

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P130040

Luminaire Tested: **HL618TAT - HLM6935 - HL6FL - 456W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130040
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33452)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6935 - HL6FL - 456W
Description: HALO ALLSLOPE 6" 30W, White Coilex Baffle, White Metal Trim Ring using 40 Degree Optic at a 6-12 Pitch
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2189.3 lumens
Efficiency: N/A
Efficacy: 79.3 lumens/watt
Spacing Criteria (0/90/45): 1.64 / 0.67 / 1.09
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

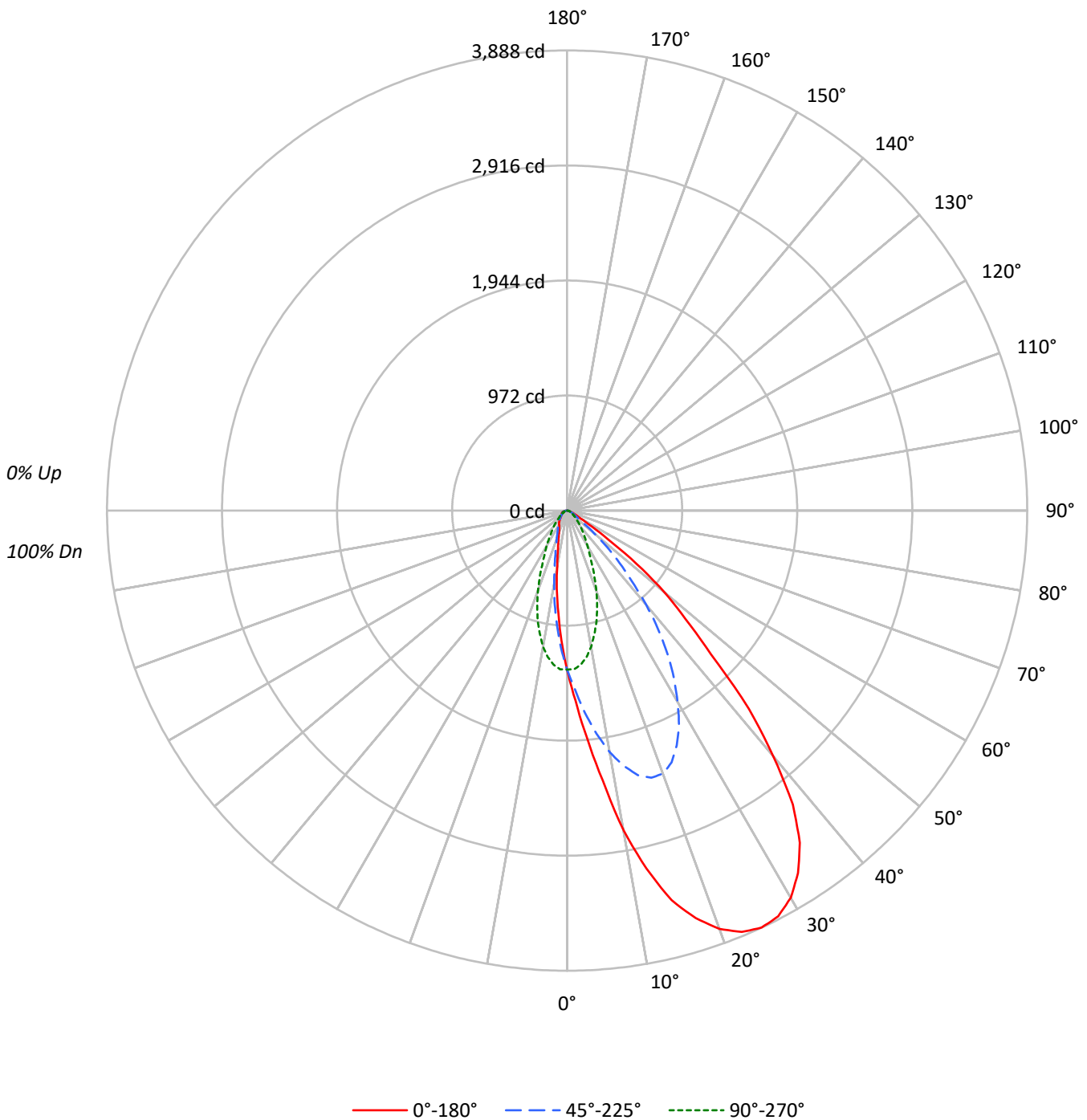
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P130040

CATALOG NUMBER: HL618TAT - HLM6935 - HL6FL - 456W

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	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			
1	112	109	106	103	110	107	104	102	103	100	98	99	97	95	95	94	93	91					91			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	84	82					82			
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74					74			
4	92	83	76	71	90	82	76	71	80	74	70	77	73	69	75	72	68	67					67			
5	86	76	69	64	85	75	69	64	73	68	63	72	67	63	70	66	62	60					60			
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	57	55					55			
7	76	65	58	53	75	64	58	53	63	57	52	62	56	52	60	56	52	50					50			
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46					46			
9	67	56	49	45	66	56	49	44	55	48	44	54	48	44	53	48	44	42					42			
10	64	52	46	41	62	52	45	41	51	45	41	50	45	41	49	44	41	39					39			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	80183	80183	80183
5°	112916	76575	50447
10°	158805	67614	27959
15°	196610	55393	16678
20°	217866	41662	11561
25°	227815	28702	9142
30°	225733	20562	8091
35°	210584	14868	7188
40°	172781	11328	6066
45°	114533	8110	5129
50°	75888	6150	4450
55°	31066	4934	4157
60°	9941	3941	4317
65°	5983	3095	4337
70°	3470	2774	4166
75°	1725	2524	3717
80°	1261	2043	2989
85°	780	1357	1747



TEST NUMBER: P130040

CATALOG NUMBER: HL618TAT - HLM6935 - HL6FL - 456W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.8	5.9
10°-20°	389.8	17.8
20°-30°	571.5	26.1
30°-40°	561.0	25.6
40°-50°	342.0	15.6
50°-60°	117.5	5.4
60°-70°	45.3	2.1
70°-80°	23.9	1.1
80°-90°	8.4	0.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1091.2	49.8
0°-40°	1652.2	75.5
0°-60°	2111.7	96.5
0°-90°	2189.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2189.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1343	1343	1343	1343	1343	
5°	1928	1713	1308	974	862	209
15°	3408	2314	960	383	289	962
25°	3888	2189	490	189	156	1779
35°	3428	1479	242	130	117	2097
45°	1717	629	122	83	77	1383
55°	412	107	65	54	55	431
65°	66	46	34	42	48	70
75°	15	15	22	29	32	18
85°	5	6	8	10	10	5
90°	0	0	0	0	0	



TEST NUMBER: P130040

CATALOG NUMBER: HL618TAT - HLM6935 - HL6FL - 456W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3
2.5°	1606.0	1591.1	1592.2	1583.0	1588.8	1599.1	1587.6	1554.4	1533.7	1513.1	1500.5
5°	1928.3	1924.9	1929.5	1900.8	1892.8	1890.5	1853.8	1804.4	1796.4	1712.7	1705.8
7.5°	2298.9	2287.4	2281.7	2230.0	2212.8	2185.3	2127.9	2049.9	1977.7	1902.0	1832.0
10°	2742.8	2707.2	2690.0	2626.9	2584.5	2520.3	2429.6	2296.6	2175.0	2071.7	1960.5
12.5°	3098.4	3073.2	3061.7	2991.7	2941.3	2834.6	2714.1	2532.9	2371.1	2209.4	2062.6
15°	3408.1	3370.3	3348.5	3272.8	3207.4	3105.3	2961.9	2747.4	2526.0	2313.8	2119.9
17.5°	3610.0	3581.4	3557.3	3486.1	3412.7	3293.4	3131.7	2881.6	2626.9	2366.5	2134.8
20°	3761.5	3729.3	3693.8	3620.4	3537.8	3410.4	3222.3	2952.7	2663.6	2365.4	2105.0
22.5°	3853.2	3807.3	3778.7	3691.5	3608.9	3466.6	3262.5	2955.0	2633.8	2303.4	2030.4
25°	3887.6	3842.9	3805.1	3709.8	3615.8	3455.2	3229.2	2886.2	2524.8	2188.7	1922.6
27.5°	3863.6	3815.4	3771.8	3674.3	3565.3	3376.0	3114.5	2737.1	2366.5	2047.6	1776.9
30°	3777.5	3732.8	3680.0	3580.2	3452.9	3229.2	2926.3	2523.7	2162.4	1865.2	1601.4
32.5°	3630.7	3590.5	3526.3	3416.2	3249.8	2991.7	2664.8	2265.6	1994.9	1678.3	1419.0
35°	3427.6	3378.3	3291.1	3162.7	2953.9	2659.1	2344.7	2015.5	1742.5	1478.7	1225.1
37.5°	3131.7	3066.3	3000.9	2807.0	2578.8	2312.6	2043.0	1776.9	1492.4	1261.8	1032.4
40°	2711.8	2655.6	2582.2	2375.7	2196.8	1982.3	1744.8	1495.9	1269.9	1037.0	834.0
42.5°	2272.5	2184.1	2126.8	1977.7	1830.8	1618.6	1388.0	1167.8	984.2	804.1	643.5
45°	1717.3	1689.7	1628.9	1518.8	1408.7	1255.0	1105.8	925.7	769.7	628.6	494.4
47.5°	1354.8	1329.5	1283.6	1202.2	1123.0	994.6	864.9	722.7	590.8	457.7	360.2
50°	1076.0	1035.9	995.7	926.9	848.9	752.5	644.7	513.9	383.1	296.0	242.0
52.5°	737.6	710.1	680.3	625.2	562.1	487.5	383.1	287.9	218.0	170.9	142.2
55°	411.8	408.4	376.3	338.4	281.0	238.6	182.4	145.7	121.6	106.7	95.2
57.5°	211.1	206.5	183.5	162.9	143.4	122.7	107.8	97.5	90.6	83.7	80.3
60°	121.6	117.0	111.3	106.7	98.7	91.8	84.9	79.2	75.7	70.0	66.5
62.5°	87.2	87.2	83.7	80.3	76.9	72.3	67.7	64.2	61.9	57.4	55.1
65°	66.5	66.5	64.2	61.9	59.7	57.4	53.9	50.5	49.3	45.9	43.6
67.5°	50.5	49.3	48.2	47.0	44.7	43.6	40.1	37.9	36.7	34.4	33.3
70°	34.4	34.4	33.3	33.3	33.3	31.0	28.7	27.5	26.4	25.2	25.2
72.5°	21.8	21.8	21.8	21.8	20.6	19.5	19.5	19.5	19.5	18.4	18.4
75°	14.9	13.8	13.8	13.8	13.8	13.8	13.8	13.8	14.9	14.9	14.9
77.5°	10.3	10.3	10.3	10.3	10.3	11.5	11.5	11.5	12.6	12.6	13.8
80°	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	10.3	10.3	11.5
82.5°	6.9	6.9	6.9	6.9	6.9	6.9	8.0	8.0	8.0	8.0	9.2
85°	4.6	4.6	4.6	4.6	4.6	4.6	5.7	5.7	5.7	5.7	5.7
87.5°	2.3	2.3	2.3	2.3	2.3	2.3	3.4	3.4	3.4	3.4	3.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P130040

CATALOG NUMBER: HL618TAT - HLM6935 - HL6FL - 456W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3
2.5°	1490.1	1479.8	1438.5	1423.6	1419.0	1366.2	1374.3	1342.1	1314.6	1290.5	1269.9
5°	1642.7	1610.6	1533.7	1493.6	1461.5	1381.2	1361.7	1307.7	1257.3	1214.8	1170.1
7.5°	1773.5	1708.1	1601.4	1536.0	1475.2	1367.4	1323.8	1249.2	1177.0	1117.3	1057.7
10°	1868.7	1771.2	1638.1	1547.5	1459.2	1323.8	1258.4	1167.8	1072.6	1003.7	934.9
12.5°	1932.9	1806.7	1642.7	1520.0	1409.8	1256.1	1175.8	1064.5	965.9	887.9	801.8
15°	1954.7	1799.9	1611.7	1467.2	1335.3	1177.0	1077.2	960.2	851.2	758.3	680.3
17.5°	1938.7	1757.4	1546.3	1386.9	1240.1	1070.3	963.6	839.7	729.6	643.5	555.2
20°	1882.5	1681.7	1458.0	1284.8	1128.8	957.9	843.1	719.3	611.4	523.1	449.7
22.5°	1793.0	1578.5	1344.4	1163.2	1009.5	839.7	719.3	601.1	499.0	429.0	374.0
25°	1671.4	1453.4	1213.7	1037.0	882.1	707.8	597.7	489.8	411.8	357.9	314.3
27.5°	1523.4	1304.3	1077.2	907.4	753.7	594.2	489.8	408.4	345.3	304.0	266.1
30°	1360.5	1150.6	934.9	766.3	627.5	482.9	406.1	344.1	293.7	258.1	229.4
32.5°	1187.3	996.9	792.7	634.4	504.7	400.4	339.6	290.2	248.9	221.4	198.5
35°	1011.8	835.1	651.6	508.2	409.5	332.7	282.2	242.0	213.4	190.4	173.2
37.5°	847.7	678.0	510.5	403.8	330.4	270.7	235.2	205.3	183.5	166.3	152.6
40°	660.8	516.2	391.2	321.2	270.7	224.8	200.7	177.8	159.5	145.7	135.4
42.5°	502.4	396.9	317.8	262.7	222.5	189.3	169.8	150.3	136.5	122.7	114.7
45°	380.8	310.9	254.7	207.6	182.4	153.7	136.5	121.6	111.3	104.4	98.7
47.5°	284.5	231.7	188.1	154.9	137.7	115.9	106.7	98.7	94.1	91.8	87.2
50°	191.6	154.9	127.3	111.3	103.2	92.9	90.6	87.2	82.6	79.2	75.7
52.5°	119.3	104.4	94.1	89.5	87.2	83.7	79.2	75.7	71.1	70.0	67.7
55°	89.5	86.0	80.3	76.9	74.6	68.8	66.5	65.4	63.1	61.9	59.7
57.5°	75.7	72.3	67.7	64.2	63.1	59.7	58.5	55.1	53.9	52.8	51.6
60°	63.1	60.8	57.4	55.1	53.9	50.5	49.3	48.2	47.0	45.9	44.7
62.5°	51.6	50.5	47.0	45.9	44.7	42.4	41.3	41.3	40.1	40.1	39.0
65°	41.3	40.1	37.9	36.7	35.6	34.4	35.6	34.4	34.4	35.6	35.6
67.5°	32.1	32.1	29.8	29.8	29.8	28.7	29.8	29.8	31.0	32.1	33.3
70°	24.1	24.1	24.1	24.1	25.2	25.2	26.4	27.5	28.7	29.8	31.0
72.5°	18.4	19.5	19.5	20.6	21.8	21.8	24.1	24.1	25.2	26.4	27.5
75°	16.1	17.2	17.2	18.4	19.5	19.5	20.6	21.8	22.9	22.9	24.1
77.5°	13.8	14.9	14.9	16.1	17.2	17.2	18.4	18.4	19.5	20.6	20.6
80°	11.5	11.5	12.6	12.6	13.8	13.8	14.9	14.9	14.9	16.1	16.1
82.5°	9.2	9.2	9.2	10.3	10.3	10.3	11.5	11.5	11.5	12.6	12.6
85°	5.7	6.9	6.9	6.9	6.9	6.9	8.0	8.0	8.0	8.0	8.0
87.5°	3.4	3.4	3.4	3.4	4.6	4.6	4.6	4.6	4.6	4.6	4.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P130040

CATALOG NUMBER: HL618TAT - HLM6935 - HL6FL - 456W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3	1343.3
2.5°	1251.5	1242.3	1216.0	1203.3	1186.1	1165.5	1152.9	1151.7	1157.5	1118.5	1110.4
5°	1136.8	1105.8	1061.1	1035.9	998.0	973.9	953.3	944.1	928.0	907.4	883.3
7.5°	1009.5	962.4	914.3	870.7	836.3	798.4	772.0	745.6	734.2	706.6	688.3
10°	876.4	822.5	762.8	712.4	672.2	627.5	598.8	573.6	554.1	530.0	510.5
12.5°	736.5	679.1	608.0	560.9	520.8	484.1	454.3	439.4	423.3	409.5	388.9
15°	606.8	542.6	486.4	443.9	413.0	383.1	364.8	349.9	333.8	320.1	310.9
17.5°	487.5	437.1	393.5	360.2	335.0	310.9	294.8	282.2	273.0	257.0	252.4
20°	400.4	359.1	326.9	299.4	275.3	257.0	243.2	236.3	229.4	216.8	211.1
22.5°	333.8	302.8	273.0	250.1	236.3	220.3	208.8	201.9	196.2	187.0	184.7
25°	279.9	257.0	232.9	216.8	201.9	189.3	182.4	176.7	172.1	165.2	162.9
27.5°	240.9	221.4	201.9	188.1	177.8	168.6	159.5	158.3	157.2	150.3	149.1
30°	207.6	192.7	177.8	167.5	159.5	152.6	148.0	143.4	144.5	140.0	138.8
32.5°	182.4	170.9	159.5	150.3	145.7	140.0	136.5	136.5	135.4	130.8	130.8
35°	160.6	152.6	144.5	137.7	134.2	129.6	126.2	125.0	125.0	119.3	119.3
37.5°	144.5	136.5	129.6	125.0	121.6	115.9	113.6	112.4	111.3	107.8	107.8
40°	126.2	120.4	114.7	110.1	106.7	103.2	100.9	100.9	100.9	97.5	97.5
42.5°	107.8	104.4	100.9	97.5	96.4	92.9	90.6	90.6	90.6	86.0	87.2
45°	95.2	94.1	90.6	87.2	84.9	82.6	80.3	81.4	81.4	78.0	79.2
47.5°	84.9	82.6	79.2	76.9	75.7	74.6	73.4	73.4	73.4	71.1	71.1
50°	74.6	72.3	71.1	70.0	68.8	67.7	65.4	65.4	65.4	64.2	64.2
52.5°	66.5	65.4	63.1	61.9	61.9	59.7	59.7	57.4	59.7	57.4	58.5
55°	58.5	57.4	56.2	55.1	55.1	53.9	53.9	53.9	53.9	53.9	55.1
57.5°	50.5	50.5	49.3	49.3	49.3	48.2	49.3	50.5	51.6	50.5	52.8
60°	44.7	44.7	43.6	44.7	45.9	45.9	47.0	48.2	50.5	50.5	51.6
62.5°	39.0	41.3	41.3	42.4	43.6	44.7	45.9	47.0	49.3	48.2	50.5
65°	36.7	37.9	39.0	40.1	42.4	42.4	43.6	44.7	45.9	45.9	48.2
67.5°	34.4	36.7	36.7	37.9	39.0	39.0	41.3	42.4	43.6	43.6	44.7
70°	32.1	33.3	34.4	35.6	36.7	36.7	37.9	39.0	40.1	39.0	40.1
72.5°	28.7	29.8	31.0	31.0	32.1	32.1	33.3	34.4	35.6	35.6	36.7
75°	25.2	26.4	26.4	27.5	28.7	28.7	29.8	29.8	31.0	31.0	32.1
77.5°	21.8	21.8	22.9	22.9	24.1	24.1	25.2	25.2	26.4	26.4	26.4
80°	17.2	18.4	18.4	18.4	19.5	19.5	19.5	20.6	20.6	20.6	21.8
82.5°	12.6	13.8	13.8	13.8	14.9	14.9	14.9	14.9	16.1	16.1	16.1
85°	9.2	9.2	9.2	9.2	9.2	10.3	10.3	10.3	10.3	10.3	10.3
87.5°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P130040

CATALOG NUMBER: HL618TAT - HLM6935 - HL6FL - 456W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1343.3	1343.3	1343.3	1343.3
2.5°	1120.8	1115.0	1099.0	1095.5
5°	887.9	876.4	864.9	861.5
7.5°	689.4	674.5	658.5	666.5
10°	495.6	493.3	485.2	482.9
12.5°	378.6	376.3	369.4	362.5
15°	300.5	300.5	294.8	289.1
17.5°	242.0	244.3	237.5	234.0
20°	205.3	204.2	201.9	199.6
22.5°	179.0	179.0	177.8	173.2
25°	158.3	159.5	158.3	156.0
27.5°	145.7	146.8	145.7	144.5
30°	136.5	136.5	135.4	135.4
32.5°	128.5	128.5	128.5	127.3
35°	117.0	118.2	117.0	117.0
37.5°	105.5	105.5	105.5	105.5
40°	95.2	96.4	96.4	95.2
42.5°	84.9	84.9	84.9	83.7
45°	76.9	78.0	76.9	76.9
47.5°	70.0	70.0	70.0	68.8
50°	63.1	63.1	63.1	63.1
52.5°	57.4	57.4	58.5	57.4
55°	53.9	55.1	55.1	55.1
57.5°	52.8	52.8	53.9	53.9
60°	51.6	51.6	52.8	52.8
62.5°	49.3	51.6	50.5	50.5
65°	47.0	47.0	48.2	48.2
67.5°	43.6	44.7	44.7	44.7
70°	40.1	40.1	41.3	41.3
72.5°	35.6	36.7	36.7	36.7
75°	31.0	32.1	32.1	32.1
77.5°	26.4	26.4	27.5	27.5
80°	21.8	21.8	21.8	21.8
82.5°	16.1	16.1	16.1	16.1
85°	10.3	10.3	10.3	10.3
87.5°	4.6	4.6	4.6	4.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)