

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: P601044

Luminaire Tested: UHBS-15-MV-L840-U-CDL-120V

Issue Date: 8/28/2023

Test Information

Test Method: LM-79-2019
Report Number: P601044
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-15-MV-L840-U-CDL-120V
Description: UHB Round Select with Clear Reflector with Lens Cover at 120V 15000 LUMEN SETTING AND 4000K
Light Source: -
Ballast/Driver: Electrical Driver

Summary

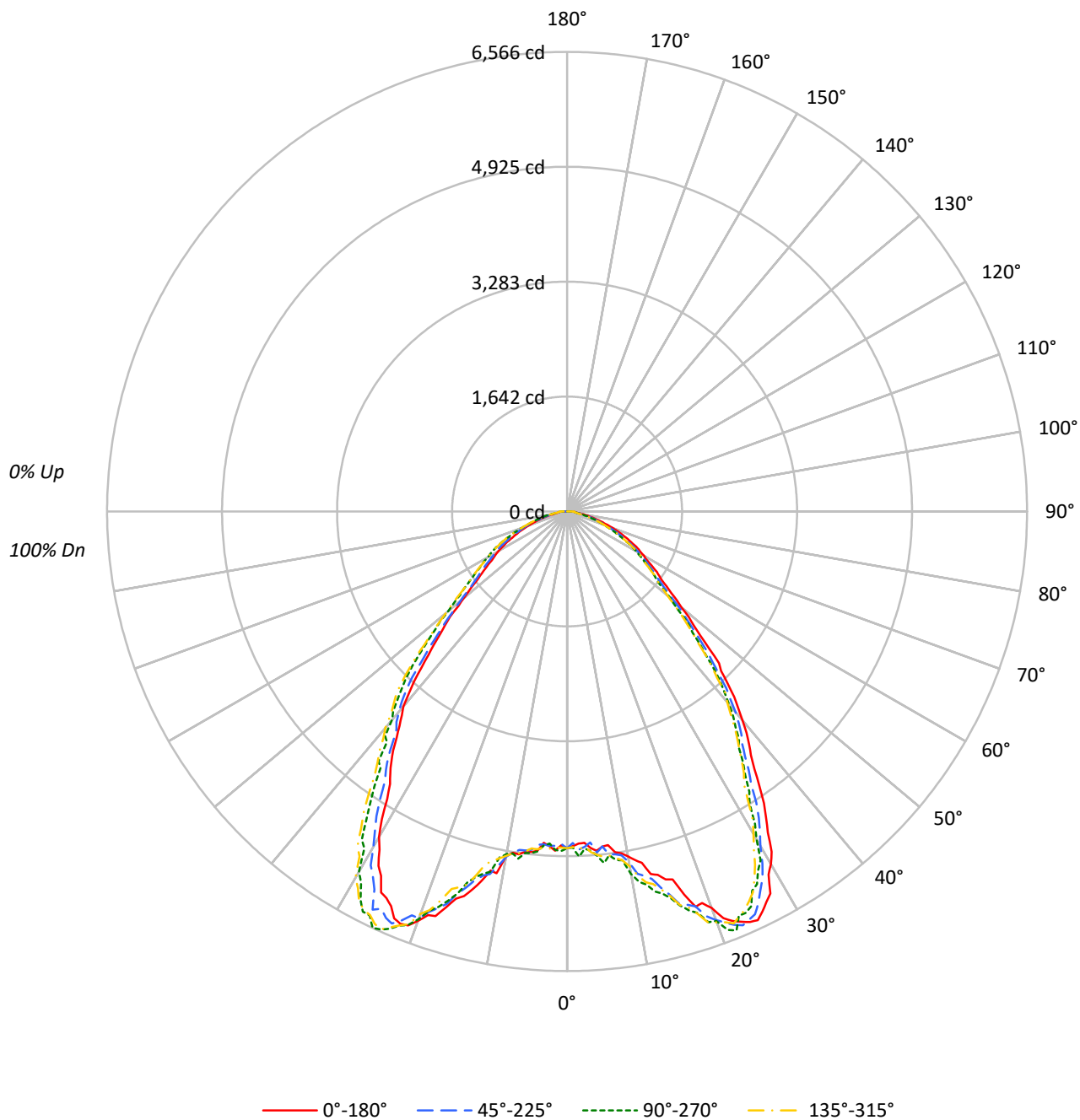
Lumens per Lamp: 12884 (1 lamp)
Luminaire Lumens: 12867.0 lumens
Efficiency: 99.9%
Efficacy: 123.8 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.43 / 1.34
Luminous Opening: Circular (Dia: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 103.9
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-15-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					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			102
1	110	106	103	100	108	104	101	98		100	97	95			96	94	92			93
2	102	95	89	84	100	93	88	83		90	85	81			87	83	80			84
3	94	85	78	72	92	84	77	72		81	75	71			78	73	69			76
4	87	77	69	63	85	75	68	63		73	67	62			71	65	61			69
5	81	69	61	55	79	68	61	55		66	60	55			64	59	54			63
6	75	63	55	49	73	62	55	49		61	54	49			59	53	48			57
7	70	58	50	44	68	57	49	44		56	49	44			54	48	43			53
8	66	53	45	40	64	52	45	40		51	44	40			50	44	39			49
9	61	49	41	36	60	48	41	36		47	41	36			46	40	36			45
10	58	45	38	33	56	45	38	33		44	37	33			43	37	33			42

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	65932	65932	65932	65932
5°	66949	67937	66937	67093
10°	69619	73194	69514	69187
15°	77210	81154	80747	77813
20°	87925	90796	90807	90407
25°	97416	94093	92183	99296
30°	92096	85581	84959	94026
35°	80047	73383	73207	80182
40°	69629	64321	65029	69482
45°	59431	52091	52116	60471
50°	45542	40890	40986	47090
55°	38362	34864	34102	39492
60°	34767	31330	30924	35671
65°	31955	26965	27052	32870
70°	27649	22500	23005	27453
75°	22796	18269	18729	23230
80°	18216	13504	13899	19021
85°	18964	16936	17659	19703

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 270°

Vertical Angle: 89°

Luminance: 77115 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	468.9	3.6	3.6
10°-20°	1608.6	12.5	12.5
20°-30°	2849.2	22.1	22.1
30°-40°	2875.6	22.3	22.3
40°-50°	2213.4	17.2	17.2
50°-60°	1391.8	10.8	10.8
60°-70°	906.1	7.0	7.0
70°-80°	417.1	3.2	3.2
80°-90°	136.2	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°	4926.7	38.3	38.2
0°-40°	7802.3	60.6	60.6
0°-60°	11407.6	88.7	88.5
0°-90°	12867.0	100.0	99.9
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°	12867.0	100.0	99.9

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4811	4811	4811	4811	4811	
5°	4866	4938	4866	4877	4866	465
15°	5442	5720	5691	5484	5442	1572
25°	6442	6222	6096	6566	6442	2886
35°	4784	4386	4376	4792	4784	3000
45°	3066	2688	2689	3120	3066	2309
55°	1606	1459	1427	1653	1606	1460
65°	985	832	834	1014	985	972
75°	430	345	354	439	430	466
85°	121	108	112	125	121	146
90°	93	92	93	95	93	

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CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	4810.8	4810.8	4810.8	4810.8	4810.8	4810.8	4810.8	4810.8	4810.8	4810.8	4810.8
1°	4781.2	4744.5	4730.2	4803.7	4771.3	4817.9	4770.3	4733.5	4765.9	4850.8	4843.5
2°	4748.5	4786.4	4882.8	4934.9	4843.4	4826.7	4848.9	4820.5	4739.1	4839.4	4784.0
3°	4739.3	4760.0	4836.4	4822.4	4784.8	4797.0	4786.0	4743.0	4824.6	4751.6	4850.9
4°	4818.8	4782.8	4697.5	4861.3	4935.5	4825.3	4746.5	4759.1	4776.2	4786.6	4816.8
5°	4866.4	4898.4	4883.9	4938.2	4915.8	4934.0	4865.5	4824.4	4739.4	4876.9	4908.9
6°	4813.0	4781.1	4843.2	5051.3	4955.6	4960.7	4891.6	4825.7	4892.5	4907.4	4803.9
7°	4803.4	4901.1	4967.6	4947.7	4977.7	4925.5	4897.2	4852.5	4908.5	4916.4	4911.9
8°	4918.0	4894.4	4995.8	5026.6	4984.4	5010.4	4948.0	4862.1	4904.1	5009.0	4901.5
9°	4944.6	4902.8	5047.6	5046.1	5066.3	5023.7	4935.4	4918.9	4940.2	4949.4	4912.6
10°	5002.6	5047.8	5139.6	5259.5	5184.5	5116.1	4995.1	5024.8	4997.0	4971.6	5039.0
11°	5073.0	5216.9	5329.1	5390.3	5339.8	5258.3	5266.6	5215.3	5102.7	5035.7	5076.5
12°	5129.8	5284.8	5365.8	5448.2	5426.7	5402.9	5242.9	5289.6	5304.0	5262.6	5088.2
13°	5317.2	5334.5	5438.0	5570.5	5464.7	5463.4	5414.3	5360.2	5320.4	5309.1	5141.5
14°	5349.8	5423.9	5654.4	5624.9	5639.1	5490.4	5561.8	5436.7	5416.5	5382.8	5409.2
15°	5441.7	5621.6	5717.9	5719.7	5721.0	5658.7	5691.0	5558.2	5560.8	5484.2	5495.9
16°	5469.4	5786.2	5894.7	5856.8	5864.8	5836.0	5755.9	5739.5	5618.7	5676.9	5545.6
17°	5723.0	5877.9	5877.9	5960.2	5921.7	5901.4	5916.1	5910.9	5815.3	5814.1	5653.4
18°	5938.5	5823.9	6037.1	6032.9	6030.3	6064.9	6077.1	5991.2	5921.9	5939.2	5853.1
19°	5916.8	6065.5	6173.3	6206.6	6308.3	6129.3	6100.1	6064.9	6032.9	6028.3	6030.3
20°	6028.6	6256.4	6161.4	6225.5	6285.5	6208.2	6226.2	6217.5	6154.0	6198.8	6134.0
21°	6223.6	6231.1	6353.3	6402.4	6306.9	6262.9	6335.1	6208.2	6155.9	6325.7	6331.7
22°	6310.0	6324.5	6412.2	6456.2	6375.4	6320.6	6354.7	6332.9	6272.5	6381.0	6424.2
23°	6368.8	6412.1	6433.2	6273.4	6299.3	6273.0	6314.3	6374.3	6420.6	6475.3	6451.1
24°	6420.6	6427.8	6340.6	6276.7	6255.0	6211.8	6173.2	6326.2	6389.7	6536.4	6563.9
25°	6442.1	6357.9	6344.1	6222.3	6143.3	6147.6	6096.0	6279.6	6245.6	6566.4	6582.1
26°	6358.9	6170.5	6278.2	6027.1	6097.1	6007.7	6056.9	6270.8	6385.8	6422.2	6485.6
27°	6268.0	6109.4	6040.5	5973.4	5873.2	5910.4	5843.9	5895.7	6223.3	6419.0	6368.3
28°	6180.8	6008.4	5877.0	5809.6	5775.1	5657.6	5733.5	5852.5	5952.7	6280.0	6436.4
29°	5931.0	5866.5	5642.2	5697.4	5495.3	5494.0	5524.6	5721.8	5840.9	6066.6	6184.4
30°	5819.6	5568.3	5468.3	5407.9	5338.4	5308.4	5368.6	5350.4	5706.1	5941.5	6009.7
31°	5669.5	5388.7	5309.6	5205.3	5130.4	5167.6	5129.8	5221.7	5432.1	5616.6	5815.4
32°	5409.0	5212.2	5116.1	4915.3	4854.6	4897.7	4842.9	5032.5	5234.0	5530.9	5688.5
33°	5212.3	5025.4	4891.6	4775.3	4672.4	4586.1	4642.0	4771.8	5026.8	5262.9	5381.5
34°	5028.9	4783.7	4620.6	4549.3	4505.3	4526.8	4514.8	4466.1	4826.4	5020.1	5206.1
35°	4784.4	4593.5	4451.7	4386.1	4311.8	4374.3	4375.6	4443.1	4572.8	4792.5	4965.1
36°	4552.0	4374.1	4272.1	4169.7	4205.5	4148.9	4222.8	4182.9	4502.7	4527.2	4706.3
37°	4359.3	4207.9	4104.6	4080.4	4024.3	4023.7	4042.7	4043.4	4228.7	4473.2	4532.7
38°	4220.6	4093.4	3987.8	3907.3	3873.6	3869.3	3884.7	3881.8	4026.0	4178.0	4355.5
39°	4069.1	3980.6	3806.2	3767.9	3694.9	3716.6	3746.1	3812.4	3925.9	4128.1	4144.8
40°	3891.9	3794.7	3686.5	3595.2	3597.5	3518.7	3634.8	3643.3	3823.5	3883.7	4068.2
41°	3727.1	3639.1	3469.0	3430.7	3428.7	3482.5	3436.0	3512.3	3678.1	3784.8	3811.4
42°	3563.4	3508.4	3281.9	3265.9	3162.4	3251.5	3263.0	3326.5	3514.0	3617.5	3719.7
43°	3364.1	3251.3	3094.9	3066.7	3048.2	3020.8	3044.2	3140.2	3346.3	3458.6	3584.7
44°	3165.6	3063.5	2922.0	2855.4	2869.8	2819.8	2847.5	2910.9	3098.0	3310.0	3423.5

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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	3066.3	2904.2	2741.1	2687.6	2637.1	2616.6	2688.9	2716.5	2919.8	3120.0	3197.2
46°	2830.3	2659.4	2598.9	2492.8	2466.9	2491.1	2507.2	2528.0	2716.2	2928.0	3010.6
47°	2598.8	2501.3	2412.6	2377.7	2311.5	2334.5	2383.1	2373.3	2514.4	2730.1	2794.6
48°	2429.8	2319.1	2267.5	2204.7	2150.9	2188.5	2244.1	2221.0	2356.2	2545.1	2599.0
49°	2309.1	2251.6	2092.1	2028.2	2011.7	2033.1	2052.8	2078.5	2159.2	2404.0	2426.5
50°	2136.0	2085.0	1916.0	1917.8	1858.5	1897.1	1922.3	1915.4	2049.1	2208.6	2239.5
51°	2017.9	1954.9	1823.5	1777.0	1723.2	1798.3	1798.3	1798.2	1915.1	2079.5	2091.8
52°	1885.6	1819.6	1692.9	1662.3	1638.5	1691.8	1686.7	1674.2	1792.5	1938.9	1956.2
53°	1774.7	1720.9	1590.8	1587.6	1565.1	1613.2	1582.7	1577.4	1709.2	1851.1	1837.2
54°	1672.4	1631.7	1519.3	1529.0	1521.7	1547.1	1501.2	1502.9	1623.3	1742.1	1738.3
55°	1605.5	1554.4	1458.3	1459.1	1430.5	1470.7	1427.2	1445.5	1553.3	1652.8	1643.8
56°	1546.7	1481.3	1389.8	1389.3	1358.2	1394.6	1353.2	1377.7	1482.5	1579.9	1562.5
57°	1464.7	1408.9	1328.1	1322.4	1295.5	1332.6	1280.6	1309.0	1411.6	1498.1	1489.9
58°	1378.3	1336.6	1278.0	1258.6	1248.1	1287.2	1229.8	1250.5	1341.2	1435.8	1419.5
59°	1310.0	1279.5	1224.3	1199.3	1207.4	1232.3	1183.9	1194.8	1275.9	1373.8	1346.3
60°	1268.4	1222.4	1158.7	1143.0	1149.0	1178.3	1128.2	1146.8	1219.1	1301.4	1274.0
61°	1203.4	1160.2	1106.5	1080.2	1082.2	1112.1	1071.4	1104.1	1170.1	1256.0	1227.0
62°	1158.3	1097.8	1053.8	1021.4	1020.0	1047.2	1013.1	1049.1	1112.7	1200.8	1169.3
63°	1105.8	1032.4	992.3	951.3	952.3	978.0	956.5	985.4	1053.7	1141.1	1106.2
64°	1042.2	975.2	930.8	892.1	898.1	916.7	894.8	929.2	991.3	1078.9	1048.5
65°	985.4	912.2	876.8	831.5	843.7	854.2	834.2	878.7	933.9	1013.6	990.7
66°	928.4	853.9	818.7	772.4	782.7	801.0	782.2	814.5	878.1	940.5	937.1
67°	865.7	787.4	758.7	723.2	723.1	746.6	734.2	759.1	821.1	873.4	881.6
68°	809.9	731.4	699.9	666.0	665.3	690.0	683.9	713.4	765.7	816.1	813.8
69°	749.2	672.4	648.8	613.5	610.1	628.2	627.7	661.0	711.7	749.3	754.1
70°	690.0	614.1	596.6	561.5	564.5	575.3	574.1	610.4	656.5	685.1	693.6
71°	633.1	556.7	554.1	511.6	513.6	517.8	523.3	564.0	597.2	632.5	633.3
72°	580.2	512.4	502.2	470.7	468.3	463.5	478.1	517.1	545.8	578.1	581.1
73°	531.9	466.1	454.0	428.0	418.3	418.8	432.5	465.2	493.1	534.2	532.4
74°	481.7	419.2	411.6	384.9	372.0	376.9	391.8	418.1	445.3	486.0	482.5
75°	430.5	376.7	370.0	345.0	334.1	338.2	353.7	371.0	400.9	438.7	440.5
76°	386.0	339.2	335.7	308.1	297.8	298.7	315.1	333.9	360.3	398.1	395.2
77°	344.8	304.6	295.0	271.2	263.0	259.2	276.6	296.4	323.6	357.1	359.8
78°	306.2	268.2	254.3	237.7	226.1	221.7	238.2	259.0	286.3	321.5	316.6
79°	267.6	232.7	220.2	204.0	192.4	189.7	204.1	224.5	249.3	281.0	273.3
80°	230.8	203.8	190.3	171.1	162.7	164.9	176.1	193.0	215.1	241.0	232.3
81°	197.1	174.7	164.6	147.1	143.4	144.9	157.7	164.8	183.9	204.7	199.1
82°	168.3	154.7	144.4	132.8	131.4	132.0	139.3	145.2	160.6	174.3	171.1
83°	146.6	134.8	131.3	122.5	121.7	122.2	128.2	130.9	143.3	155.4	150.4
84°	131.8	123.2	121.0	114.1	113.9	114.2	119.6	120.2	131.4	136.6	134.3
85°	120.6	114.1	112.3	107.7	107.6	107.7	112.3	111.8	120.7	125.3	123.4
86°	111.7	107.0	105.6	102.5	102.5	102.6	106.4	105.0	111.5	115.7	114.8
87°	105.0	101.5	100.4	98.3	98.6	98.3	101.2	99.8	104.9	108.3	107.7
88°	99.8	97.0	96.5	95.2	95.7	95.2	97.3	95.6	99.7	102.6	102.2
89°	95.8	93.7	93.4	93.2	93.7	93.2	94.6	92.6	95.7	98.2	97.9



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	92.8	91.6	91.3	92.3	93.0	92.5	93.0	90.7	92.9	94.7	94.2

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CATALOG NUMBER: UHBS-15-MV-L840-U-CDL-120V

CANDELA DISTRIBUTION (continued):

	330°	360°
0°	4810.8	4810.8
1°	4760.7	4781.2
2°	4826.9	4748.5
3°	4794.4	4739.3
4°	4809.1	4818.8
5°	4775.3	4866.4
6°	4880.4	4813.0
7°	4875.8	4803.4
8°	4968.2	4918.0
9°	4977.6	4944.6
10°	4951.9	5002.6
11°	5018.7	5073.0
12°	5118.2	5129.8
13°	5196.8	5317.2
14°	5301.1	5349.8
15°	5538.9	5441.7
16°	5624.8	5469.4
17°	5627.4	5723.0
18°	5830.2	5938.5
19°	6023.4	5916.8
20°	6101.0	6028.6
21°	6303.3	6223.6
22°	6326.9	6310.0
23°	6463.3	6368.8
24°	6503.9	6420.6
25°	6415.0	6442.1
26°	6347.8	6358.9
27°	6401.6	6268.0
28°	6201.0	6180.8
29°	6122.1	5931.0
30°	6071.5	5819.6
31°	5682.2	5669.5
32°	5607.0	5409.0
33°	5421.8	5212.3
34°	5179.2	5028.9
35°	4915.8	4784.4
36°	4655.4	4552.0
37°	4455.8	4359.3
38°	4352.3	4220.6
39°	4186.8	4069.1
40°	3995.4	3891.9
41°	3845.8	3727.1
42°	3683.5	3563.4
43°	3569.2	3364.1
44°	3370.1	3165.6

TEST NUMBER: P601044

CATALOG NUMBER: UHBS-15-MV-L840-U-CDL-120V

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	3206.4	3066.3
46°	2997.8	2830.3
47°	2766.2	2598.8
48°	2586.5	2429.8
49°	2428.5	2309.1
50°	2270.8	2136.0
51°	2148.9	2017.9
52°	1998.5	1885.6
53°	1863.6	1774.7
54°	1785.6	1672.4
55°	1689.6	1605.5
56°	1612.2	1546.7
57°	1529.4	1464.7
58°	1455.3	1378.3
59°	1381.1	1310.0
60°	1318.2	1268.4
61°	1269.3	1203.4
62°	1217.3	1158.3
63°	1155.5	1105.8
64°	1091.7	1042.2
65°	1030.8	985.4
66°	963.5	928.4
67°	900.2	865.7
68°	829.0	809.9
69°	760.8	749.2
70°	694.7	690.0
71°	631.5	633.1
72°	585.4	580.2
73°	531.8	531.9
74°	483.2	481.7
75°	433.4	430.5
76°	386.9	386.0
77°	345.4	344.8
78°	304.2	306.2
79°	267.6	267.6
80°	227.6	230.8
81°	194.0	197.1
82°	166.5	168.3
83°	145.0	146.6
84°	129.0	131.8
85°	119.1	120.6
86°	111.2	111.7
87°	104.6	105.0
88°	99.4	99.8
89°	95.4	95.8



TEST NUMBER: P601044
CATALOG NUMBER: UHBS-15-MV-L840-U-CDL-120V

CANDELA DISTRIBUTION (continued):

	330°	360°
90°	92.3	92.8

(END OF REPORT)