

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: P601072

Luminaire Tested: UHBS-36-MV-L840-U-CDL-277V

Issue Date: 8/28/2023

Test Information

Test Method: LM-79-2019
Report Number: P601072
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-277V
Description: UHB Round Select with Clear Reflector with Lens Cover at 277V 36000 LUMEN SETTING AND 4000K
Light Source: -
Ballast/Driver: Electrical Driver

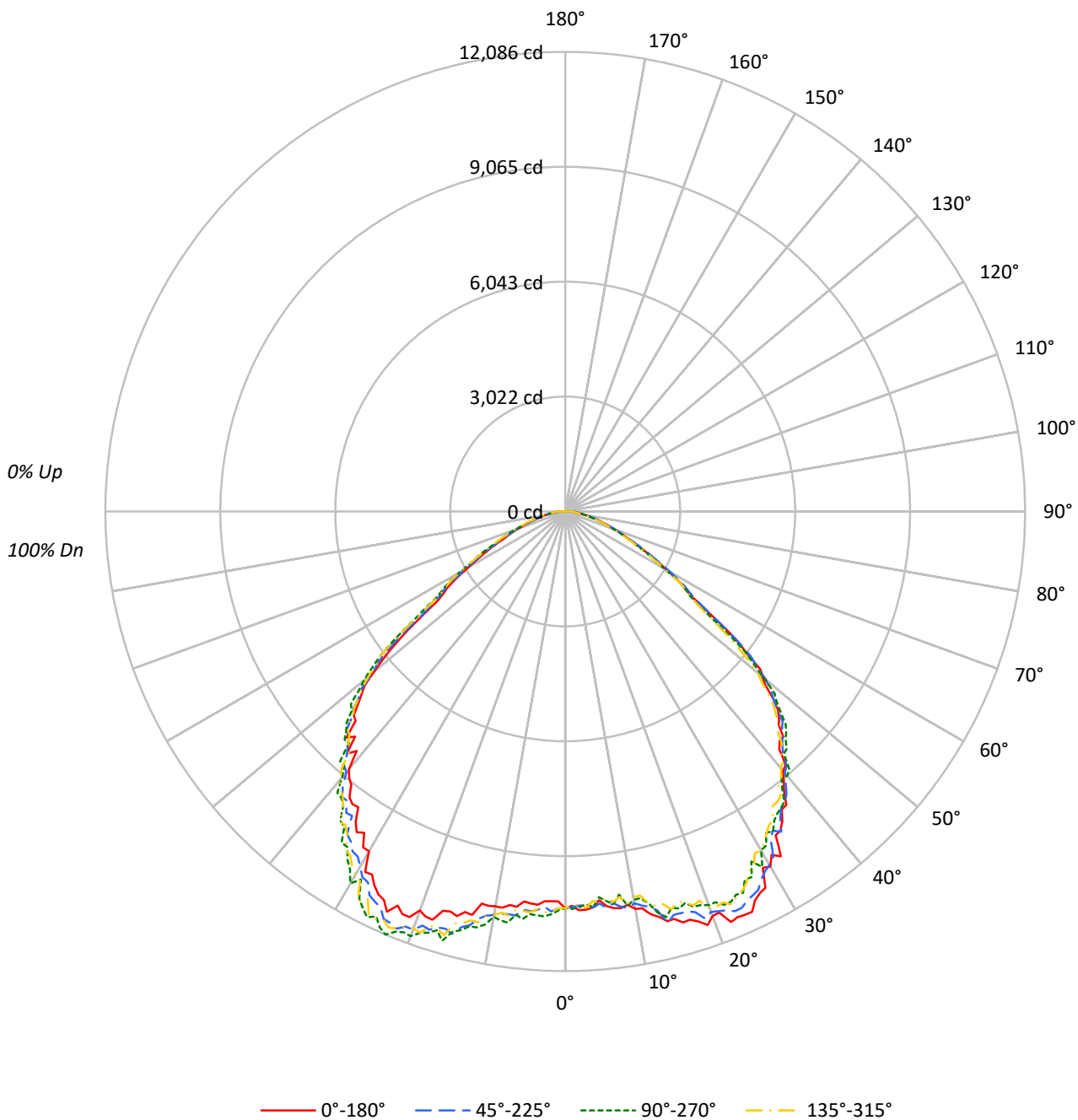
Summary

Lumens per Lamp: 29217 (1 lamp)
Luminaire Lumens: 29217.0 lumens
Efficiency: 100.0%
Efficacy: 124.5 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): 234.7
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	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	52	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	40	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°	80830	80830	80830	80830
5°	79832	79195	80478	82671
10°	83493	81605	82982	85185
15°	88968	86537	88358	91775
20°	93364	90849	92094	97973
25°	99334	94555	96376	100454
30°	96475	92055	92279	101029
35°	94092	91840	89749	95734
40°	90097	91782	89440	92207
45°	86958	89969	85321	89199
50°	81485	82122	79164	83166
55°	61107	57322	55261	62201
60°	47990	46422	45402	49569
65°	37887	36832	35771	39091
70°	31504	30296	29361	31753
75°	26732	25786	24798	27028
80°	23906	23090	21684	24571
85°	26224	24340	23415	26562

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 330°
 Vertical Angle: 89°
 Luminance: 92739 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	1002.8	3.4	3.4
10°-20°	3143.7	10.8	10.8
20°-30°	5209.8	17.8	17.8
30°-40°	6179.1	21.1	21.1
40°-50°	6141.9	21.0	21.0
50°-60°	4161.2	14.2	14.2
60°-70°	2094.4	7.2	7.2
70°-80°	946.9	3.2	3.2
80°-90°	337.3	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°	9356.2	32.0	32.0
0°-40°	15535.3	53.2	53.2
0°-60°	25838.3	88.4	88.4
0°-90°	29217.0	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°	29217.0	100.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	10433	10433	10433	10433	10433	
5°	10265	10183	10348	10630	10265	1000
15°	11092	10789	11016	11442	11092	3157
25°	11620	11061	11274	11751	11620	5239
35°	9948	9710	9489	10122	9948	6202
45°	7936	8211	7787	8141	7936	6118
55°	4524	4244	4091	4605	4524	4238
65°	2067	2009	1951	2132	2067	2103
75°	893	861	828	903	893	973
85°	295	274	263	299	295	350
90°	189	184	183	190	189	



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CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	10432.7	10432.7	10432.7	10432.7	10432.7	10432.7	10432.7	10432.7	10432.7	10432.7	10432.7
1°	10375.7	10353.7	10460.7	10450.7	10304.7	10455.7	10257.7	10489.7	10397.7	10494.7	10446.7
2°	10491.7	10433.7	10302.7	10416.7	10317.7	10361.7	10253.7	10452.7	10602.7	10603.7	10546.7
3°	10488.7	10389.7	10360.7	10342.7	10486.7	10387.7	10266.7	10345.7	10461.7	10663.7	10630.7
4°	10438.7	10546.7	10341.7	10428.7	10225.7	10316.7	10369.7	10402.7	10612.7	10645.7	10419.7
5°	10264.7	10363.7	10340.7	10182.7	10299.7	10365.7	10347.7	10585.7	10524.7	10629.7	10606.7
6°	10432.7	10517.7	10445.7	10297.7	10205.7	10220.7	10312.7	10501.7	10552.7	10778.7	10607.7
7°	10508.7	10363.7	10397.7	10400.7	10357.7	10338.7	10473.7	10644.7	10753.7	10680.7	10689.7
8°	10533.7	10629.7	10357.7	10173.7	10228.7	10234.7	10451.7	10488.7	10905.7	10916.7	10886.7
9°	10470.7	10671.7	10450.7	10495.7	10486.7	10426.7	10550.7	10705.7	10728.7	10883.7	10732.7
10°	10612.7	10500.7	10427.7	10372.7	10156.7	10453.7	10547.7	10708.7	10830.7	10827.7	10881.7
11°	10635.7	10640.7	10471.7	10359.7	10249.7	10321.7	10566.7	10719.7	10934.7	11067.7	10894.7
12°	10833.7	10676.7	10585.7	10526.7	10443.7	10612.7	10542.7	10842.7	11050.7	11179.7	11025.7
13°	10938.7	10887.7	10654.7	10827.7	10579.7	10730.7	10886.7	11090.7	11242.7	11196.7	11041.7
14°	11102.7	11242.7	11046.7	10992.7	10638.7	10646.7	10856.7	11246.7	11280.7	11351.7	11206.7
15°	11091.7	11158.7	10821.7	10788.7	10927.7	10738.7	11015.7	11378.7	11626.7	11441.7	11214.7
16°	11242.7	11018.7	10961.7	10861.7	10625.7	10735.7	10944.7	11366.7	11464.7	11745.7	11507.7
17°	11227.7	11043.7	10947.7	10767.7	10653.7	10867.7	10982.7	11309.7	11582.7	11512.7	11614.7
18°	11340.7	11244.7	10913.7	10930.7	10844.7	10936.7	11287.7	11484.7	11637.7	11646.7	11420.7
19°	11501.7	11398.7	11264.7	10947.7	10756.7	10891.7	11265.7	11417.7	11617.7	11726.7	11842.7
20°	11323.7	11310.7	11104.7	11018.7	11099.7	11090.7	11169.7	11493.7	11915.7	11882.7	11715.7
21°	11298.7	11316.7	11198.7	11004.7	11114.7	11138.7	11425.7	11633.7	11751.7	11856.7	11846.7
22°	11642.7	11463.7	11170.7	11157.7	10971.7	11202.7	11421.7	11716.7	11942.7	11921.7	11924.7
23°	11592.7	11539.7	11295.7	11150.7	11134.7	11344.7	11258.7	11663.7	11848.7	12085.7	11953.7
24°	11608.7	11470.7	11350.7	11033.7	11088.7	11075.7	11523.7	11681.7	11781.7	11973.7	11848.7
25°	11619.7	11402.7	11199.7	11060.7	10897.7	11115.7	11273.7	11406.7	11567.7	11750.7	11848.7
26°	11379.7	11333.7	11137.7	10766.7	10696.7	11030.7	11203.7	11340.7	11490.7	11872.7	11785.7
27°	11269.7	11261.7	11083.7	10795.7	10543.7	10712.7	11041.7	11285.7	11367.7	11711.7	11489.7
28°	11209.7	11046.7	10894.7	10422.7	10386.7	10752.7	10811.7	11005.7	11089.7	11532.7	11756.7
29°	10713.7	10930.7	10722.7	10686.7	10333.7	10209.7	10843.7	10891.7	11095.7	11061.7	10911.7
30°	10783.7	11073.7	10391.7	10289.7	10154.7	10451.7	10314.7	10647.7	10910.7	11292.7	11410.7
31°	10531.7	10720.7	10531.7	10251.7	10179.7	10129.7	10308.7	10532.7	10642.7	10983.7	10922.7
32°	10698.7	10284.7	10120.7	9963.8	9889.2	10080.7	9966.1	10326.7	10761.7	10800.7	10580.7
33°	10158.7	10022.7	9991.0	10031.7	9794.0	9883.0	10058.7	10300.7	10390.7	10513.7	10704.7
34°	10116.7	10241.7	10069.7	9814.9	9760.7	9774.3	9844.8	10169.7	10310.7	10509.7	10372.7
35°	9948.1	9914.9	9802.7	9710.0	9530.2	9437.6	9488.9	9720.2	9819.1	10121.7	9997.6
36°	9682.7	9618.7	9676.0	9646.0	9488.8	9419.1	9514.6	9628.7	9966.3	10060.7	10113.7
37°	9661.6	9539.1	9621.5	9563.1	9375.7	9421.8	9419.9	9565.2	9490.2	9692.4	9630.9
38°	9341.0	9445.0	9450.4	9273.0	9088.9	9096.4	9132.7	9549.0	9500.2	9552.7	9625.2
39°	9127.4	9235.5	9179.4	9031.9	9062.8	8956.7	9020.1	9130.9	9436.4	9517.6	9499.9
40°	8908.1	8941.9	9013.9	9074.7	8952.8	8703.9	8843.2	8905.7	8992.1	9116.8	9184.1
41°	8825.3	8925.3	8822.6	8976.6	8643.5	8763.2	8349.3	8974.4	8729.1	8867.2	8978.2
42°	8411.4	8442.0	8670.1	8588.1	8625.4	8252.2	8558.2	8530.5	8591.3	8846.9	8527.5
43°	8254.9	8386.7	8343.9	8534.1	8382.2	8315.0	8097.2	8405.5	8340.9	8330.5	8376.8
44°	8249.4	8128.0	8313.3	8343.9	8131.6	7939.1	8269.4	8248.4	8211.8	8346.9	8205.5



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	7936.3	8043.8	8072.7	8211.1	8087.4	7956.1	7786.9	8164.8	8097.7	8140.8	8033.4
46°	7814.8	7810.4	8069.1	8054.7	7708.0	7680.9	7722.3	7693.4	7873.8	7987.1	7751.3
47°	7647.6	7623.2	7598.3	7745.0	7400.9	7604.7	7459.6	7606.0	7613.5	7662.2	7590.9
48°	7348.4	7276.5	7439.5	7479.1	7226.0	7153.1	7213.5	7362.8	7200.0	7585.4	7309.1
49°	6968.5	7169.2	7135.4	7297.2	6845.2	6860.7	6995.3	7103.8	7049.0	7201.4	6990.6
50°	6760.3	6845.0	6928.4	6813.2	6587.3	6597.4	6567.8	6638.6	6590.1	6899.8	6716.4
51°	6607.5	6459.7	6515.9	6370.3	6146.6	6189.2	6144.6	6436.3	6239.3	6533.2	6359.0
52°	6040.2	6163.6	6220.3	6026.7	5733.9	5619.2	5682.0	6078.2	5816.8	6168.3	6080.0
53°	5657.3	5642.5	5762.6	5440.8	5160.6	5131.4	5175.5	5346.8	5283.0	5659.7	5548.1
54°	5128.2	5032.7	5155.5	4736.8	4507.6	4671.2	4572.2	4749.3	4671.5	5052.9	4995.0
55°	4523.8	4566.1	4554.4	4243.6	4128.5	4296.4	4091.0	4281.3	4240.0	4604.8	4467.9
56°	4036.7	4127.7	4143.7	3950.3	3906.1	3940.4	3863.5	3996.4	3965.6	4145.2	4043.1
57°	3769.8	3888.4	3902.9	3801.5	3779.6	3784.4	3706.1	3811.1	3788.3	3885.2	3796.9
58°	3608.7	3682.4	3707.2	3581.4	3546.5	3609.4	3474.7	3597.8	3582.5	3717.4	3657.7
59°	3352.8	3442.9	3460.6	3288.6	3253.7	3337.4	3197.4	3314.1	3310.1	3499.8	3493.8
60°	3097.0	3176.2	3214.1	2995.8	2950.8	3065.8	2930.0	3031.1	3036.2	3198.9	3187.6
61°	2866.9	2925.4	2967.8	2784.7	2729.5	2819.6	2713.2	2812.2	2782.3	2916.8	2935.1
62°	2637.1	2687.8	2736.0	2573.2	2526.4	2596.9	2510.9	2600.4	2593.2	2701.9	2706.1
63°	2460.6	2494.6	2527.0	2382.0	2367.2	2385.3	2316.4	2400.9	2383.8	2538.7	2518.4
64°	2252.7	2310.0	2313.5	2182.7	2197.6	2206.2	2141.0	2198.9	2200.8	2337.9	2335.6
65°	2066.6	2124.0	2132.5	2009.1	2004.5	2008.0	1951.2	2042.9	2017.5	2132.3	2142.6
66°	1883.6	1938.0	1974.5	1853.9	1844.3	1840.1	1787.3	1861.3	1848.7	1949.6	1957.3
67°	1760.3	1762.6	1804.5	1714.9	1709.9	1694.4	1653.5	1719.8	1698.0	1805.2	1804.8
68°	1635.5	1626.7	1660.0	1601.7	1589.0	1588.1	1533.0	1589.9	1566.2	1675.4	1677.8
69°	1493.5	1518.5	1537.3	1476.8	1457.6	1453.9	1414.5	1461.5	1438.9	1532.9	1545.9
70°	1390.7	1403.0	1431.3	1337.4	1326.2	1329.8	1296.1	1342.4	1311.6	1401.7	1421.5
71°	1280.2	1287.4	1314.7	1224.8	1204.5	1210.9	1191.9	1230.8	1193.0	1270.8	1295.9
72°	1187.0	1170.3	1194.7	1127.5	1107.1	1119.2	1100.5	1131.2	1091.9	1163.2	1197.8
73°	1089.1	1074.9	1098.7	1047.8	1015.3	1029.2	1003.7	1026.3	1000.3	1071.3	1104.6
74°	980.9	989.1	1004.5	957.1	929.1	933.9	910.1	924.3	910.0	980.6	1009.3
75°	893.0	896.1	920.6	861.4	836.9	837.4	828.4	837.3	827.3	902.9	914.8
76°	818.7	813.7	832.3	783.1	756.5	758.0	751.3	760.1	746.8	818.0	832.3
77°	745.5	741.3	755.8	708.3	680.8	688.6	676.6	689.0	674.7	744.7	756.8
78°	674.5	670.5	683.9	638.9	611.6	616.8	606.6	623.5	610.4	673.9	688.6
79°	597.7	605.1	614.4	572.3	545.4	558.0	546.5	555.2	549.8	609.3	620.2
80°	535.8	538.3	550.9	517.5	485.9	499.3	486.0	497.7	493.3	550.7	556.6
81°	484.1	479.0	491.7	462.4	433.2	441.0	432.5	446.6	437.2	491.7	501.0
82°	436.1	424.0	438.7	406.0	380.4	389.0	384.4	392.9	385.0	440.4	448.2
83°	382.0	375.6	385.8	354.6	333.0	341.2	334.8	342.6	336.5	388.6	400.4
84°	334.8	328.2	336.5	308.8	294.6	299.1	294.4	298.0	296.7	340.4	352.0
85°	295.0	290.2	296.0	273.8	262.4	267.1	263.4	264.5	264.4	298.8	310.7
86°	263.6	261.0	264.8	246.3	236.8	240.9	238.3	238.7	238.4	266.0	277.1
87°	237.6	236.2	239.2	223.6	216.3	220.0	218.1	218.2	218.1	240.8	250.1
88°	217.2	215.6	217.4	203.8	198.7	201.9	200.7	200.9	200.5	220.2	228.1
89°	199.8	198.2	198.7	190.2	187.7	190.5	188.6	187.9	187.7	201.9	208.8



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CATALOG NUMBER: UHBS-36-MV-L840-U-CDL-277V

CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	188.6	188.3	187.0	184.5	182.9	184.6	183.4	182.9	183.2	190.1	194.7



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CANDELA DISTRIBUTION (continued):

	330°	360°
0°	10432.7	10432.7
1°	10427.7	10375.7
2°	10542.7	10491.7
3°	10484.7	10488.7
4°	10547.7	10438.7
5°	10558.7	10264.7
6°	10525.7	10432.7
7°	10416.7	10508.7
8°	10563.7	10533.7
9°	10637.7	10470.7
10°	10653.7	10612.7
11°	10767.7	10635.7
12°	11056.7	10833.7
13°	11036.7	10938.7
14°	11110.7	11102.7
15°	11224.7	11091.7
16°	11679.7	11242.7
17°	11346.7	11227.7
18°	11480.7	11340.7
19°	11589.7	11501.7
20°	11627.7	11323.7
21°	11554.7	11298.7
22°	11726.7	11642.7
23°	11829.7	11592.7
24°	11639.7	11608.7
25°	11797.7	11619.7
26°	11777.7	11379.7
27°	11372.7	11269.7
28°	11485.7	11209.7
29°	11327.7	10713.7
30°	10639.7	10783.7
31°	10832.7	10531.7
32°	10748.7	10698.7
33°	10501.7	10158.7
34°	10119.7	10116.7
35°	10143.7	9948.1
36°	10051.7	9682.7
37°	9766.7	9661.6
38°	9389.1	9341.0
39°	9233.5	9127.4
40°	9206.8	8908.1
41°	8923.0	8825.3
42°	8370.8	8411.4
43°	8370.8	8254.9
44°	8107.7	8249.4

TEST NUMBER: P601072
CATALOG NUMBER: UHBS-36-MV-L840-U-CDL-277V

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	8160.2	7936.3
46°	7739.5	7814.8
47°	7582.0	7647.6
48°	7195.5	7348.4
49°	7128.6	6968.5
50°	6773.0	6760.3
51°	6346.8	6607.5
52°	6243.8	6040.2
53°	5598.8	5657.3
54°	5096.9	5128.2
55°	4566.4	4523.8
56°	4063.8	4036.7
57°	3806.7	3769.8
58°	3662.7	3608.7
59°	3464.8	3352.8
60°	3190.5	3097.0
61°	2942.7	2866.9
62°	2727.0	2637.1
63°	2523.2	2460.6
64°	2323.2	2252.7
65°	2145.3	2066.6
66°	1977.7	1883.6
67°	1831.8	1760.3
68°	1676.1	1635.5
69°	1542.9	1493.5
70°	1431.8	1390.7
71°	1320.9	1280.2
72°	1215.4	1187.0
73°	1109.9	1089.1
74°	1007.2	980.9
75°	921.7	893.0
76°	843.8	818.7
77°	764.7	745.5
78°	695.0	674.5
79°	622.8	597.7
80°	561.5	535.8
81°	506.8	484.1
82°	456.6	436.1
83°	401.6	382.0
84°	353.2	334.8
85°	309.9	295.0
86°	276.4	263.6
87°	249.2	237.6
88°	227.6	217.2
89°	208.9	199.8



TEST NUMBER: P601072
CATALOG NUMBER: UHBS-36-MV-L840-U-CDL-277V

CANDELA DISTRIBUTION (continued):

	330°	360°
90°	195.7	188.6

(END OF REPORT)