

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: P601043

Luminaire Tested: UHBS-12-MV-L850-U-CDL-120V

Issue Date: 8/28/2023

Test Information

Test Method: LM-79-2019
Report Number: P601043
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-L850-U-CDL-120V
Description: UHB Round Select with Clear Reflector with Lens Cover at 120V 12000 LUMEN SETTING AND 5000K
Light Source: -
Ballast/Driver: Electrical Driver

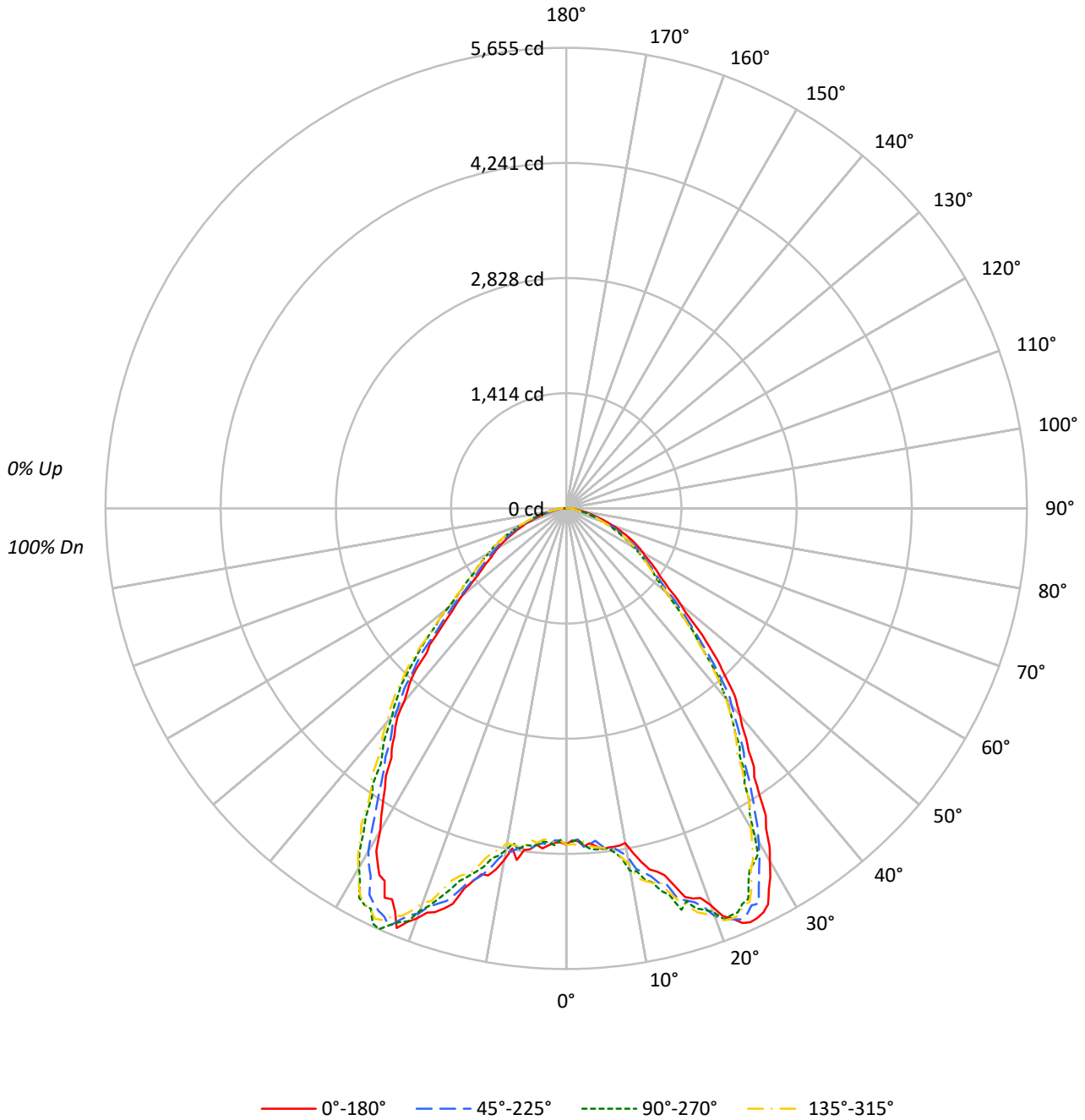
Summary

Lumens per Lamp: 10999 (1 lamp)
Luminaire Lumens: 10999.0 lumens
Efficiency: 100.0%
Efficacy: 127.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.43 / 1.34
Luminous Opening: Circular (Dia: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 86.2
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

TEST NUMBER: P601043
CATALOG NUMBER: UHBS-12-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	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	102	102	102	102	102	100		
	1	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	89	89	89	89	89	87		
	2	102	95	89	84	100	93	88	83	90	85	82	87	83	80	84	81	78	78	78	78	78	78	76		
	3	94	85	78	73	92	84	77	72	81	75	71	78	73	69	76	72	68	68	68	68	68	68	66		
	4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60	60	60	60	60	60	58		
	5	81	70	62	56	79	68	61	55	66	60	55	65	59	54	63	58	54	54	54	54	54	54	52		
	6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	48	48	48	48	48	46		
	7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	47	43	43	43	43	43	43	41		
	8	66	53	45	40	64	53	45	40	51	44	40	50	44	39	49	43	39	39	39	39	39	39	37		
	9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	36	36	36	36	36	34		
	10	58	45	38	33	57	45	38	33	44	37	33	43	37	33	42	37	33	33	33	33	33	33	31		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	56576	56576	56576	56576
5°	57265	57835	57018	57081
10°	58059	62882	60964	59281
15°	66123	69782	68556	66435
20°	75544	76862	78095	76690
25°	83928	79964	79759	85023
30°	79099	73062	72310	80498
35°	67336	62182	62506	69359
40°	59350	54851	55268	59393
45°	50742	44193	45941	51100
50°	39086	34061	35494	40107
55°	32747	29860	29198	33026
60°	29984	26506	26393	30041
65°	27652	23161	23067	27665
70°	23886	19262	19511	23001
75°	19534	15356	15864	19465
80°	15532	11420	11910	15974
85°	16228	14325	14876	16322

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 270°
 Vertical Angle: 89°
 Luminance: 64000 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	400.8	3.6	3.6
10°-20°	1374.8	12.5	12.5
20°-30°	2441.2	22.2	22.2
30°-40°	2463.4	22.4	22.4
40°-50°	1894.5	17.2	17.2
50°-60°	1184.3	10.8	10.8
60°-70°	769.9	7.0	7.0
70°-80°	354.5	3.2	3.2
80°-90°	115.5	1.0	1.0
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°	4216.9	38.3	38.3
0°-40°	6680.3	60.7	60.7
0°-60°	9759.0	88.7	88.7
0°-90°	10999.0	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°	10999.0	100.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4128	4128	4128	4128	4128	
5°	4162	4204	4144	4149	4162	398
15°	4660	4918	4832	4682	4660	1351
25°	5550	5288	5274	5622	5550	2495
35°	4025	3717	3736	4146	4025	2557
45°	2618	2280	2370	2636	2618	1990
55°	1370	1250	1222	1382	1370	1249
65°	853	714	711	853	853	839
75°	369	290	300	368	369	400
85°	103	91	95	104	103	125
90°	78	78	80	79	78	



TEST NUMBER: P601043
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CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	4128.1	4128.1	4128.1	4128.1	4128.1	4128.1	4128.1	4128.1	4128.1	4128.1	4128.1
1°	4076.9	4080.2	4092.3	4091.6	4111.3	4137.7	4100.5	4035.6	4117.1	4071.0	4056.4
2°	4087.3	4081.4	4051.5	4068.2	4137.2	4129.1	4106.0	4149.7	4008.4	4139.8	4078.2
3°	4153.3	4110.9	4214.7	4135.0	4085.7	4099.5	4143.5	4127.8	4160.4	4104.2	4043.7
4°	4120.7	4117.6	4144.5	4188.8	4167.0	4143.8	4183.4	4131.0	4111.8	4099.9	4039.8
5°	4162.5	4078.4	4112.6	4203.9	4148.7	4198.1	4144.5	4157.1	4131.0	4149.1	4131.1
6°	4203.8	4143.8	4184.4	4200.5	4196.8	4186.9	4207.4	4210.7	4181.6	4163.3	4082.4
7°	4196.7	4214.7	4252.7	4208.6	4262.7	4147.0	4225.9	4211.6	4193.1	4162.5	4225.8
8°	4195.2	4178.1	4242.4	4266.1	4251.8	4189.3	4359.2	4182.2	4231.7	4232.1	4162.9
9°	4190.5	4234.8	4307.1	4342.8	4277.1	4401.6	4226.2	4271.3	4259.4	4155.0	4189.3
10°	4172.0	4275.5	4395.3	4518.5	4492.8	4371.7	4380.7	4317.0	4251.2	4259.8	4188.2
11°	4310.8	4498.5	4529.4	4539.5	4568.3	4685.7	4513.2	4367.0	4416.7	4342.4	4231.3
12°	4437.3	4536.1	4593.9	4665.4	4674.6	4678.5	4606.9	4534.0	4511.4	4392.7	4343.6
13°	4549.3	4572.9	4699.5	4716.2	4744.4	4703.9	4608.4	4617.9	4633.9	4517.9	4357.2
14°	4593.6	4731.8	4764.9	4841.4	4714.6	4701.7	4711.5	4718.8	4689.0	4602.4	4552.0
15°	4660.3	4758.1	4816.0	4918.2	4977.1	4798.5	4831.8	4786.1	4783.0	4682.3	4641.7
16°	4814.2	4998.5	4985.9	5127.9	4966.0	5051.4	5052.0	5036.0	4813.9	4760.7	4731.6
17°	4989.5	4970.5	5092.9	5044.8	5137.1	5074.2	5137.2	5084.0	4995.7	4900.6	4778.7
18°	5035.5	5053.2	5114.3	5165.7	5207.7	5226.0	5213.0	5136.3	5071.0	5025.1	4937.5
19°	5058.1	5135.7	5204.7	5211.4	5286.3	5245.2	5248.4	5171.6	5166.0	5158.3	5094.1
20°	5179.7	5376.8	5272.4	5270.1	5360.4	5332.5	5354.6	5330.5	5251.3	5258.3	5110.2
21°	5361.6	5363.7	5427.9	5404.8	5437.6	5396.5	5436.6	5324.9	5375.7	5430.1	5255.7
22°	5428.1	5400.1	5482.1	5390.2	5479.2	5385.8	5556.4	5465.1	5434.5	5478.7	5382.3
23°	5530.3	5567.0	5394.8	5389.1	5449.0	5405.5	5377.3	5559.8	5584.9	5561.3	5465.5
24°	5559.7	5516.8	5390.5	5315.7	5358.1	5320.4	5254.8	5390.2	5583.9	5655.0	5525.1
25°	5550.1	5404.2	5353.9	5288.0	5348.5	5308.3	5274.4	5428.3	5476.7	5622.5	5564.6
26°	5519.4	5441.1	5349.5	5103.6	5154.8	5226.9	5086.0	5302.6	5481.9	5470.3	5474.2
27°	5455.8	5282.2	5134.4	4961.0	5035.2	4944.5	5052.6	5279.3	5364.9	5459.5	5380.5
28°	5301.2	5122.6	4964.5	4919.6	4888.8	4882.2	4928.4	5038.5	5186.3	5412.6	5372.6
29°	5169.0	4962.9	4825.7	4852.4	4704.8	4715.7	4808.2	4897.5	5093.4	5225.3	5232.3
30°	4998.3	4851.8	4601.6	4616.8	4543.9	4521.8	4569.3	4762.0	4953.2	5086.7	5107.6
31°	4847.7	4581.5	4533.0	4367.4	4338.9	4433.1	4406.7	4535.5	4745.0	4931.4	4967.4
32°	4628.7	4455.8	4266.2	4245.9	4248.5	4239.5	4240.6	4303.6	4555.4	4697.6	4757.8
33°	4496.5	4303.8	4069.8	4018.8	4001.8	4028.7	4083.4	4086.1	4388.8	4519.2	4591.8
34°	4240.3	4113.8	3918.1	3924.5	3862.4	3871.0	3961.3	3957.4	4149.6	4256.0	4351.7
35°	4024.7	3853.6	3768.5	3716.6	3668.5	3618.8	3736.0	3818.4	3965.7	4145.6	4181.2
36°	3920.9	3811.4	3614.1	3626.9	3559.4	3561.9	3644.9	3676.0	3880.9	3867.1	4028.9
37°	3720.4	3625.8	3500.0	3448.2	3429.2	3455.1	3507.6	3539.4	3646.8	3748.8	3838.9
38°	3589.5	3490.3	3359.6	3318.9	3310.8	3313.1	3405.3	3408.4	3546.7	3637.6	3702.4
39°	3432.9	3337.3	3219.2	3189.6	3191.4	3171.3	3292.0	3288.9	3464.6	3471.6	3560.4
40°	3317.4	3242.3	3075.8	3065.9	3044.2	3069.2	3089.2	3168.7	3282.7	3319.8	3425.5
41°	3201.9	3122.0	2974.7	2905.1	2885.8	2902.5	2972.7	2969.8	3216.0	3222.1	3307.0
42°	3091.3	2936.1	2820.6	2804.0	2750.1	2754.1	2861.7	2900.9	3023.6	3081.4	3188.2
43°	2916.3	2789.3	2636.4	2607.7	2604.8	2567.5	2706.9	2646.0	2911.1	2981.9	3045.7
44°	2755.9	2604.8	2476.8	2417.2	2373.6	2452.4	2463.9	2563.8	2716.0	2803.0	2913.9



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	2618.0	2422.2	2307.6	2280.1	2230.7	2281.6	2370.3	2404.8	2576.8	2636.5	2737.4
46°	2439.7	2284.9	2158.3	2152.8	2097.3	2127.0	2173.5	2225.4	2338.6	2500.3	2585.7
47°	2286.6	2111.7	2039.3	1967.1	1950.2	2010.7	2031.0	2082.7	2166.0	2330.9	2366.3
48°	2095.6	2009.3	1894.0	1850.1	1825.2	1909.1	1888.9	1899.7	2071.4	2157.6	2200.0
49°	1937.0	1856.0	1785.9	1711.1	1692.4	1761.5	1785.5	1824.9	1896.8	2051.4	2055.7
50°	1833.2	1732.5	1658.1	1597.5	1569.9	1637.8	1664.7	1682.0	1761.5	1881.1	1909.0
51°	1731.7	1615.4	1541.6	1499.5	1513.4	1529.8	1547.1	1546.0	1659.4	1751.2	1768.1
52°	1600.7	1527.7	1446.9	1414.7	1414.9	1458.6	1451.4	1462.3	1539.7	1639.6	1663.3
53°	1517.9	1449.4	1357.7	1361.6	1353.4	1372.8	1355.7	1381.9	1463.1	1574.2	1554.8
54°	1431.1	1371.2	1297.5	1310.9	1287.2	1315.3	1286.8	1310.9	1386.8	1478.3	1448.6
55°	1370.5	1318.0	1249.4	1249.7	1224.3	1254.7	1222.0	1259.1	1318.9	1382.2	1379.0
56°	1316.0	1257.5	1191.9	1187.8	1162.7	1200.6	1153.7	1197.9	1253.0	1332.4	1314.9
57°	1252.7	1199.1	1133.0	1124.8	1107.8	1143.5	1095.3	1137.0	1193.7	1268.3	1251.0
58°	1186.8	1140.6	1081.4	1073.2	1062.5	1096.1	1054.8	1082.3	1131.7	1215.9	1193.9
59°	1122.9	1088.8	1043.7	1022.5	1020.9	1050.6	1011.0	1035.2	1076.3	1151.0	1132.6
60°	1093.9	1040.2	995.6	967.0	971.0	1002.9	962.9	990.0	1030.0	1096.0	1073.5
61°	1041.9	990.3	951.3	916.1	918.0	951.6	913.9	951.2	989.3	1052.0	1030.8
62°	1001.0	937.1	902.7	868.3	863.9	893.4	863.5	903.7	937.2	1009.0	980.5
63°	953.0	888.4	846.2	807.2	805.5	836.9	813.7	856.8	889.5	956.6	936.7
64°	902.5	834.3	793.2	760.0	756.7	780.4	758.0	801.8	841.6	902.8	891.2
65°	852.7	778.0	748.3	714.2	707.9	726.8	711.3	750.9	795.2	853.1	843.5
66°	801.3	727.4	696.8	660.9	656.1	680.5	667.3	698.9	745.2	792.4	797.1
67°	743.8	672.7	644.4	617.6	605.7	633.7	620.0	649.0	700.6	733.2	746.0
68°	697.9	624.2	595.2	567.4	558.9	582.1	578.4	608.4	654.6	684.5	690.9
69°	646.3	575.4	552.7	523.6	513.6	530.3	532.1	563.2	609.7	626.6	640.7
70°	596.1	525.7	509.5	480.7	472.4	485.3	486.9	516.1	560.9	574.0	594.5
71°	545.1	476.3	472.8	441.0	428.6	438.1	443.9	476.6	510.0	530.3	547.0
72°	499.8	438.3	428.2	403.1	390.4	392.1	405.7	434.9	464.5	484.5	500.3
73°	456.0	395.9	386.5	364.3	351.8	352.3	365.0	392.3	421.4	447.9	458.6
74°	413.3	360.3	353.0	327.2	315.7	316.2	331.2	352.2	380.2	406.3	414.8
75°	368.9	324.5	320.0	290.0	282.5	280.1	299.6	314.3	341.4	367.6	378.6
76°	332.5	293.1	287.0	261.9	250.8	248.8	265.5	276.4	307.3	334.0	341.5
77°	297.0	263.5	251.8	230.2	221.7	216.4	233.4	247.0	274.7	298.0	307.4
78°	261.5	232.2	218.2	202.1	191.2	185.0	201.5	215.2	240.9	267.6	273.2
79°	229.5	201.4	188.9	172.9	164.2	156.9	172.0	186.1	209.1	234.5	236.8
80°	196.8	175.3	163.6	144.7	138.8	136.7	150.9	159.5	181.5	202.4	201.5
81°	168.5	153.2	142.2	124.6	122.8	121.3	129.9	136.5	157.9	171.9	172.2
82°	144.7	131.2	124.9	113.3	112.2	110.5	117.4	120.2	134.3	148.9	145.6
83°	126.4	117.4	113.0	104.0	103.8	102.2	108.3	108.9	120.0	126.1	126.7
84°	113.1	106.9	103.4	96.8	97.4	95.5	100.8	100.4	109.8	113.3	112.8
85°	103.2	98.6	95.8	91.1	91.9	90.2	94.6	93.6	101.2	103.8	103.3
86°	95.4	91.8	90.3	86.5	87.5	86.0	89.9	88.3	93.6	96.1	96.1
87°	89.1	86.5	85.6	83.0	84.0	82.8	86.0	84.0	88.1	90.0	90.1
88°	84.4	82.7	82.1	80.5	81.3	80.4	83.1	80.7	83.9	85.2	85.0
89°	80.8	79.8	79.5	78.9	79.6	78.8	81.0	78.3	80.5	81.5	81.1



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	78.1	77.8	77.7	78.0	78.7	78.3	79.8	76.9	78.2	78.7	78.0



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CANDELA DISTRIBUTION (continued):

	330°	360°
0°	4128.1	4128.1
1°	4106.5	4076.9
2°	4127.4	4087.3
3°	4085.1	4153.3
4°	4115.8	4120.7
5°	4114.0	4162.5
6°	4102.1	4203.8
7°	4119.0	4196.7
8°	4218.3	4195.2
9°	4175.5	4190.5
10°	4162.1	4172.0
11°	4290.0	4310.8
12°	4278.0	4437.3
13°	4466.0	4549.3
14°	4549.0	4593.6
15°	4653.7	4660.3
16°	4642.5	4814.2
17°	4765.2	4989.5
18°	4911.3	5035.5
19°	5104.0	5058.1
20°	5195.9	5179.7
21°	5325.4	5361.6
22°	5409.8	5428.1
23°	5411.3	5530.3
24°	5540.0	5559.7
25°	5552.3	5550.1
26°	5481.9	5519.4
27°	5522.2	5455.8
28°	5393.8	5301.2
29°	5285.8	5169.0
30°	5110.9	4998.3
31°	4958.0	4847.7
32°	4769.0	4628.7
33°	4639.3	4496.5
34°	4323.6	4240.3
35°	4140.1	4024.7
36°	4100.7	3920.9
37°	3819.4	3720.4
38°	3708.4	3589.5
39°	3587.5	3432.9
40°	3422.7	3317.4
41°	3322.0	3201.9
42°	3169.4	3091.3
43°	3043.7	2916.3
44°	2846.7	2755.9



TEST NUMBER: P601043
CATALOG NUMBER: UHBS-12-MV-L850-U-CDL-120V

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	2726.1	2618.0
46°	2533.6	2439.7
47°	2351.4	2286.6
48°	2166.8	2095.6
49°	2059.4	1937.0
50°	1907.5	1833.2
51°	1800.6	1731.7
52°	1642.6	1600.7
53°	1564.4	1517.9
54°	1487.1	1431.1
55°	1409.8	1370.5
56°	1344.6	1316.0
57°	1277.0	1252.7
58°	1214.0	1186.8
59°	1150.7	1122.9
60°	1100.1	1093.9
61°	1060.1	1041.9
62°	1022.4	1001.0
63°	967.0	953.0
64°	912.1	902.5
65°	859.7	852.7
66°	807.9	801.3
67°	754.9	743.8
68°	698.6	697.9
69°	638.6	646.3
70°	584.8	596.1
71°	534.0	545.1
72°	497.7	499.8
73°	455.2	456.0
74°	416.1	413.3
75°	373.1	368.9
76°	332.7	332.5
77°	299.2	297.0
78°	263.6	261.5
79°	230.2	229.5
80°	197.3	196.8
81°	168.4	168.5
82°	143.3	144.7
83°	126.4	126.4
84°	112.0	113.1
85°	102.6	103.2
86°	95.6	95.4
87°	89.5	89.1
88°	84.7	84.4
89°	80.8	80.8



TEST NUMBER: P601043
CATALOG NUMBER: UHBS-12-MV-L850-U-CDL-120V

CANDELA DISTRIBUTION (continued):

	330°	360°
90°	77.9	78.1

(END OF REPORT)