/sqm



TEST NUMBER: P601042  
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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	396.9	3.6	3.6
10°-20°	1360.4	12.4	12.4
20°-30°	2377.7	21.7	21.7
30°-40°	2431.9	22.2	22.2
40°-50°	1964.3	17.9	17.9
50°-60°	1201.3	11.0	11.0
60°-70°	764.9	7.0	7.0
70°-80°	352.4	3.2	3.2
80°-90°	116.3	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°	4135.0	37.7	37.7
0°-40°	6566.9	59.9	59.9
0°-60°	9732.5	88.8	88.8
0°-90°	10966.0	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°	10966.0	100.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	4047	4047	4047	4047	4047	
5°	4082	4109	4178	4112	4082	395
15°	4677	4796	4794	4593	4677	1348
25°	5396	5051	5297	5362	5396	2457
35°	4066	3648	3767	3983	4066	2552
45°	2746	2309	2467	2794	2746	2069
55°	1429	1230	1282	1406	1429	1292
65°	857	704	717	838	857	844
75°	363	292	295	369	363	397
85°	105	92	95	104	105	126
90°	81	78	79	77	81	



TEST NUMBER: P601042  
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**CANDELA DISTRIBUTION (FULL):**

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	4047.2	4047.2	4047.2	4047.2	4047.2	4047.2	4047.2	4047.2	4047.2	4047.2	4047.2
1°	4104.5	4046.0	4006.1	3945.3	4047.4	4095.8	4139.2	4017.1	4034.9	4010.6	4002.0
2°	4041.1	4075.0	4005.2	3997.3	4071.7	4068.4	4115.1	4018.5	4070.7	4044.8	4024.8
3°	4156.6	4094.5	4140.7	4026.4	4132.1	4107.8	4080.5	4129.4	4082.9	3972.1	4028.4
4°	4088.6	4116.7	4053.3	4117.2	4070.0	4097.5	4145.1	4068.2	4029.8	4028.3	4048.7
5°	4081.5	4179.3	4098.7	4109.2	4187.9	4200.5	4177.8	4133.2	4091.7	4112.2	3989.2
6°	4152.4	4164.3	4080.0	4102.7	4104.9	4172.2	4222.3	4187.8	4108.7	4015.6	4117.3
7°	4093.2	4119.1	4176.0	4175.5	4211.7	4194.2	4202.7	4179.9	4138.4	4077.7	4126.6
8°	4209.3	4113.9	4262.2	4135.9	4212.0	4236.4	4211.1	4247.7	4146.3	4143.3	4066.9
9°	4182.9	4217.7	4234.7	4199.6	4272.7	4309.6	4281.0	4289.8	4245.4	4103.0	4109.9
10°	4164.3	4360.9	4366.3	4450.6	4358.9	4388.9	4423.4	4353.3	4212.9	4149.5	4203.9
11°	4345.6	4415.6	4465.9	4469.8	4428.3	4546.4	4495.6	4446.6	4347.2	4227.5	4199.2
12°	4431.5	4488.2	4512.2	4517.5	4527.6	4602.4	4634.2	4609.5	4484.7	4298.4	4242.7
13°	4445.3	4544.2	4596.1	4628.2	4659.9	4662.7	4693.1	4614.0	4449.5	4383.9	4370.5
14°	4592.1	4673.2	4689.9	4794.5	4674.1	4736.9	4822.2	4709.7	4540.8	4488.2	4583.2
15°	4676.8	4820.9	4716.9	4796.1	4907.3	4845.9	4794.2	4867.1	4712.9	4592.7	4610.2
16°	4811.5	4926.0	4902.9	4926.4	4905.5	5029.9	5049.2	4965.0	4766.9	4655.0	4630.2
17°	4916.8	4997.9	4976.7	4963.2	5003.7	4989.3	5154.8	5067.6	4883.4	4794.0	4738.8
18°	5047.6	5137.1	5079.5	5060.0	5034.1	5043.4	5212.6	5141.9	4957.6	4932.4	4861.9
19°	5078.3	5225.2	5205.8	5142.5	5068.0	5176.7	5263.5	5182.7	5102.4	4952.2	4987.2
20°	5181.9	5254.9	5252.0	5230.4	5137.7	5201.2	5356.9	5294.1	5270.3	5014.4	5126.4
21°	5264.3	5332.6	5287.0	5283.2	5209.6	5242.7	5378.4	5248.6	5144.7	5237.1	5231.4
22°	5387.7	5461.2	5300.9	5244.6	5164.7	5329.6	5455.9	5353.6	5248.7	5249.4	5302.8
23°	5419.9	5417.1	5252.3	5141.1	5190.1	5245.1	5324.5	5436.1	5314.7	5274.9	5355.5
24°	5520.6	5461.5	5261.8	5355.1	5191.5	5254.1	5339.8	5282.6	5296.6	5315.6	5472.2
25°	5396.5	5417.4	5173.6	5050.6	4962.6	5096.8	5296.6	5236.6	5248.6	5361.7	5445.3
26°	5519.3	5266.8	5107.7	5042.1	5001.8	5011.6	5156.2	5238.9	5276.4	5304.1	5390.0
27°	5283.8	5151.3	4969.4	4889.4	4836.8	4871.9	5012.6	5011.4	5107.1	5273.8	5323.0
28°	5263.8	5049.9	4804.0	4633.7	4690.0	4744.4	4869.2	4903.5	5018.0	5175.8	5150.6
29°	5041.5	4896.1	4694.1	4565.5	4539.0	4663.9	4675.6	4856.9	4883.0	5025.8	5108.7
30°	4944.7	4708.9	4588.0	4372.6	4358.2	4519.7	4525.7	4584.1	4799.9	4843.1	5000.4
31°	4770.4	4604.3	4391.0	4246.6	4196.0	4271.4	4347.0	4467.6	4543.9	4795.0	4774.6
32°	4565.9	4390.8	4112.5	4135.5	3987.6	4112.3	4126.6	4268.4	4464.8	4580.1	4639.9
33°	4399.2	4263.1	4081.3	3854.3	3920.5	3952.8	4095.9	4127.1	4190.0	4432.9	4531.7
34°	4246.2	4011.7	3860.2	3782.1	3716.2	3857.8	3804.7	3967.8	4113.0	4180.7	4244.2
35°	4066.2	3880.6	3715.2	3648.2	3585.5	3636.1	3766.7	3858.7	3912.2	3983.0	4064.1
36°	3892.7	3734.7	3619.9	3528.6	3447.9	3550.7	3660.2	3627.7	3773.7	3937.6	3915.4
37°	3688.1	3618.2	3475.4	3428.9	3356.5	3412.3	3509.0	3524.4	3604.1	3666.0	3798.6
38°	3638.9	3529.3	3347.0	3296.2	3180.0	3313.0	3431.8	3407.5	3540.1	3625.5	3638.4
39°	3504.6	3409.9	3218.9	3163.9	3205.1	3213.8	3278.4	3323.5	3389.7	3468.8	3509.5
40°	3409.6	3291.6	3116.4	3070.2	3033.2	3151.1	3236.3	3238.8	3324.8	3337.3	3379.3
41°	3278.2	3151.7	3013.9	2954.3	2935.2	3001.2	3067.1	3114.6	3210.2	3292.7	3268.4
42°	3147.0	3048.4	2906.3	2803.2	2793.8	2922.0	2965.6	3010.7	3069.8	3232.7	3158.5
43°	3064.9	2926.6	2721.8	2660.0	2628.7	2727.7	2804.9	2791.7	2982.7	3069.7	3168.8
44°	2919.4	2808.4	2546.9	2475.5	2482.3	2568.2	2646.6	2620.5	2736.4	2982.2	3021.0



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**CANDELA DISTRIBUTION (continued):**

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	2746.5	2610.2	2435.2	2309.2	2323.5	2378.4	2466.9	2468.7	2632.3	2793.8	2897.1
46°	2556.6	2385.6	2249.3	2131.3	2152.8	2223.6	2344.9	2281.0	2411.3	2594.1	2739.5
47°	2372.2	2294.5	2104.3	2057.4	2027.8	2051.9	2179.2	2194.3	2279.4	2471.6	2531.4
48°	2186.7	2045.5	2013.8	1900.3	1891.2	1949.3	2025.7	2007.2	2091.5	2272.1	2383.3
49°	2018.3	2025.0	1877.7	1739.7	1730.0	1807.5	1891.3	1882.8	1984.3	2117.5	2163.5
50°	1904.3	1823.1	1722.7	1590.7	1600.0	1664.6	1760.6	1721.1	1832.0	1993.7	2040.4
51°	1782.2	1680.0	1578.8	1478.0	1471.0	1565.0	1649.7	1593.3	1710.9	1785.1	1884.7
52°	1675.3	1587.1	1502.3	1410.2	1396.9	1473.1	1525.7	1474.7	1551.9	1679.7	1738.6
53°	1569.3	1497.1	1400.6	1336.2	1326.9	1393.1	1440.6	1377.4	1468.9	1568.2	1600.3
54°	1482.5	1421.0	1330.5	1284.8	1269.4	1337.1	1355.9	1315.6	1386.8	1487.0	1477.0
55°	1429.0	1345.1	1250.7	1230.0	1209.4	1268.7	1282.0	1258.1	1331.4	1406.1	1399.9
56°	1360.3	1272.5	1189.6	1163.4	1136.6	1202.1	1210.9	1198.9	1273.0	1339.7	1316.7
57°	1292.1	1208.0	1133.2	1097.8	1080.8	1144.0	1143.4	1130.9	1207.1	1281.4	1259.9
58°	1225.7	1136.0	1084.6	1045.4	1038.6	1093.8	1088.1	1067.3	1136.6	1210.4	1189.1
59°	1157.4	1081.9	1037.7	1000.8	998.6	1052.2	1038.7	1020.3	1067.9	1150.7	1118.8
60°	1098.6	1037.3	991.7	954.7	954.5	1001.0	989.4	985.0	1016.1	1090.8	1070.6
61°	1057.8	991.1	943.2	904.9	909.2	943.7	945.0	940.3	977.1	1042.5	1013.7
62°	1016.8	931.1	894.4	854.3	855.6	883.3	884.4	895.2	936.2	996.2	968.7
63°	960.8	873.5	846.4	804.7	795.9	827.1	828.4	845.0	885.7	947.6	922.7
64°	910.7	818.6	792.9	756.6	744.1	773.4	769.2	794.7	825.4	899.9	878.4
65°	856.6	770.7	737.8	704.2	699.1	720.2	717.2	746.0	781.6	837.9	835.2
66°	797.0	719.7	689.4	657.0	643.2	668.0	671.3	702.6	736.7	786.2	784.4
67°	751.1	671.4	639.4	607.2	599.5	621.8	624.2	657.0	689.7	731.6	731.7
68°	692.9	618.6	594.7	563.0	554.6	570.0	577.3	610.4	645.6	674.0	673.8
69°	643.8	568.4	545.5	516.8	505.8	522.3	528.0	566.7	593.3	619.2	626.9
70°	593.9	521.0	500.4	476.0	465.2	476.5	481.0	526.4	549.7	578.3	572.8
71°	548.2	481.3	460.8	441.7	426.4	431.2	439.3	488.3	506.8	531.6	527.1
72°	500.3	438.4	418.5	399.7	380.4	386.6	399.7	444.5	463.8	487.3	475.9
73°	453.8	398.8	378.8	360.7	343.9	348.8	364.7	398.7	422.3	447.6	434.1
74°	405.4	360.3	342.0	324.5	307.2	314.4	326.4	360.5	382.4	405.1	397.6
75°	363.2	327.2	308.3	292.4	274.9	280.0	294.8	325.1	345.1	368.7	360.9
76°	327.5	294.5	274.6	260.3	244.1	249.4	265.0	289.8	311.9	335.6	325.9
77°	292.0	265.7	243.7	230.0	215.5	217.3	234.5	259.1	279.2	298.0	290.9
78°	260.4	232.4	213.2	199.5	189.9	188.3	203.2	229.0	248.0	267.7	256.0
79°	225.3	202.5	186.4	171.6	161.8	163.7	174.1	198.5	217.1	237.5	222.9
80°	194.6	175.6	161.1	146.5	138.1	141.5	152.5	169.9	188.7	205.3	195.0
81°	168.0	154.0	138.3	126.4	122.4	125.4	130.9	146.0	162.0	175.2	166.8
82°	145.7	132.5	120.8	113.6	112.3	114.5	118.3	126.2	138.6	151.8	142.9
83°	125.1	117.9	109.9	105.0	104.0	105.6	108.8	113.6	122.2	128.5	123.3
84°	113.2	108.6	101.7	98.3	98.1	98.6	101.3	104.2	110.7	113.8	109.2
85°	104.7	100.8	94.3	92.3	92.7	93.2	95.1	96.7	101.4	103.5	100.0
86°	97.8	94.1	88.0	87.3	88.0	88.6	90.1	90.6	94.2	96.0	93.0
87°	92.2	88.4	83.6	83.8	84.5	84.7	86.1	85.6	88.8	89.7	87.3
88°	87.2	84.3	80.3	81.0	82.7	81.6	83.0	81.7	83.8	84.5	82.6
89°	84.0	81.3	77.8	79.0	80.6	79.4	80.6	78.7	80.0	80.4	78.9



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**CANDELA DISTRIBUTION (continued):**

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	81.3	79.1	77.0	78.0	79.1	78.0	78.8	76.4	77.1	77.4	76.1



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**CANDELA DISTRIBUTION (continued):**

	330°	360°
0°	4047.2	4047.2
1°	4045.9	4104.5
2°	4070.4	4041.1
3°	4070.6	4156.6
4°	4101.9	4088.6
5°	4075.3	4081.5
6°	4064.2	4152.4
7°	4082.2	4093.2
8°	4136.7	4209.3
9°	4145.3	4182.9
10°	4232.9	4164.3
11°	4269.0	4345.6
12°	4312.3	4431.5
13°	4473.3	4445.3
14°	4533.2	4592.1
15°	4625.1	4676.8
16°	4689.0	4811.5
17°	4722.7	4916.8
18°	4929.3	5047.6
19°	4963.2	5078.3
20°	5108.1	5181.9
21°	5257.5	5264.3
22°	5291.9	5387.7
23°	5384.1	5419.9
24°	5468.0	5520.6
25°	5396.1	5396.5
26°	5306.5	5519.3
27°	5290.0	5283.8
28°	5181.1	5263.8
29°	5066.2	5041.5
30°	5010.2	4944.7
31°	4913.0	4770.4
32°	4671.8	4565.9
33°	4481.0	4399.2
34°	4348.5	4246.2
35°	4155.5	4066.2
36°	3959.1	3892.7
37°	3788.7	3688.1
38°	3691.8	3638.9
39°	3541.4	3504.6
40°	3471.5	3409.6
41°	3333.9	3278.2
42°	3248.0	3147.0
43°	3083.2	3064.9
44°	3024.6	2919.4

TEST NUMBER: P601042  
CATALOG NUMBER: UHBS-12-MV-L840-U-CDL-120V

**CANDELA DISTRIBUTION (continued):**

	330°	360°
45°	2850.5	2746.5
46°	2694.1	2556.6
47°	2463.8	2372.2
48°	2334.0	2186.7
49°	2163.4	2018.3
50°	2027.5	1904.3
51°	1850.5	1782.2
52°	1728.1	1675.3
53°	1610.3	1569.3
54°	1509.0	1482.5
55°	1439.2	1429.0
56°	1369.6	1360.3
57°	1295.1	1292.1
58°	1226.8	1225.7
59°	1156.5	1157.4
60°	1097.8	1098.6
61°	1055.0	1057.8
62°	1011.5	1016.8
63°	966.6	960.8
64°	913.1	910.7
65°	854.7	856.6
66°	795.1	797.0
67°	749.0	751.1
68°	694.2	692.9
69°	640.3	643.8
70°	593.3	593.9
71°	544.5	548.2
72°	494.7	500.3
73°	455.0	453.8
74°	410.5	405.4
75°	370.4	363.2
76°	331.8	327.5
77°	292.9	292.0
78°	259.3	260.4
79°	226.8	225.3
80°	197.5	194.6
81°	169.2	168.0
82°	147.9	145.7
83°	126.6	125.1
84°	113.3	113.2
85°	104.5	104.7
86°	97.7	97.8
87°	91.9	92.2
88°	86.8	87.2
89°	82.7	84.0



TEST NUMBER: P601042  
CATALOG NUMBER: UHBS-12-MV-L840-U-CDL-120V

**CANDELA DISTRIBUTION (continued):**

	330°	360°
90°	79.3	81.3

(END OF REPORT)