

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: P601065

Luminaire Tested: UHBS-36-MV-L840-U-CDL-120V

Issue Date: 8/28/2023

Test Information

Test Method: LM-79-2019
Report Number: P601065
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-36-MV-L840-U-CDL-120V
Description: UHB Round Select with Clear Reflector with Lens Cover at 120V 36000 LUMEN SETTING AND 4000K
Light Source: -
Ballast/Driver: Electrical Driver

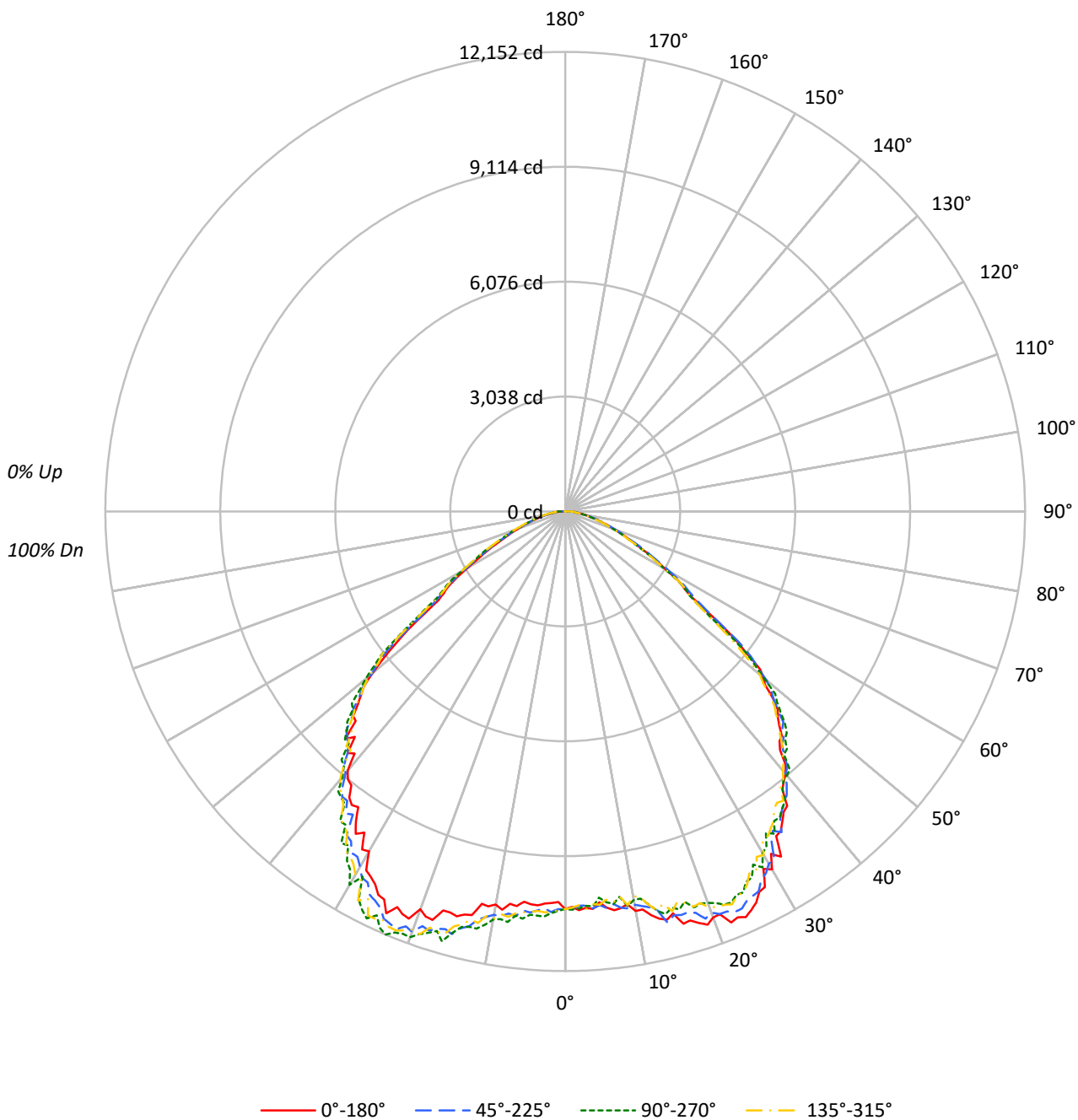
Summary

Lumens per Lamp: 29389 (1 lamp)
Luminaire Lumens: 29389.0 lumens
Efficiency: 100.0%
Efficacy: 121.5 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.45 / 1.47
Luminous Opening: Circular (Dia: 1.33' x H: 0')
CIE Type: Direct

Input Watts (W): 241.8
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-36-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				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	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	76	70	91	82	75	70	79	73	69	77	72	67	74	70	66	64
4	86	75	67	61	84	74	66	60	71	65	59	69	63	59	67	62	58	56
5	79	67	59	53	77	66	58	53	64	57	52	62	56	51	60	55	51	49
6	73	61	52	46	72	60	52	46	58	51	46	57	50	45	55	49	45	43
7	68	55	47	41	66	55	47	41	53	46	41	52	45	41	50	45	40	38
8	63	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34
9	59	46	39	33	58	46	38	33	45	38	33	44	37	33	43	37	33	31
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	40	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	81442	81442	81442	81442
5°	80680	79739	81077	83270
10°	84382	82046	83029	86192
15°	88254	86978	88887	92577
20°	94213	90783	92259	98739
25°	99453	95051	96778	100744
30°	97772	93308	92816	101950
35°	94637	93473	90230	95687
40°	91575	92163	90443	92687
45°	87685	90735	85811	89318
50°	82336	82625	79967	82833
55°	60315	57499	55338	61296
60°	47867	46626	45690	49172
65°	37780	37082	36050	38767
70°	31436	30486	29644	31585
75°	26738	25957	24996	26885
80°	23915	23317	21916	24357
85°	26162	24526	23682	26322

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 330°
 Vertical Angle: 89°
 Luminance: 92028 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	1010.4	3.4	3.4
10°-20°	3166.0	10.8	10.8
20°-30°	5247.3	17.9	17.9
30°-40°	6225.5	21.2	21.2
40°-50°	6180.1	21.0	21.0
50°-60°	4169.7	14.2	14.2
60°-70°	2100.6	7.1	7.1
70°-80°	950.8	3.2	3.2
80°-90°	338.6	1.2	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°	9423.7	32.1	32.1
0°-40°	15649.2	53.2	53.2
0°-60°	25999.0	88.5	88.5
0°-90°	29389.0	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°	29389.0	100.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	10512	10512	10512	10512	10512	
5°	10374	10253	10425	10707	10374	1007
15°	11003	10844	11082	11542	11003	3175
25°	11634	11119	11321	11785	11634	5275
35°	10006	9883	9540	10117	10006	6246
45°	8003	8281	7832	8152	8003	6152
55°	4465	4257	4097	4538	4465	4228
65°	2061	2023	1966	2115	2061	2099
75°	893	867	835	898	893	971
85°	294	276	266	296	294	349
90°	189	185	185	190	189	



TEST NUMBER: P601065
 CATALOG NUMBER: UHBS-36-MV-L840-U-CDL-120V

CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	10511.7	10511.7	10511.7	10511.7	10511.7	10511.7	10511.7	10511.7	10511.7	10511.7	10511.7
1°	10458.7	10454.7	10539.7	10532.7	10420.7	10528.7	10330.7	10550.7	10482.7	10558.7	10566.7
2°	10549.7	10495.7	10372.7	10500.7	10358.7	10479.7	10356.7	10508.7	10684.7	10632.7	10646.7
3°	10493.7	10429.7	10434.7	10439.7	10587.7	10467.7	10381.7	10484.7	10543.7	10724.7	10693.7
4°	10536.7	10634.7	10414.7	10464.7	10335.7	10479.7	10438.7	10470.7	10682.7	10708.7	10524.7
5°	10373.7	10458.7	10430.7	10252.7	10408.7	10466.7	10424.7	10673.7	10615.7	10706.7	10626.7
6°	10532.7	10587.7	10501.7	10387.7	10292.7	10344.7	10373.7	10565.7	10645.7	10829.7	10760.7
7°	10622.7	10452.7	10467.7	10458.7	10434.7	10406.7	10514.7	10718.7	10844.7	10767.7	10876.7
8°	10591.7	10730.7	10432.7	10287.7	10280.7	10275.7	10478.7	10492.7	10976.7	10959.7	10969.7
9°	10514.7	10734.7	10524.7	10562.7	10590.7	10490.7	10659.7	10821.7	10838.7	10911.7	10832.7
10°	10725.7	10616.7	10508.7	10428.7	10204.7	10443.7	10553.7	10755.7	10908.7	10955.7	11038.7
11°	10718.7	10713.7	10539.7	10428.7	10361.7	10416.7	10635.7	10835.7	11007.7	11133.7	11011.7
12°	10912.7	10745.7	10656.7	10624.7	10567.7	10713.7	10603.7	10910.7	11128.7	11276.7	11141.7
13°	11048.7	10912.7	10723.7	10833.7	10780.7	10856.7	10951.7	11183.7	11317.7	11272.7	11050.7
14°	11124.7	11331.7	11101.7	10972.7	10680.7	10700.7	10981.7	11383.7	11321.7	11319.7	11270.7
15°	11002.7	11204.7	10903.7	10843.7	11075.7	10809.7	11081.7	11430.7	11705.7	11541.7	11284.7
16°	11339.7	11146.7	11050.7	10946.7	10710.7	10774.7	11028.7	11429.7	11549.7	11823.7	11594.7
17°	11306.7	11138.7	11031.7	10791.7	10691.7	10950.7	11033.7	11418.7	11663.7	11597.7	11742.7
18°	11441.7	11344.7	10975.7	11010.7	10957.7	11010.7	11353.7	11585.7	11718.7	11713.7	11592.7
19°	11556.7	11440.7	11334.7	10967.7	10957.7	10940.7	11330.7	11517.7	11674.7	11817.7	11923.6
20°	11426.7	11361.7	11215.7	11010.7	11121.7	11176.7	11189.7	11661.7	11998.6	11975.6	11836.6
21°	11410.7	11489.7	11314.7	11089.7	11196.7	11186.7	11530.7	11672.7	11830.6	11963.6	11922.6
22°	11718.7	11576.7	11243.7	11215.7	11122.7	11313.7	11481.7	11793.7	12024.6	12004.6	12105.6
23°	11658.7	11635.7	11365.7	11233.7	11219.7	11351.7	11363.7	11781.7	11906.6	12151.6	12060.6
24°	11738.7	11550.7	11428.7	11103.7	11118.7	11132.7	11629.7	11746.7	11830.6	12049.6	11936.6
25°	11633.7	11447.7	11266.7	11118.7	11000.7	11244.7	11320.7	11468.7	11658.7	11784.7	11928.6
26°	11509.7	11436.7	11184.7	10898.7	10783.7	11149.7	11275.7	11333.7	11574.7	11969.6	11917.6
27°	11292.7	11381.7	11150.7	10863.7	10635.7	10807.7	11063.7	11307.7	11440.7	11826.6	11535.7
28°	11246.7	11089.7	10959.7	10573.7	10724.7	10780.7	10940.7	11045.7	11171.7	11615.7	11747.7
29°	10803.7	11009.7	10866.7	10763.7	10410.7	10468.7	10853.7	10990.7	11162.7	11040.7	11024.7
30°	10928.7	11104.7	10413.7	10429.7	10457.7	10523.7	10374.7	10711.7	10984.7	11395.7	11498.7
31°	10556.7	10788.7	10663.7	10325.7	10117.7	10137.7	10426.7	10591.7	10717.7	11041.7	10969.7
32°	10763.7	10440.7	10135.7	10014.7	10069.7	10161.7	10009.7	10450.7	10844.7	10888.7	10584.7
33°	10236.7	10067.7	10070.7	10162.7	10013.7	9938.2	10165.7	10328.7	10461.7	10529.7	10859.7
34°	10186.7	10305.7	10151.7	9870.4	9872.7	9845.9	9889.0	10261.7	10379.7	10578.7	10433.7
35°	10005.7	9965.3	9845.9	9882.7	9650.8	9576.7	9539.8	9688.5	9882.6	10116.7	10103.7
36°	9822.2	9727.3	9768.5	9733.4	9554.0	9479.8	9593.7	9701.7	10036.7	10122.7	10165.7
37°	9747.7	9578.4	9682.5	9638.9	9579.1	9574.8	9477.6	9598.6	9554.6	9680.4	9745.6
38°	9314.9	9504.2	9519.7	9336.2	9284.8	9193.4	9186.0	9592.6	9556.4	9611.6	9682.8
39°	9182.7	9334.2	9271.4	9155.5	9208.7	9103.9	9118.4	9202.2	9503.8	9528.4	9548.2
40°	9054.3	9013.1	9097.9	9112.4	9042.3	8858.0	8942.4	8984.9	9056.9	9164.2	9231.8
41°	8879.1	9021.6	8888.3	9048.0	8676.2	8897.3	8484.9	9047.7	8792.7	8920.1	8936.1
42°	8486.3	8513.7	8753.7	8639.8	8744.4	8415.1	8592.4	8528.7	8639.6	8829.1	8572.6
43°	8300.3	8397.3	8398.7	8588.6	8434.7	8370.3	8150.5	8467.9	8404.4	8387.8	8508.2
44°	8243.3	8241.9	8384.2	8363.1	8272.1	8055.2	8356.0	8296.2	8269.2	8377.8	8090.3



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	8002.6	8097.0	8136.7	8281.0	8109.2	8058.2	7831.6	8222.0	8149.0	8151.7	8095.7
46°	7810.0	7884.9	8138.7	8068.8	7804.7	7700.5	7791.6	7738.3	7908.5	8009.1	7738.9
47°	7678.7	7645.0	7676.0	7783.9	7497.8	7632.9	7501.3	7643.4	7650.3	7666.2	7605.9
48°	7395.1	7320.3	7501.0	7533.6	7308.0	7299.3	7256.3	7384.8	7235.8	7591.6	7312.4
49°	7000.9	7231.9	7184.8	7348.2	6970.1	6901.1	7052.2	7128.6	7064.9	7189.7	6979.7
50°	6830.9	6903.2	6981.3	6854.9	6709.5	6722.5	6634.4	6678.0	6624.3	6872.2	6732.5
51°	6627.9	6504.6	6554.2	6444.0	6176.9	6278.5	6201.6	6490.3	6262.1	6504.4	6365.5
52°	6055.9	6189.1	6254.3	6085.6	5825.9	5715.8	5713.6	6084.5	5834.0	6173.3	6022.4
53°	5627.9	5697.9	5793.9	5446.5	5251.5	5182.8	5217.4	5364.4	5286.9	5596.8	5505.2
54°	5070.2	5058.9	5161.7	4738.1	4593.0	4709.6	4598.1	4758.7	4669.9	4988.7	4892.5
55°	4465.2	4573.3	4571.0	4256.7	4176.2	4334.4	4096.7	4296.7	4240.8	4537.8	4385.5
56°	4004.8	4140.0	4166.3	3953.7	3937.7	3983.2	3876.3	4008.3	3975.4	4095.7	4006.1
57°	3761.1	3906.3	3918.2	3816.4	3814.1	3810.7	3724.5	3824.6	3801.8	3860.9	3778.2
58°	3616.4	3706.6	3726.8	3604.3	3589.4	3651.4	3501.7	3601.2	3586.9	3699.9	3656.7
59°	3352.7	3465.7	3491.3	3306.5	3288.1	3372.9	3228.8	3318.7	3313.8	3468.8	3408.7
60°	3089.1	3194.2	3231.1	3009.0	3005.8	3094.7	2948.6	3037.0	3037.5	3173.3	3160.6
61°	2855.8	2938.2	2985.3	2805.0	2760.6	2847.0	2735.2	2816.3	2790.8	2895.2	2919.0
62°	2627.8	2701.0	2748.5	2592.9	2556.8	2621.0	2522.8	2602.2	2600.3	2680.6	2697.8
63°	2456.8	2510.2	2538.4	2397.1	2400.2	2410.5	2332.2	2405.0	2389.3	2516.7	2502.3
64°	2252.5	2323.8	2325.4	2195.2	2230.6	2227.8	2156.2	2204.4	2205.4	2326.1	2320.8
65°	2060.8	2140.5	2144.4	2022.7	2031.8	2035.9	1966.4	2048.5	2023.2	2114.6	2121.7
66°	1881.5	1949.2	1987.3	1870.1	1871.4	1863.5	1804.4	1863.5	1852.9	1935.9	1946.0
67°	1759.9	1772.8	1811.6	1725.1	1729.8	1714.4	1667.2	1722.9	1704.2	1797.1	1799.6
68°	1631.1	1638.3	1670.1	1612.0	1614.3	1605.0	1545.2	1592.7	1571.6	1662.3	1673.1
69°	1492.4	1529.0	1548.6	1486.7	1497.2	1471.8	1426.9	1463.1	1443.2	1524.1	1539.1
70°	1387.7	1413.0	1441.0	1345.8	1340.9	1348.2	1308.6	1345.9	1314.8	1394.3	1417.6
71°	1280.6	1296.9	1322.4	1233.0	1226.0	1225.8	1199.5	1232.6	1197.6	1264.7	1291.7
72°	1186.8	1178.9	1202.0	1136.3	1124.8	1131.6	1108.4	1133.0	1095.5	1155.6	1193.8
73°	1082.7	1082.7	1105.3	1055.3	1027.7	1040.5	1012.9	1029.4	1003.1	1066.9	1102.7
74°	978.8	996.3	1011.0	967.7	944.0	944.4	919.2	925.3	913.4	974.2	1005.1
75°	893.2	902.2	925.3	867.1	846.8	848.7	835.0	839.4	830.0	898.1	909.2
76°	816.4	819.9	838.6	789.6	769.0	768.4	758.7	761.4	748.6	814.9	828.8
77°	743.9	747.2	761.1	714.4	695.0	699.6	684.3	690.1	677.3	743.2	752.7
78°	671.9	676.6	688.2	645.4	622.1	627.6	614.3	624.4	611.6	670.6	686.1
79°	597.5	610.3	619.3	579.9	558.3	567.2	551.8	555.7	551.7	606.4	617.4
80°	536.0	542.9	555.1	522.6	494.9	508.0	491.2	499.3	494.5	545.9	553.1
81°	482.7	483.5	496.3	467.7	442.6	449.3	438.4	447.8	438.6	487.6	496.6
82°	435.1	428.2	442.8	411.2	389.1	396.7	389.2	393.2	386.2	436.5	445.1
83°	381.1	379.2	389.4	359.3	341.9	348.8	339.0	343.5	337.6	384.9	396.0
84°	334.3	331.4	339.8	311.4	300.8	304.7	298.2	299.0	298.0	337.4	347.1
85°	294.3	292.7	298.7	275.9	267.2	271.5	266.4	265.4	265.4	296.1	306.9
86°	263.1	262.9	266.8	247.8	240.8	244.6	240.8	239.7	239.3	263.8	273.6
87°	237.5	237.8	241.0	224.8	219.7	222.8	220.1	219.3	219.1	238.8	247.1
88°	217.1	217.3	219.1	204.9	201.6	204.1	202.4	201.9	201.4	218.5	225.6
89°	199.8	199.6	200.1	190.7	189.3	191.8	189.8	188.7	188.5	200.6	206.7



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	189.0	189.5	188.5	185.1	184.8	186.2	184.6	183.9	184.3	189.5	193.8



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CANDELA DISTRIBUTION (continued):

	330°	360°
0°	10511.7	10511.7
1°	10507.7	10458.7
2°	10572.7	10549.7
3°	10525.7	10493.7
4°	10651.7	10536.7
5°	10637.7	10373.7
6°	10557.7	10532.7
7°	10533.7	10622.7
8°	10676.7	10591.7
9°	10735.7	10514.7
10°	10856.7	10725.7
11°	10786.7	10718.7
12°	11104.7	10912.7
13°	11101.7	11048.7
14°	11233.7	11124.7
15°	11424.7	11002.7
16°	11697.7	11339.7
17°	11471.7	11306.7
18°	11554.7	11441.7
19°	11729.7	11556.7
20°	11680.7	11426.7
21°	11807.7	11410.7
22°	11785.7	11718.7
23°	11809.7	11658.7
24°	11726.7	11738.7
25°	11840.6	11633.7
26°	11860.6	11509.7
27°	11410.7	11292.7
28°	11567.7	11246.7
29°	11225.7	10803.7
30°	10688.7	10928.7
31°	10769.7	10556.7
32°	10906.7	10763.7
33°	10492.7	10236.7
34°	10175.7	10186.7
35°	10197.7	10005.7
36°	10016.7	9822.2
37°	9746.3	9747.7
38°	9434.9	9314.9
39°	9332.8	9182.7
40°	9274.0	9054.3
41°	8917.1	8879.1
42°	8391.4	8486.3
43°	8448.7	8300.3
44°	8127.4	8243.3

TEST NUMBER: P601065
CATALOG NUMBER: UHBS-36-MV-L840-U-CDL-120V

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	8098.2	8002.6
46°	7844.4	7810.0
47°	7573.8	7678.7
48°	7207.8	7395.1
49°	7121.1	7000.9
50°	6734.1	6830.9
51°	6314.9	6627.9
52°	6254.3	6055.9
53°	5546.4	5627.9
54°	5033.7	5070.2
55°	4481.8	4465.2
56°	4009.9	4004.8
57°	3798.8	3761.1
58°	3652.7	3616.4
59°	3447.3	3352.7
60°	3176.6	3089.1
61°	2924.7	2855.8
62°	2713.4	2627.8
63°	2513.4	2456.8
64°	2313.9	2252.5
65°	2139.5	2060.8
66°	1969.3	1881.5
67°	1819.9	1759.9
68°	1666.7	1631.1
69°	1540.2	1492.4
70°	1428.6	1387.7
71°	1317.2	1280.6
72°	1207.6	1186.8
73°	1102.0	1082.7
74°	1004.7	978.8
75°	920.5	893.2
76°	841.8	816.4
77°	763.2	743.9
78°	691.7	671.9
79°	618.2	597.5
80°	558.7	536.0
81°	504.6	482.7
82°	451.5	435.1
83°	398.6	381.1
84°	348.9	334.3
85°	306.7	294.3
86°	273.7	263.1
87°	247.0	237.5
88°	225.5	217.1
89°	207.3	199.8



TEST NUMBER: P601065
CATALOG NUMBER: UHBS-36-MV-L840-U-CDL-120V

CANDELA DISTRIBUTION (continued):

	330°	360°
90°	194.7	189.0

(END OF REPORT)