

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: P601049

Luminaire Tested: UHBS-12-MV-L850-U-CDL-277V

Issue Date: 8/28/2023

Test Information

Test Method: LM-79-2019
Report Number: P601049
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-12-MV-L850-U-CDL-277V
Description: UHB Round Select with Clear Reflector with Lens Cover at 277V 12000 LUMEN SETTING AND 5000K
Light Source: -
Ballast/Driver: Electrical Driver

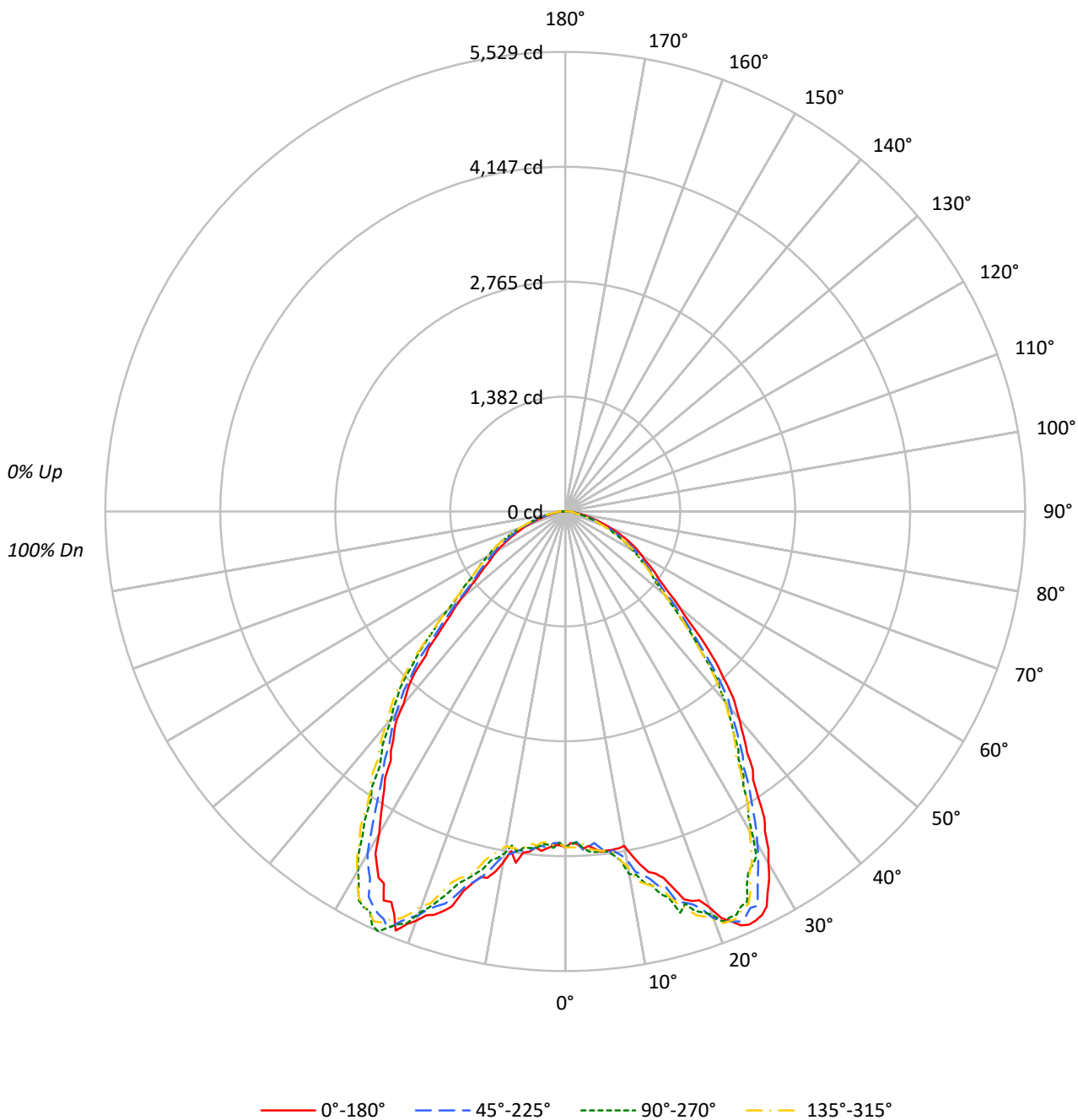
Summary

Lumens per Lamp: 10762 (1 lamp)
Luminaire Lumens: 10762.0 lumens
Efficiency: 100.0%
Efficacy: 127.7 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): 84.3
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-12-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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	
1	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87	87	87	87	
2	102	95	89	84	100	93	88	83	90	85	82	87	83	80	84	81	78	76	76	76	76	
3	94	85	78	73	92	84	77	72	81	75	71	78	73	69	76	72	68	66	66	66	66	
4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60	58	58	58	58	
5	81	70	62	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52	52	52	52	
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46	46	46	46	
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	47	43	41	41	41	41	
8	66	53	45	40	64	53	45	40	51	44	40	50	44	39	49	43	39	37	37	37	37	
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	34	34	34	34	
10	58	45	38	33	57	45	38	33	44	37	33	43	37	33	42	37	33	31	31	31	31	

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	55379	55379	55379	55379
5°	56056	56583	55825	55888
10°	56857	61649	59661	58061
15°	64744	68257	67082	64971
20°	73912	75257	76435	74963
25°	82081	78346	78060	83123
30°	77352	71357	70759	78843
35°	65897	60800	61169	67949
40°	58265	53647	54096	58168
45°	49689	43109	44968	50028
50°	38216	33251	34715	39223
55°	32047	29184	28553	32338
60°	29342	25894	25809	29433
65°	27062	22603	22580	27104
70°	23369	18797	19090	22552
75°	19105	15012	15520	19095
80°	15217	11105	11665	15682
85°	15898	13995	14561	16024

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 270°
 Vertical Angle: 89°
 Luminance: 62744 cd/sqm



TEST NUMBER: P601049
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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	392.3	3.6	3.6
10°-20°	1345.2	12.5	12.5
20°-30°	2388.5	22.2	22.2
30°-40°	2410.7	22.4	22.4
40°-50°	1853.3	17.2	17.2
50°-60°	1158.6	10.8	10.8
60°-70°	753.4	7.0	7.0
70°-80°	346.9	3.2	3.2
80°-90°	113.1	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°	4126.0	38.3	38.3
0°-40°	6536.7	60.7	60.7
0°-60°	9548.6	88.7	88.7
0°-90°	10762.0	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°	10762.0	100.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4041	4041	4041	4041	4041	
5°	4075	4113	4058	4062	4075	390
15°	4563	4811	4728	4579	4563	1322
25°	5428	5181	5162	5497	5428	2441
35°	3939	3634	3656	4061	3939	2503
45°	2564	2224	2320	2581	2564	1946
55°	1341	1221	1195	1353	1341	1222
65°	834	697	696	836	834	821
75°	361	284	293	361	361	392
85°	101	89	93	102	101	122
90°	76	76	78	77	76	



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CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	4040.8	4040.8	4040.8	4040.8	4040.8	4040.8	4040.8	4040.8	4040.8	4040.8	4040.8
1°	3990.3	3991.0	4004.1	4002.4	4027.1	4053.8	4013.7	3945.4	4029.3	3984.7	3970.1
2°	4000.3	3993.4	3966.0	3982.5	4052.8	4041.7	4020.4	4059.6	3924.4	4050.2	3991.3
3°	4064.4	4019.2	4128.1	4048.7	3997.6	4010.6	4054.6	4037.6	4070.6	4013.9	3958.9
4°	4033.6	4028.5	4055.3	4099.9	4080.1	4058.6	4095.2	4041.9	4021.7	4011.3	3956.8
5°	4074.6	3985.5	4025.4	4112.9	4065.4	4111.8	4057.8	4068.0	4042.2	4062.4	4045.6
6°	4115.1	4053.3	4094.9	4113.4	4105.7	4102.8	4117.3	4118.5	4091.9	4071.8	3999.8
7°	4109.1	4124.0	4157.2	4120.3	4171.7	4057.9	4135.1	4118.8	4104.7	4071.4	4138.2
8°	4109.0	4087.4	4151.7	4174.0	4169.6	4105.4	4267.2	4094.5	4140.4	4140.2	4072.2
9°	4103.4	4141.6	4212.2	4249.1	4184.0	4312.1	4134.1	4178.3	4167.5	4063.2	4101.1
10°	4085.6	4180.7	4299.9	4429.9	4399.7	4281.0	4287.1	4224.0	4162.4	4172.1	4104.5
11°	4219.8	4398.9	4432.9	4448.7	4470.5	4589.3	4415.2	4273.8	4322.2	4245.2	4136.7
12°	4342.2	4438.4	4494.5	4563.1	4577.3	4577.7	4506.2	4437.1	4413.7	4290.0	4249.8
13°	4450.7	4474.1	4598.0	4616.2	4646.0	4607.0	4510.2	4516.2	4533.3	4417.1	4261.4
14°	4490.6	4631.2	4661.5	4743.8	4613.1	4600.7	4610.6	4616.2	4587.4	4499.5	4453.3
15°	4563.1	4649.3	4709.5	4810.7	4873.2	4702.5	4727.9	4681.1	4679.4	4579.1	4542.9
16°	4706.4	4887.3	4879.4	5021.7	4863.9	4954.3	4943.2	4926.1	4710.7	4652.6	4625.5
17°	4878.2	4863.3	4982.4	4932.7	5028.9	4969.3	5028.5	4974.2	4890.2	4790.9	4676.3
18°	4928.0	4940.3	5002.4	5055.2	5095.7	5119.4	5102.6	5026.0	4961.2	4917.0	4828.3
19°	4947.7	5026.3	5092.2	5101.6	5172.1	5138.6	5137.2	5056.6	5054.6	5041.3	4984.4
20°	5067.8	5257.0	5157.8	5160.0	5247.3	5217.2	5240.8	5213.8	5138.9	5139.9	4998.9
21°	5241.0	5246.6	5311.6	5288.1	5322.2	5285.5	5321.3	5209.0	5258.7	5307.6	5142.8
22°	5313.8	5282.5	5359.9	5269.6	5360.1	5267.7	5438.6	5344.7	5317.9	5357.0	5266.6
23°	5410.1	5443.7	5277.0	5271.3	5331.3	5288.7	5261.0	5439.0	5465.3	5434.1	5350.7
24°	5440.8	5396.4	5272.1	5198.8	5244.2	5211.7	5141.9	5270.6	5462.7	5529.4	5406.7
25°	5428.0	5285.2	5238.2	5181.0	5232.8	5189.0	5162.1	5308.1	5359.3	5496.9	5448.0
26°	5401.4	5323.8	5233.2	4984.1	5043.1	5116.8	4975.7	5185.9	5364.2	5352.7	5360.6
27°	5335.4	5171.2	5022.5	4853.7	4925.8	4837.4	4943.6	5160.8	5248.6	5341.9	5265.9
28°	5183.3	5010.7	4857.0	4808.6	4782.9	4777.6	4823.8	4927.2	5074.5	5294.4	5260.3
29°	5058.8	4857.4	4720.9	4743.7	4599.6	4612.2	4706.2	4787.3	4984.0	5118.2	5125.2
30°	4887.9	4747.4	4501.3	4509.1	4446.8	4418.2	4471.3	4659.0	4847.4	4982.1	5000.8
31°	4743.4	4481.1	4435.6	4272.1	4237.4	4339.3	4312.7	4434.6	4641.9	4831.4	4864.9
32°	4532.3	4364.4	4172.9	4148.3	4155.2	4143.8	4149.5	4208.9	4457.4	4597.0	4659.0
33°	4399.8	4208.8	3984.3	3931.5	3913.8	3940.7	3994.5	3996.7	4295.3	4420.5	4495.8
34°	4150.6	4027.0	3833.6	3833.9	3778.4	3787.1	3875.9	3869.7	4062.1	4171.1	4262.5
35°	3938.7	3769.1	3686.3	3634.0	3591.2	3540.2	3656.1	3735.1	3881.4	4061.3	4096.3
36°	3839.8	3728.7	3537.6	3544.2	3483.2	3486.9	3568.4	3594.0	3795.4	3791.2	3945.7
37°	3637.5	3546.9	3426.3	3374.4	3354.1	3382.1	3432.2	3462.4	3567.5	3671.8	3759.9
38°	3510.4	3411.7	3287.9	3253.6	3237.4	3241.1	3333.7	3329.8	3470.5	3563.6	3625.9
39°	3367.8	3266.4	3149.4	3120.6	3120.8	3100.1	3220.5	3197.6	3389.9	3399.5	3487.8
40°	3256.7	3171.0	3012.2	2998.6	2978.0	3005.4	3023.7	3094.4	3213.7	3251.3	3339.7
41°	3132.8	3052.6	2909.0	2839.1	2824.8	2838.3	2910.5	2904.0	3145.0	3155.2	3192.2
42°	3020.5	2875.7	2759.9	2738.3	2690.2	2695.1	2800.7	2835.7	2959.1	3017.5	3123.3
43°	2853.4	2729.4	2580.0	2548.4	2544.9	2511.5	2647.5	2588.3	2847.4	2916.7	2985.6
44°	2690.7	2548.4	2421.7	2362.6	2319.6	2395.7	2413.6	2504.9	2657.0	2750.6	2854.0



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	2563.7	2371.9	2254.7	2224.2	2178.5	2229.7	2320.1	2350.8	2521.8	2581.2	2680.5
46°	2388.7	2233.8	2112.5	2100.3	2052.9	2079.5	2127.5	2176.0	2289.2	2450.6	2534.8
47°	2233.1	2069.1	1994.4	1919.2	1906.2	1967.1	1986.5	2038.6	2118.8	2284.2	2318.6
48°	2048.0	1965.2	1850.0	1803.8	1785.9	1864.4	1847.5	1858.0	2024.9	2117.1	2153.1
49°	1892.5	1816.4	1745.7	1672.1	1654.2	1723.4	1746.2	1780.0	1857.0	2009.5	2013.8
50°	1792.4	1694.7	1619.9	1559.5	1535.4	1599.1	1628.2	1643.7	1724.5	1839.6	1871.8
51°	1694.8	1580.4	1508.1	1464.1	1459.4	1494.6	1512.8	1511.7	1623.0	1716.6	1732.5
52°	1565.4	1496.8	1415.1	1382.1	1384.1	1426.1	1419.6	1429.1	1506.3	1607.8	1629.4
53°	1483.9	1419.0	1328.1	1330.6	1324.0	1342.9	1326.6	1350.6	1431.3	1541.9	1521.3
54°	1399.7	1341.2	1269.1	1281.1	1259.5	1285.7	1259.0	1281.4	1356.8	1447.7	1418.0
55°	1341.2	1289.9	1222.0	1221.4	1197.6	1227.5	1195.0	1230.9	1290.0	1353.4	1350.0
56°	1287.9	1230.4	1165.7	1160.3	1137.4	1174.0	1128.7	1170.9	1225.7	1305.9	1288.0
57°	1226.2	1173.4	1108.6	1098.8	1083.5	1118.3	1072.1	1111.6	1167.3	1242.4	1224.5
58°	1161.2	1116.2	1057.9	1048.7	1039.7	1072.7	1032.5	1058.0	1106.9	1190.8	1168.8
59°	1098.9	1065.3	1021.0	998.8	998.6	1027.7	989.1	1012.5	1052.4	1127.8	1108.6
60°	1070.5	1018.0	973.9	944.7	949.7	981.0	941.6	968.0	1007.8	1073.8	1051.5
61°	1019.8	969.3	930.6	894.8	897.7	930.4	894.4	929.4	967.6	1030.3	1009.4
62°	979.8	917.2	883.5	848.2	844.8	873.5	845.2	883.4	917.0	988.4	960.0
63°	933.0	869.5	828.0	788.2	787.6	818.0	796.3	837.4	870.4	937.4	917.4
64°	883.7	816.5	776.5	742.3	739.9	763.0	742.0	783.5	823.2	884.7	873.0
65°	834.5	761.7	732.0	697.0	692.4	710.3	696.3	733.7	777.9	835.8	826.3
66°	784.1	711.7	681.6	644.9	641.4	665.4	652.5	683.0	728.8	776.6	780.5
67°	727.9	658.4	630.7	602.6	592.5	618.8	606.6	634.5	685.4	718.6	730.7
68°	683.3	611.6	582.3	554.0	546.5	569.0	565.9	594.6	640.4	670.7	676.6
69°	632.7	563.4	540.5	511.4	502.1	518.4	520.4	550.2	596.5	614.2	627.6
70°	583.2	514.9	498.4	469.1	461.9	474.3	476.4	504.2	548.9	562.8	582.3
71°	533.5	466.5	462.4	430.5	418.8	428.4	434.4	465.8	499.0	519.8	535.7
72°	489.2	428.9	419.4	393.1	381.6	383.1	397.1	424.8	454.4	475.1	490.4
73°	446.3	387.8	378.5	355.6	343.9	344.3	357.3	383.3	412.2	439.1	449.4
74°	404.4	352.8	345.4	319.5	308.5	308.9	323.8	344.3	371.8	398.2	406.5
75°	360.8	317.7	313.1	283.5	276.1	273.6	293.1	307.3	333.8	360.6	371.0
76°	324.7	287.0	280.7	255.5	245.1	243.0	259.7	270.3	300.6	327.6	334.8
77°	288.6	258.0	246.4	224.5	216.7	211.2	228.7	241.3	268.5	292.3	301.3
78°	255.9	227.3	213.6	197.1	186.8	180.5	197.2	210.6	235.7	262.3	267.8
79°	224.8	197.4	185.0	168.4	161.3	153.3	168.3	181.7	204.7	230.2	231.8
80°	192.8	172.1	160.1	140.7	135.8	133.6	147.8	155.8	177.7	198.7	197.4
81°	164.9	150.3	139.2	121.7	120.1	118.5	127.3	133.4	154.6	168.5	169.0
82°	141.7	128.5	122.4	110.5	109.7	108.0	115.1	117.5	131.5	146.2	142.8
83°	123.8	115.0	110.7	101.6	101.6	99.9	106.0	106.5	117.5	123.9	124.2
84°	110.7	104.7	101.3	94.6	95.3	93.4	98.6	98.2	107.5	111.3	110.6
85°	101.1	96.5	93.8	89.0	89.9	88.3	92.6	91.5	99.1	101.9	101.2
86°	93.4	89.8	88.3	84.6	85.7	84.1	88.0	86.3	91.7	94.3	94.2
87°	87.2	84.7	83.8	81.1	82.2	81.0	84.2	82.2	86.2	88.2	88.3
88°	82.6	80.9	80.3	78.7	79.6	78.7	81.3	78.9	82.1	83.4	83.3
89°	79.1	78.1	77.8	77.1	77.9	77.2	79.3	76.6	78.8	79.9	79.5



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	76.5	76.2	76.0	76.3	77.0	76.7	78.1	75.2	76.5	77.1	76.4



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CANDELA DISTRIBUTION (continued):

	330°	360°
0°	4040.8	4040.8
1°	4018.8	3990.3
2°	4045.9	4000.3
3°	3999.5	4064.4
4°	4030.9	4033.6
5°	4025.1	4074.6
6°	4016.6	4115.1
7°	4029.9	4109.1
8°	4127.8	4109.0
9°	4092.1	4103.4
10°	4070.6	4085.6
11°	4195.0	4219.8
12°	4188.5	4342.2
13°	4368.1	4450.7
14°	4452.0	4490.6
15°	4549.2	4563.1
16°	4545.1	4706.4
17°	4657.9	4878.2
18°	4809.6	4928.0
19°	4998.4	4947.7
20°	5088.6	5067.8
21°	5212.9	5241.0
22°	5295.4	5313.8
23°	5295.7	5410.1
24°	5421.0	5440.8
25°	5436.8	5428.0
26°	5362.4	5401.4
27°	5407.9	5335.4
28°	5282.7	5183.3
29°	5180.1	5058.8
30°	5003.7	4887.9
31°	4855.4	4743.4
32°	4673.8	4532.3
33°	4544.2	4399.8
34°	4239.2	4150.6
35°	4052.3	3938.7
36°	4017.1	3839.8
37°	3741.8	3637.5
38°	3634.0	3510.4
39°	3515.4	3367.8
40°	3352.1	3256.7
41°	3252.3	3132.8
42°	3109.2	3020.5
43°	2983.4	2853.4
44°	2791.5	2690.7



TEST NUMBER: P601049
CATALOG NUMBER: UHBS-12-MV-L850-U-CDL-277V

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	2671.1	2563.7
46°	2482.6	2388.7
47°	2307.9	2233.1
48°	2122.9	2048.0
49°	2018.9	1892.5
50°	1869.6	1792.4
51°	1765.3	1694.8
52°	1608.5	1565.4
53°	1533.5	1483.9
54°	1457.4	1399.7
55°	1381.3	1341.2
56°	1316.3	1287.9
57°	1251.4	1226.2
58°	1189.4	1161.2
59°	1127.9	1098.9
60°	1077.8	1070.5
61°	1038.6	1019.8
62°	1001.8	979.8
63°	947.4	933.0
64°	893.4	883.7
65°	842.5	834.5
66°	791.9	784.1
67°	739.5	727.9
68°	684.6	683.3
69°	626.6	632.7
70°	573.7	583.2
71°	524.0	533.5
72°	487.7	489.2
73°	446.5	446.3
74°	408.3	404.4
75°	366.0	360.8
76°	326.7	324.7
77°	293.8	288.6
78°	258.9	255.9
79°	226.2	224.8
80°	193.9	192.8
81°	165.6	164.9
82°	140.9	141.7
83°	124.1	123.8
84°	109.9	110.7
85°	100.7	101.1
86°	93.7	93.4
87°	87.7	87.2
88°	83.0	82.6
89°	79.2	79.1



TEST NUMBER: P601049
CATALOG NUMBER: UHBS-12-MV-L850-U-CDL-277V

CANDELA DISTRIBUTION (continued):

	330°	360°
90°	76.3	76.5

(END OF REPORT)