

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: P601053

Luminaire Tested: UHBS-18-MV-L850-U-CDL-277V

Issue Date: 8/28/2023

Test Information

Test Method: LM-79-2019
Report Number: P601053
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-L850-U-CDL-277V
Description: UHB Round Select with Clear Reflector with Lens Cover at 277V 18000 LUMEN SETTING AND 5000K
Light Source: -
Ballast/Driver: Electrical Driver

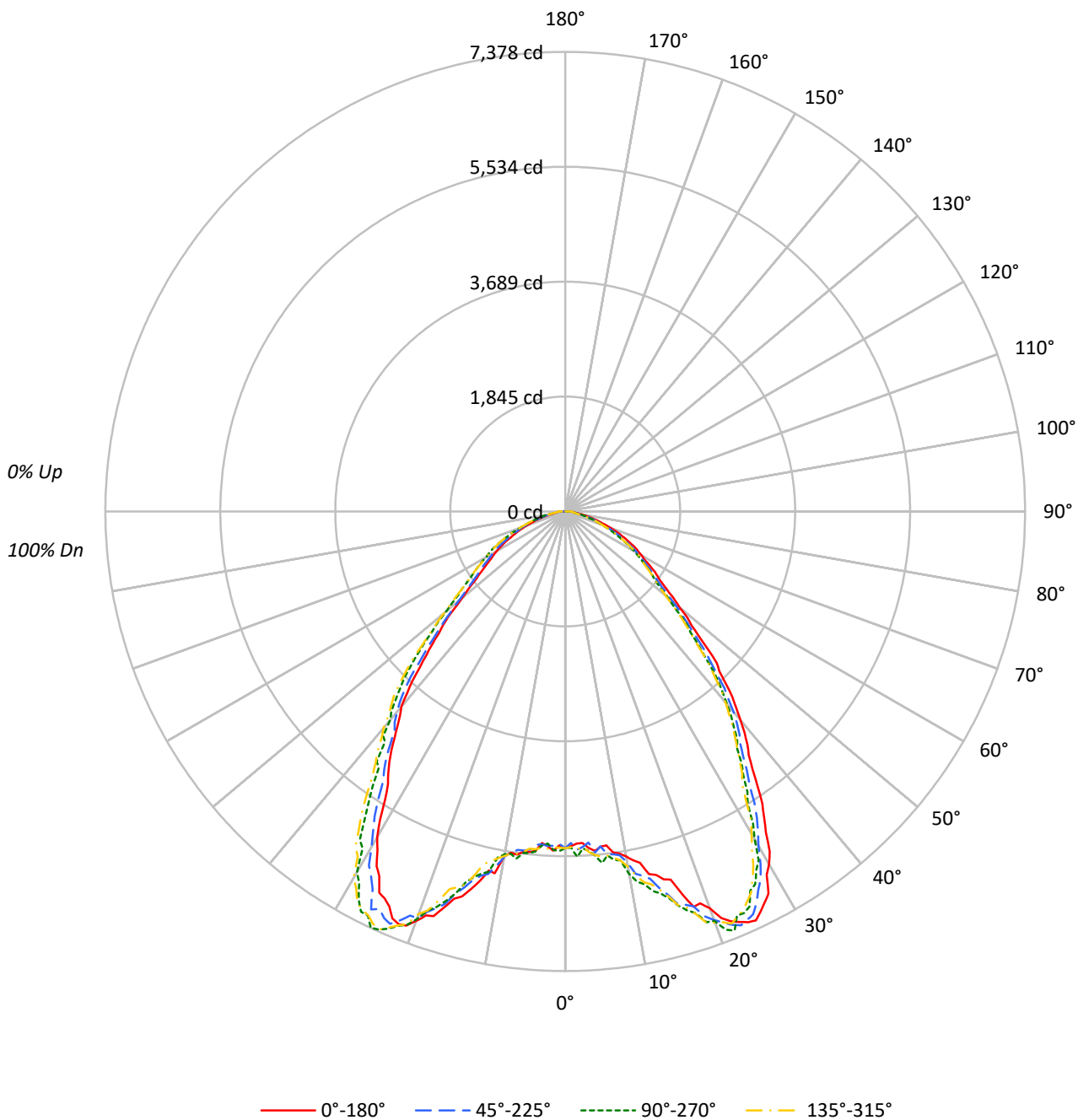
Summary

Lumens per Lamp: 12665 (1 lamp)
Luminaire Lumens: 14460.0 lumens
Efficiency: 114.2%
Efficacy: 121.0 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): 119.5
Input Voltage (V): 277
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-L850-U-CDL-277V

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	136	136	136	136	133	133	133	133	127	127	127	121	121	121	117	117	117	114
1	126	122	118	114	123	119	115	112	114	111	108	110	107	105	106	104	102	100
2	117	109	102	96	114	106	100	95	103	97	93	99	95	91	96	92	89	87
3	108	97	89	83	105	96	88	82	92	86	81	89	84	79	86	82	78	76
4	100	88	79	72	97	86	78	72	83	76	71	81	75	70	79	73	69	67
5	92	79	70	63	90	78	70	63	76	68	62	74	67	62	72	66	61	59
6	86	72	63	56	84	71	62	56	69	61	56	67	61	55	66	60	55	53
7	80	66	57	51	78	65	56	50	63	56	50	62	55	50	60	54	49	47
8	75	61	52	46	73	60	51	45	58	51	45	57	50	45	56	49	45	43
9	70	56	47	41	69	55	47	41	54	46	41	53	46	41	52	45	41	39
10	66	52	43	38	65	51	43	38	50	43	38	49	42	37	48	42	37	35

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	74092	74092	74092	74092
5°	75258	76337	75238	75388
10°	78263	82246	78095	77786
15°	86787	91161	90750	87468
20°	98844	102037	102062	101609
25°	109524	105833	103662	111566
30°	103511	96141	95518	105678
35°	89978	82503	82327	90170
40°	78268	72280	73130	78064
45°	66772	58522	58574	67931
50°	51160	45915	46069	52892
55°	43100	39172	38149	44376
60°	39059	35200	34761	40076
65°	35902	30298	30415	36937
70°	31059	25277	25870	30831
75°	25602	20551	21064	26111
80°	20473	15185	15627	21381
85°	21307	19027	19845	22140

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 270°
 Vertical Angle: 89°
 Luminance: 86616 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	527.0	3.6	4.2
10°-20°	1807.9	12.5	14.3
20°-30°	3202.5	22.1	25.3
30°-40°	3232.3	22.4	25.5
40°-50°	2486.8	17.2	19.6
50°-60°	1563.7	10.8	12.3
60°-70°	1018.1	7.0	8.0
70°-80°	468.6	3.2	3.7
80°-90°	153.1	1.1	1.2
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°	5537.3	38.3	43.7
0°-40°	8769.7	60.6	69.2
0°-60°	12820.2	88.7	101.2
0°-90°	14460.0	100.0	114.2
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°	14460.0	100.0	114.2

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	5406	5406	5406	5406	5406	
5°	5470	5549	5469	5480	5470	522
15°	6117	6425	6396	6165	6117	1767
25°	7243	6999	6855	7378	7243	3244
35°	5378	4931	4921	5390	5378	3371
45°	3445	3019	3022	3505	3445	2595
55°	1804	1639	1597	1857	1804	1640
65°	1107	934	938	1139	1107	1092
75°	484	388	398	493	484	523
85°	136	121	126	141	136	164
90°	104	104	104	106	104	



TEST NUMBER: P601053
 CATALOG NUMBER: UHBS-18-MV-L850-U-CDL-277V

CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	5406.2	5406.2	5406.2	5406.2	5406.2	5406.2	5406.2	5406.2	5406.2	5406.2	5406.2
1°	5374.3	5332.5	5312.0	5397.0	5363.9	5414.8	5362.4	5320.4	5354.4	5451.4	5445.9
2°	5333.5	5380.0	5486.1	5546.6	5443.7	5423.4	5450.0	5416.0	5324.3	5437.6	5375.0
3°	5330.0	5350.9	5434.0	5417.8	5379.7	5393.4	5380.2	5330.5	5419.1	5339.3	5453.8
4°	5416.1	5376.0	5277.7	5462.2	5546.8	5423.3	5335.4	5347.8	5366.0	5378.3	5406.7
5°	5470.4	5505.6	5486.6	5548.8	5527.2	5545.9	5468.9	5422.4	5325.0	5479.8	5517.6
6°	5410.8	5373.0	5440.1	5676.4	5571.6	5576.4	5498.9	5426.1	5497.4	5515.2	5401.2
7°	5399.0	5507.8	5578.9	5562.1	5597.0	5535.5	5505.8	5455.1	5514.4	5525.0	5522.8
8°	5528.9	5501.3	5611.3	5649.3	5603.8	5630.8	5563.0	5467.0	5510.5	5629.2	5511.9
9°	5560.1	5511.4	5669.3	5669.5	5694.9	5647.4	5547.8	5532.1	5550.7	5564.4	5523.2
10°	5623.8	5674.7	5774.3	5910.0	5826.1	5748.8	5611.7	5648.6	5613.9	5589.5	5666.6
11°	5702.5	5863.6	5985.7	6057.3	6000.4	5909.9	5918.9	5861.2	5732.3	5658.0	5708.1
12°	5767.7	5939.7	6024.8	6119.8	6101.3	6072.9	5893.4	5944.9	5959.0	5914.4	5720.6
13°	5975.2	5993.3	6106.5	6254.2	6143.9	6138.8	6087.4	6024.8	5976.8	5966.0	5783.7
14°	6012.8	6095.5	6351.8	6318.9	6338.6	6171.9	6250.8	6107.9	6084.8	6047.9	6082.7
15°	6116.7	6318.4	6424.5	6425.0	6431.4	6359.8	6396.0	6247.1	6246.5	6164.7	6180.2
16°	6147.9	6501.1	6624.0	6580.7	6593.2	6558.7	6468.3	6450.9	6311.0	6377.7	6237.6
17°	6432.4	6605.8	6603.5	6697.8	6658.3	6631.3	6650.2	6644.9	6531.4	6534.0	6355.5
18°	6674.6	6545.4	6782.8	6780.8	6780.0	6815.7	6829.0	6733.0	6656.1	6674.9	6580.9
19°	6651.8	6815.6	6936.6	6974.0	7092.3	6888.3	6859.2	6817.6	6777.0	6774.5	6780.8
20°	6777.3	7031.2	6924.0	6996.2	7071.2	6978.1	6997.9	6986.2	6914.4	6966.9	6895.2
21°	6995.4	7003.6	7137.0	7192.5	7088.4	7041.0	7121.5	6978.4	6916.0	7110.7	7119.1
22°	7094.7	7107.9	7202.7	7255.3	7167.2	7102.6	7142.8	7118.3	7047.3	7173.9	7223.6
23°	7160.1	7206.9	7227.8	7051.1	7082.5	7050.2	7098.1	7166.2	7214.7	7278.2	7253.7
24°	7217.5	7228.5	7122.7	7054.4	7034.3	6981.1	6940.8	7110.2	7179.5	7347.3	7382.4
25°	7242.8	7144.6	7127.2	6998.7	6911.0	6908.8	6855.1	7059.9	7018.5	7377.8	7399.3
26°	7148.3	6935.2	7052.7	6773.2	6856.8	6753.8	6808.7	7046.4	7172.3	7218.6	7291.6
27°	7047.9	6864.1	6786.3	6715.8	6603.2	6640.1	6570.4	6626.4	6990.2	7214.1	7162.4
28°	6947.8	6752.8	6605.3	6529.1	6495.2	6360.8	6447.0	6580.0	6688.1	7058.6	7234.7
29°	6667.2	6592.8	6339.1	6401.1	6180.8	6175.5	6210.9	6430.2	6562.6	6817.5	6954.0
30°	6540.9	6257.5	6145.6	6075.2	6001.7	5964.7	6035.8	6013.6	6408.5	6677.8	6756.0
31°	6370.3	6055.7	5963.2	5851.0	5768.8	5806.9	5770.4	5868.6	6104.2	6312.0	6535.8
32°	6078.0	5858.8	5747.6	5522.0	5461.3	5501.6	5447.4	5654.5	5881.3	6217.0	6391.8
33°	5857.6	5648.2	5495.8	5368.3	5255.0	5154.6	5219.3	5358.1	5652.3	5915.0	6049.8
34°	5653.7	5376.0	5192.2	5114.6	5067.4	5090.3	5076.1	5019.7	5424.0	5643.5	5855.6
35°	5378.0	5162.4	4999.8	4931.2	4849.6	4916.4	4920.7	4993.4	5137.8	5389.5	5579.7
36°	5116.9	4915.8	4801.5	4689.9	4730.2	4665.1	4747.5	4703.5	5059.5	5088.9	5288.0
37°	4895.9	4727.8	4612.4	4585.2	4524.3	4525.6	4546.9	4544.4	4751.0	5028.1	5098.2
38°	4746.2	4600.4	4480.5	4392.7	4353.7	4350.0	4372.8	4364.8	4521.9	4696.4	4897.0
39°	4573.4	4475.8	4275.7	4235.7	4155.7	4178.2	4211.2	4284.6	4411.2	4640.3	4660.4
40°	4374.8	4263.3	4141.0	4040.1	4047.8	3953.2	4087.6	4096.1	4297.0	4363.4	4573.0
41°	4189.8	4090.0	3899.7	3854.9	3856.1	3797.2	3863.2	3949.0	4130.9	4253.8	4284.9
42°	4006.7	3940.1	3687.9	3669.3	3556.4	3641.0	3670.6	3740.1	3947.7	4066.5	4183.8
43°	3781.8	3655.3	3476.6	3447.2	3431.5	3392.7	3422.6	3531.1	3762.3	3887.0	4030.6
44°	3558.1	3443.7	3284.7	3208.8	3227.3	3169.4	3205.5	3272.3	3481.0	3720.1	3811.2



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	3445.1	3263.7	3080.5	3019.4	2965.8	2939.3	3022.1	3054.1	3277.5	3504.9	3591.9
46°	3179.4	2991.9	2920.3	2801.7	2773.8	2799.7	2821.6	2842.1	3052.3	3289.7	3382.1
47°	2920.4	2811.7	2712.2	2671.1	2597.8	2624.4	2680.2	2668.3	2823.2	3069.3	3140.1
48°	2729.7	2610.4	2548.2	2476.3	2418.5	2459.2	2523.0	2498.9	2646.2	2860.1	2917.2
49°	2597.1	2527.9	2348.9	2279.8	2261.1	2282.8	2309.5	2334.9	2426.7	2700.6	2727.7
50°	2399.5	2344.3	2153.0	2153.5	2090.5	2130.4	2160.7	2150.7	2302.3	2480.7	2518.9
51°	2267.0	2195.8	2046.8	1995.4	1936.7	2019.3	2022.7	2020.5	2150.9	2336.8	2350.6
52°	2118.0	2043.4	1900.5	1867.2	1841.9	1899.9	1896.0	1881.0	2013.9	2177.3	2199.4
53°	1993.6	1933.1	1786.8	1783.7	1758.3	1812.3	1778.0	1772.2	1918.1	2080.0	2063.8
54°	1878.5	1833.9	1706.3	1717.3	1683.4	1737.3	1687.3	1688.8	1823.8	1957.3	1953.2
55°	1803.8	1747.4	1638.3	1639.4	1608.4	1652.6	1596.6	1623.8	1743.4	1857.2	1846.7
56°	1737.5	1666.3	1560.7	1560.8	1527.1	1566.9	1520.9	1548.2	1664.3	1774.5	1755.7
57°	1645.4	1585.0	1491.5	1485.3	1456.8	1496.6	1439.2	1470.0	1585.3	1699.6	1674.1
58°	1548.2	1502.1	1435.7	1414.1	1402.9	1446.0	1382.5	1405.1	1506.1	1624.8	1594.6
59°	1471.7	1437.3	1374.9	1347.3	1357.2	1384.5	1330.8	1342.3	1433.5	1543.1	1512.4
60°	1425.0	1373.8	1302.1	1284.2	1292.1	1323.7	1268.2	1288.6	1369.1	1462.1	1431.9
61°	1352.3	1303.8	1242.8	1213.3	1216.2	1249.3	1204.0	1240.2	1314.2	1411.2	1378.5
62°	1301.6	1234.3	1183.2	1147.3	1148.1	1176.4	1139.3	1178.5	1249.4	1348.7	1314.2
63°	1242.4	1160.6	1114.7	1068.8	1071.3	1098.5	1075.0	1107.0	1183.3	1282.2	1243.2
64°	1170.6	1095.8	1045.5	1002.1	1010.2	1029.5	1006.1	1043.2	1113.4	1212.2	1177.4
65°	1107.1	1025.4	985.1	934.3	949.0	958.7	937.9	987.3	1049.1	1139.0	1113.4
66°	1043.1	959.9	920.4	867.7	880.1	900.1	879.3	915.1	986.3	1056.9	1053.7
67°	972.5	884.9	851.5	812.3	812.6	838.4	825.3	853.3	922.4	981.4	989.6
68°	910.0	822.5	786.5	748.6	748.1	775.4	769.1	801.2	860.1	916.8	914.3
69°	841.1	756.3	728.5	689.1	685.4	705.2	705.3	742.6	799.0	841.4	847.2
70°	775.1	690.8	670.3	630.8	634.7	646.2	645.6	685.7	737.1	769.4	779.5
71°	711.2	625.8	622.3	574.4	577.7	581.9	588.1	633.9	670.6	710.6	711.4
72°	651.5	576.1	563.6	528.8	527.0	520.3	537.4	580.5	612.7	649.7	652.4
73°	597.3	524.2	509.7	481.1	470.7	470.6	486.4	522.5	554.0	600.1	598.0
74°	541.3	471.3	462.4	432.3	418.7	423.3	440.4	469.6	500.1	546.2	542.3
75°	483.5	423.4	415.2	388.1	376.0	379.8	397.8	416.6	450.3	493.1	494.7
76°	433.5	381.4	372.0	346.5	334.9	335.2	354.3	375.2	404.3	447.4	443.8
77°	387.3	342.5	328.8	304.8	295.8	290.7	311.1	332.9	363.6	401.3	404.6
78°	344.0	301.5	285.6	267.2	254.5	249.0	268.0	290.7	321.5	361.3	355.8
79°	300.6	261.6	247.3	229.5	216.3	213.1	229.7	252.3	280.0	315.6	307.1
80°	259.4	229.2	213.9	192.4	183.0	185.2	198.0	216.7	241.5	270.9	261.3
81°	221.5	196.6	185.1	165.4	161.5	162.7	177.3	185.1	206.4	229.9	223.7
82°	189.1	174.1	162.3	149.3	147.9	148.4	156.6	163.2	183.7	195.8	192.0
83°	164.7	151.7	147.6	137.7	136.8	137.2	144.1	147.1	161.0	174.6	169.0
84°	148.0	138.5	135.9	128.3	128.0	128.2	134.4	135.1	147.6	153.5	150.9
85°	135.5	128.2	126.2	121.0	120.9	120.9	126.2	125.6	135.6	140.8	138.7
86°	125.5	120.2	118.7	115.2	115.3	115.3	119.6	117.9	125.2	130.0	129.0
87°	118.0	114.1	112.8	110.4	110.8	110.4	113.7	112.1	117.8	121.6	120.9
88°	112.1	109.0	108.3	107.0	107.6	106.9	109.4	107.5	112.0	115.3	114.8
89°	107.6	105.3	104.9	104.7	105.4	104.7	106.3	104.0	107.5	110.3	110.0



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	104.3	103.0	102.6	103.8	104.5	103.9	104.5	102.0	104.4	106.4	105.9

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CANDELA DISTRIBUTION (continued):

	330°	360°
0°	5406.2	5406.2
1°	5348.3	5374.3
2°	5423.6	5333.5
3°	5389.4	5330.0
4°	5404.7	5416.1
5°	5366.8	5470.4
6°	5484.0	5410.8
7°	5480.4	5399.0
8°	5584.3	5528.9
9°	5594.3	5560.1
10°	5566.9	5623.8
11°	5636.5	5702.5
12°	5751.2	5767.7
13°	5839.3	5975.2
14°	5957.1	6012.8
15°	6225.5	6116.7
16°	6318.5	6147.9
17°	6324.5	6432.4
18°	6553.0	6674.6
19°	6768.6	6651.8
20°	6856.5	6777.3
21°	7083.2	6995.4
22°	7108.3	7094.7
23°	7264.0	7160.1
24°	7306.9	7217.5
25°	7210.8	7242.8
26°	7132.7	7148.3
27°	7196.4	7047.9
28°	6970.6	6947.8
29°	6880.7	6667.2
30°	6827.4	6540.9
31°	6386.9	6370.3
32°	6309.7	6078.0
33°	6095.8	5857.6
34°	5821.5	5653.7
35°	5528.4	5378.0
36°	5234.0	5116.9
37°	5007.7	4895.9
38°	4891.4	4746.2
39°	4708.0	4573.4
40°	4490.7	4374.8
41°	4322.9	4189.8
42°	4139.8	4006.7
43°	4014.9	3781.8
44°	3788.6	3558.1



TEST NUMBER: P601053
CATALOG NUMBER: UHBS-18-MV-L850-U-CDL-277V

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	3605.4	3445.1
46°	3369.0	3179.4
47°	3109.2	2920.4
48°	2906.6	2729.7
49°	2729.7	2597.1
50°	2551.6	2399.5
51°	2415.5	2267.0
52°	2244.9	2118.0
53°	2094.2	1993.6
54°	2006.6	1878.5
55°	1897.1	1803.8
56°	1811.4	1737.5
57°	1718.8	1645.4
58°	1635.2	1548.2
59°	1551.9	1471.7
60°	1480.7	1425.0
61°	1425.8	1352.3
62°	1367.6	1301.6
63°	1299.1	1242.4
64°	1226.2	1170.6
65°	1159.3	1107.1
66°	1082.0	1043.1
67°	1011.5	972.5
68°	931.8	910.0
69°	855.6	841.1
70°	781.1	775.1
71°	710.1	711.2
72°	658.1	651.5
73°	598.0	597.3
74°	543.6	541.3
75°	487.1	483.5
76°	434.7	433.5
77°	388.2	387.3
78°	342.1	344.0
79°	301.2	300.6
80°	256.3	259.4
81°	218.4	221.5
82°	187.1	189.1
83°	163.1	164.7
84°	145.1	148.0
85°	133.8	135.5
86°	124.9	125.5
87°	117.6	118.0
88°	111.7	112.1
89°	107.2	107.6



TEST NUMBER: P601053
CATALOG NUMBER: UHBS-18-MV-L850-U-CDL-277V

CANDELA DISTRIBUTION (continued):

	330°	360°
90°	103.7	104.3

(END OF REPORT)