

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: P601052

Luminaire Tested: UHBS-18-MV-L840-U-CDL-277V

Issue Date: 8/28/2023

Test Information

Test Method: LM-79-2019
Report Number: P601052
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-277V
Description: UHB Round Select with Clear Reflector with Lens Cover at 277V 18000 LUMEN SETTING AND 4000K
Light Source: -
Ballast/Driver: Electrical Driver

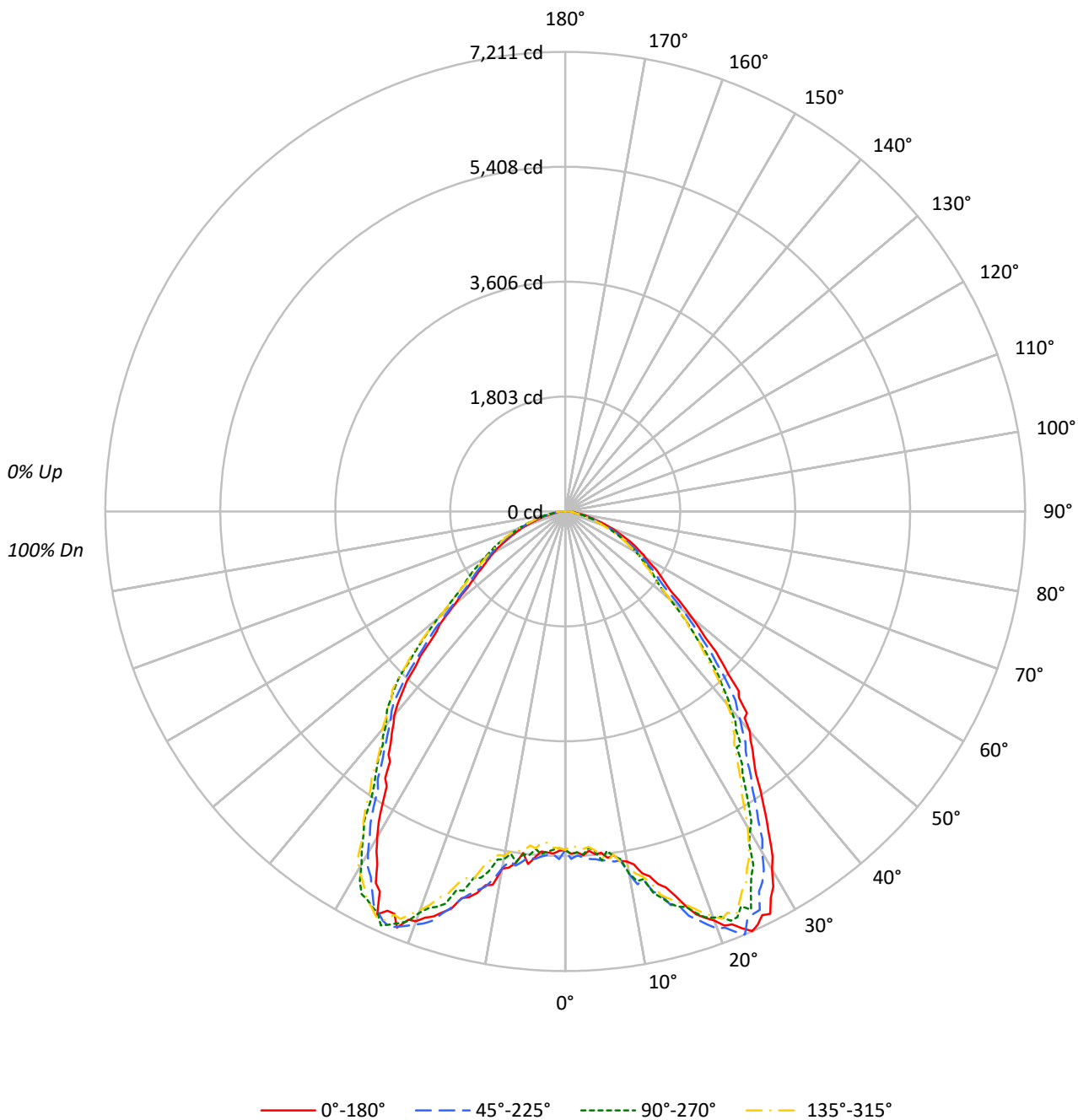
Summary

Lumens per Lamp: 14407 (1 lamp)
Luminaire Lumens: 14407.0 lumens
Efficiency: 100.0%
Efficacy: 121.9 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): 118.2
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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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	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	38	33	44	37	33	43	37	32	42	36	32	31

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	72798	72798	72798	72798
5°	74261	73675	74932	73125
10°	77604	80206	79194	77153
15°	86631	90418	89100	87413
20°	99610	98943	99773	97769
25°	108109	104250	105451	105186
30°	102620	91691	93256	101087
35°	89379	80863	80159	87294
40°	80554	72035	74574	78091
45°	70259	60239	62258	71271
50°	55506	45570	48005	55593
55°	44916	39447	39621	45308
60°	39931	35375	35595	40161
65°	36570	31099	30970	35944
70°	31307	26238	26038	30774
75°	25322	21514	20874	25920
80°	20647	15990	15595	21120
85°	21354	18838	19499	21700

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 240°
 Vertical Angle: 89°
 Luminance: 87009 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	521.3	3.6	3.6
10°-20°	1785.6	12.4	12.4
20°-30°	3114.4	21.6	21.6
30°-40°	3183.3	22.1	22.1
40°-50°	2574.0	17.9	17.9
50°-60°	1587.1	11.0	11.0
60°-70°	1017.0	7.1	7.1
70°-80°	470.5	3.3	3.3
80°-90°	153.8	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°	5421.3	37.6	37.6
0°-40°	8604.6	59.7	59.7
0°-60°	12765.7	88.6	88.6
0°-90°	14407.0	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°	14407.0	100.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	5312	5312	5312	5312	5312	
5°	5398	5355	5447	5315	5398	520
15°	6106	6373	6280	6161	6106	1772
25°	7149	6894	6973	6956	7149	3227
35°	5342	4833	4791	5218	5342	3364
45°	3625	3108	3212	3677	3625	2770
55°	1880	1651	1658	1896	1880	1722
65°	1128	959	955	1108	1128	1110
75°	478	406	394	490	478	524
85°	136	120	124	138	136	166
90°	104	100	104	105	104	



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CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	5311.8	5311.8	5311.8	5311.8	5311.8	5311.8	5311.8	5311.8	5311.8	5311.8	5311.8
1°	5372.1	5422.9	5481.0	5373.9	5330.4	5158.3	5324.6	5416.1	5496.9	5283.8	5323.5
2°	5348.5	5374.8	5429.8	5353.4	5300.1	5237.1	5371.9	5339.3	5419.0	5311.6	5293.2
3°	5402.3	5380.7	5486.0	5390.2	5273.1	5330.2	5360.1	5414.6	5375.7	5346.1	5252.2
4°	5336.8	5450.4	5478.8	5285.8	5256.1	5298.3	5347.5	5447.8	5408.9	5388.8	5273.9
5°	5397.9	5489.3	5466.8	5355.3	5328.9	5343.6	5446.7	5413.5	5531.9	5315.3	5272.8
6°	5384.4	5445.5	5563.6	5506.9	5437.0	5419.5	5562.3	5479.7	5431.1	5426.7	5268.6
7°	5476.0	5490.2	5550.0	5364.1	5512.7	5525.1	5398.0	5538.4	5537.5	5418.3	5365.7
8°	5444.6	5502.7	5592.1	5461.5	5448.0	5424.7	5569.6	5584.1	5636.7	5553.7	5379.3
9°	5548.2	5588.2	5502.4	5518.5	5558.1	5590.4	5656.5	5577.2	5532.5	5439.5	5404.7
10°	5576.4	5702.0	5845.6	5763.4	5674.0	5634.0	5690.7	5678.2	5682.6	5544.0	5526.6
11°	5641.2	5929.6	5987.4	5907.4	5776.2	5795.1	5969.7	5923.3	5826.7	5562.7	5519.2
12°	5803.3	5912.4	5902.2	5898.3	5842.9	5880.4	5991.7	5977.1	6062.0	5775.4	5578.0
13°	5872.6	6075.4	6165.3	6140.2	6015.5	5952.7	6142.6	6141.6	6050.7	5900.6	5788.6
14°	6026.8	6183.7	6220.3	6244.9	6197.9	6209.7	6237.9	6228.2	6151.6	5925.0	5969.6
15°	6105.7	6355.0	6429.3	6372.6	6259.0	6318.9	6279.7	6266.4	6319.8	6160.8	5906.3
16°	6280.0	6414.3	6428.7	6449.9	6324.5	6410.7	6481.4	6422.9	6500.6	6183.8	6066.8
17°	6475.9	6584.9	6685.8	6488.4	6437.8	6456.2	6576.6	6631.5	6562.1	6439.0	6303.0
18°	6644.1	6708.6	6764.3	6622.7	6517.7	6586.0	6680.9	6720.4	6787.1	6523.8	6302.9
19°	6745.0	6861.4	6845.0	6732.2	6599.2	6730.6	6738.9	6828.0	6845.4	6580.8	6533.9
20°	6829.8	6965.5	6966.5	6784.1	6713.4	6787.0	6841.0	6916.5	6888.8	6703.6	6739.9
21°	6960.9	7041.1	6950.5	6814.2	6827.6	6872.6	6859.5	6962.1	6966.5	6887.1	6789.9
22°	6987.1	7111.1	7109.8	6925.8	6793.8	6786.0	7041.0	7024.0	7038.5	6967.6	6912.2
23°	7106.3	7306.3	7115.1	6916.2	6883.0	6849.9	6858.6	7066.0	7090.2	7041.4	6805.5
24°	7208.0	7034.2	7005.2	6781.5	6692.5	6735.9	6855.1	6936.5	7123.1	7109.2	6966.3
25°	7149.2	7097.6	6844.4	6894.0	6533.7	6593.7	6973.4	6979.1	6900.8	6955.9	7086.4
26°	7048.1	7121.8	6793.7	6639.8	6466.6	6481.3	6632.3	6750.2	6961.5	6901.5	6951.2
27°	7084.2	6746.4	6639.6	6428.9	6282.4	6278.4	6541.3	6598.5	6744.9	6836.5	6779.2
28°	6865.7	6715.9	6456.9	6284.5	6106.8	6180.6	6276.0	6301.7	6687.5	6798.5	6644.4
29°	6730.4	6531.9	6317.7	5944.3	5960.1	5916.4	6102.8	6282.9	6480.4	6644.5	6621.9
30°	6484.6	6297.4	6053.1	5794.0	5711.1	5733.7	5892.9	6006.4	6356.6	6387.7	6456.7
31°	6315.6	6139.6	5856.8	5669.5	5413.2	5527.1	5678.4	5796.6	6104.3	6191.5	6268.0
32°	6051.5	5812.5	5613.8	5430.3	5250.4	5196.1	5404.8	5595.9	5919.8	5963.2	5990.8
33°	5805.9	5554.1	5422.2	5192.1	5072.4	5074.1	5140.8	5327.4	5688.4	5788.7	5790.7
34°	5565.3	5316.4	5177.8	4976.5	4888.0	4845.2	5048.8	5110.4	5391.5	5437.7	5581.2
35°	5342.2	5195.9	4969.4	4833.2	4675.9	4699.4	4791.1	5006.4	5242.4	5217.6	5328.2
36°	5086.4	4933.2	4795.3	4573.5	4480.7	4532.3	4713.7	4768.5	5023.7	5044.2	5178.5
37°	4919.2	4773.0	4630.7	4571.6	4416.9	4414.3	4540.5	4618.0	4826.2	4868.7	4909.1
38°	4778.6	4632.5	4549.7	4349.9	4269.7	4244.3	4418.7	4434.7	4671.3	4641.9	4710.9
39°	4617.2	4476.0	4354.0	4243.5	4139.7	4160.8	4276.3	4297.6	4498.6	4540.2	4595.1
40°	4502.6	4333.4	4205.3	4026.4	3900.2	3986.9	4168.3	4116.8	4407.3	4364.9	4459.0
41°	4291.0	4147.5	4077.7	3892.3	3753.7	3816.4	4000.3	4028.6	4272.2	4273.2	4298.6
42°	4258.1	4104.2	3869.1	3678.8	3588.0	3667.2	3815.6	3898.1	4104.0	4170.6	4180.3
43°	3993.2	3854.9	3710.1	3522.6	3403.2	3449.1	3642.2	3678.1	3898.1	3996.8	3932.5
44°	3918.0	3674.1	3466.5	3315.5	3131.9	3240.7	3373.1	3432.3	3702.8	3852.0	3928.0



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	3625.0	3468.3	3223.2	3108.0	3022.8	3033.4	3212.2	3186.9	3471.5	3677.2	3700.7
46°	3429.6	3281.6	3048.0	2870.9	2886.4	2920.9	2945.3	3031.1	3187.9	3411.5	3479.1
47°	3233.7	2997.1	2876.0	2698.9	2622.4	2677.1	2754.8	2829.8	3000.3	3206.4	3272.0
48°	2958.9	2819.3	2721.4	2517.0	2479.0	2610.5	2645.1	2673.3	2766.7	3001.0	3064.1
49°	2786.1	2653.4	2510.7	2336.6	2238.9	2350.6	2435.7	2452.9	2564.8	2801.7	2802.1
50°	2603.3	2526.2	2312.9	2137.3	2075.9	2193.1	2251.5	2250.8	2400.5	2607.4	2570.0
51°	2427.4	2352.5	2136.2	1978.3	1942.6	2044.6	2105.7	2112.1	2217.7	2376.9	2365.9
52°	2256.1	2146.2	1967.9	1869.1	1813.3	1902.8	1945.0	1959.1	2070.0	2224.6	2221.3
53°	2070.3	1991.3	1840.2	1778.3	1730.9	1785.2	1846.4	1827.4	1944.0	2072.6	2059.1
54°	1964.8	1888.0	1760.0	1719.7	1660.5	1715.2	1746.2	1739.6	1868.5	1956.6	1913.9
55°	1879.8	1799.7	1694.2	1650.9	1583.0	1637.2	1658.2	1669.9	1793.1	1896.2	1805.4
56°	1804.1	1724.6	1618.6	1570.9	1492.9	1548.4	1563.1	1592.5	1711.5	1809.1	1711.6
57°	1722.6	1642.1	1540.3	1490.3	1427.9	1470.1	1491.7	1510.9	1624.8	1724.3	1647.7
58°	1625.5	1539.1	1467.1	1413.2	1363.1	1412.2	1420.4	1436.3	1536.5	1630.1	1546.8
59°	1527.0	1471.5	1412.5	1351.6	1301.8	1361.3	1362.2	1371.1	1463.2	1537.0	1448.3
60°	1456.8	1403.9	1341.6	1290.6	1240.7	1293.3	1298.6	1319.9	1389.9	1465.2	1388.9
61°	1398.6	1335.9	1277.9	1229.9	1182.0	1227.5	1234.1	1264.9	1330.6	1393.5	1314.8
62°	1328.0	1249.5	1215.1	1155.8	1114.5	1161.2	1166.9	1194.8	1261.7	1320.0	1254.6
63°	1263.9	1174.4	1144.3	1083.4	1045.6	1085.8	1097.3	1134.9	1191.6	1257.4	1190.0
64°	1201.8	1102.3	1075.0	1019.3	981.8	1016.2	1024.4	1074.9	1131.3	1193.7	1135.0
65°	1127.7	1037.0	1003.5	959.0	918.6	948.4	955.0	1003.8	1061.9	1108.4	1076.3
66°	1048.0	962.1	936.1	897.5	850.9	880.3	888.5	939.0	998.4	1037.0	1007.0
67°	985.4	900.8	865.9	830.9	788.1	816.0	829.5	872.1	936.7	958.7	957.2
68°	908.8	830.6	802.4	767.0	733.2	754.3	770.8	811.1	871.7	887.5	904.7
69°	849.7	764.7	742.6	706.7	676.4	689.6	709.7	754.5	804.5	825.1	830.0
70°	781.3	696.2	683.2	654.8	622.1	628.2	649.8	696.2	743.1	768.0	758.5
71°	714.8	640.2	626.3	602.7	571.3	567.1	592.7	636.2	687.2	704.6	695.4
72°	656.0	583.2	571.5	543.2	514.8	511.0	534.3	579.8	626.5	645.6	628.8
73°	598.9	529.0	520.6	495.5	467.8	457.2	484.2	529.0	570.7	592.5	582.1
74°	536.6	473.8	474.7	452.7	418.3	409.4	436.9	478.6	516.1	536.0	538.4
75°	478.2	431.3	426.2	406.3	374.3	363.6	394.2	431.0	468.4	489.5	488.4
76°	429.0	386.0	382.3	358.9	331.8	323.3	353.6	384.6	420.5	439.4	440.0
77°	387.9	353.0	340.8	317.2	291.7	283.0	311.8	342.3	374.2	392.7	392.6
78°	346.0	312.6	299.7	275.5	253.6	243.4	267.8	302.3	330.5	352.4	351.6
79°	303.8	270.6	258.6	238.7	218.0	208.5	229.2	262.3	286.9	312.4	310.5
80°	261.6	234.8	223.0	202.6	186.2	179.5	197.6	223.7	247.6	267.6	269.4
81°	226.4	203.4	191.7	169.8	163.4	159.2	172.2	192.3	214.0	229.3	228.8
82°	196.2	176.7	165.8	150.0	147.3	145.5	156.9	168.0	186.5	197.3	196.1
83°	166.4	159.0	148.6	137.4	135.9	134.9	141.6	151.8	166.4	170.5	168.9
84°	148.2	141.4	137.1	127.8	126.7	126.4	131.9	139.2	151.1	154.2	149.4
85°	135.8	129.7	127.8	119.8	119.5	119.3	124.0	129.3	138.5	138.0	136.8
86°	126.1	121.5	120.2	113.3	113.3	113.2	117.5	121.5	129.4	127.8	126.7
87°	118.5	114.9	114.1	108.4	108.1	108.3	112.1	115.2	122.0	120.2	118.6
88°	112.1	109.7	109.0	104.5	104.3	104.7	107.9	110.3	115.9	113.8	112.1
89°	107.1	105.6	105.2	101.9	101.9	102.4	105.2	106.5	110.8	108.8	106.8



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	103.5	102.8	102.8	100.4	101.0	101.4	103.7	104.2	106.8	104.8	102.8



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CANDELA DISTRIBUTION (continued):

	330°	360°
0°	5311.8	5311.8
1°	5244.0	5372.1
2°	5259.4	5348.5
3°	5159.7	5402.3
4°	5122.8	5336.8
5°	5342.9	5397.9
6°	5271.0	5384.4
7°	5354.8	5476.0
8°	5378.2	5444.6
9°	5378.2	5548.2
10°	5444.6	5576.4
11°	5461.9	5641.2
12°	5603.5	5803.3
13°	5654.0	5872.6
14°	5922.6	6026.8
15°	6000.4	6105.7
16°	6065.0	6280.0
17°	6225.3	6475.9
18°	6429.2	6644.1
19°	6526.4	6745.0
20°	6579.8	6829.8
21°	6746.7	6960.9
22°	6875.7	6987.1
23°	6942.0	7106.3
24°	7096.1	7208.0
25°	6942.4	7149.2
26°	6882.6	7048.1
27°	6904.5	7084.2
28°	6755.9	6865.7
29°	6542.1	6730.4
30°	6514.2	6484.6
31°	6337.6	6315.6
32°	5942.7	6051.5
33°	5828.3	5805.9
34°	5602.2	5565.3
35°	5309.7	5342.2
36°	5148.6	5086.4
37°	4875.5	4919.2
38°	4721.3	4778.6
39°	4540.2	4617.2
40°	4456.9	4502.6
41°	4261.8	4291.0
42°	4149.3	4258.1
43°	4026.2	3993.2
44°	3885.1	3918.0

TEST NUMBER: P601052
CATALOG NUMBER: UHBS-18-MV-L840-U-CDL-277V

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	3667.5	3625.0
46°	3445.2	3429.6
47°	3277.0	3233.7
48°	3053.6	2958.9
49°	2790.5	2786.1
50°	2597.9	2603.3
51°	2413.0	2427.4
52°	2259.1	2256.1
53°	2097.9	2070.3
54°	1975.1	1964.8
55°	1863.9	1879.8
56°	1777.3	1804.1
57°	1688.4	1722.6
58°	1602.8	1625.5
59°	1521.5	1527.0
60°	1450.9	1456.8
61°	1380.5	1398.6
62°	1314.8	1328.0
63°	1258.1	1263.9
64°	1184.9	1201.8
65°	1115.7	1127.7
66°	1065.1	1048.0
67°	988.2	985.4
68°	913.8	908.8
69°	842.0	849.7
70°	778.3	781.3
71°	713.8	714.8
72°	647.7	656.0
73°	592.9	598.9
74°	529.4	536.6
75°	477.8	478.2
76°	429.5	429.0
77°	385.4	387.9
78°	345.8	346.0
79°	301.1	303.8
80°	260.2	261.6
81°	222.6	226.4
82°	192.0	196.2
83°	163.7	166.4
84°	145.7	148.2
85°	133.6	135.8
86°	124.3	126.1
87°	116.6	118.5
88°	110.5	112.1
89°	105.8	107.1

TEST NUMBER: P601052
CATALOG NUMBER: UHBS-18-MV-L840-U-CDL-277V

CANDELA DISTRIBUTION (continued):

	330°	360°
90°	102.1	103.5

(END OF REPORT)