

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: P130029

Luminaire Tested: **HL618TAT - HLM6940 - HL6FL - 455H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130029
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33448)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6940 - HL6FL - 455H
Description: HALO ALLSLOPE 6" 30W, Semi-Specular Haze Reflector, White Metal Trim Ring using 40 Degree Optic at a 6-12 Pitch
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2275.0 lumens
Efficiency: N/A
Efficacy: 82.4 lumens/watt
Spacing Criteria (0/90/45): 1.6 / 0.65 / 1.06
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

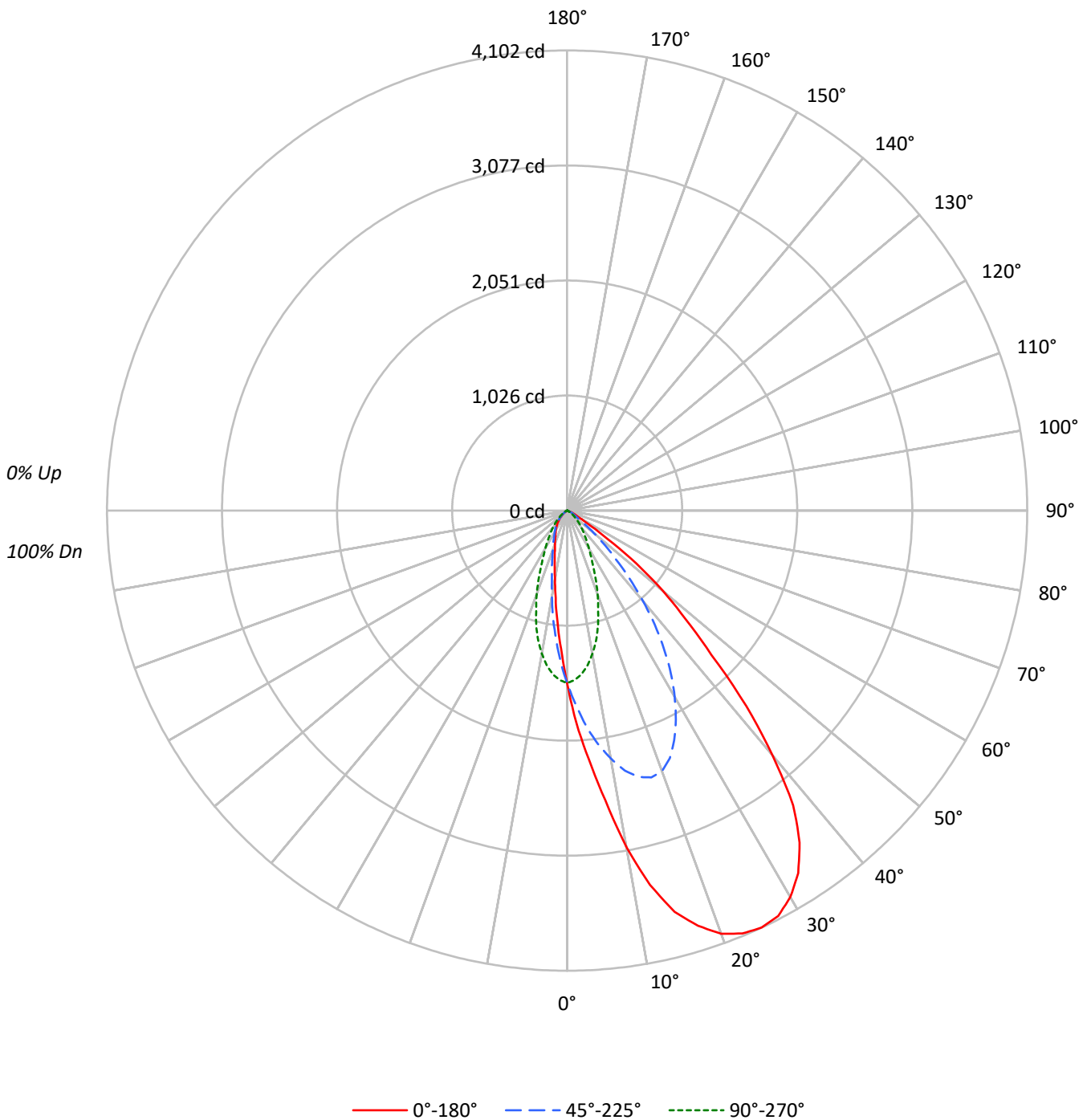
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P130029

CATALOG NUMBER: HL618TAT - HLM6940 - HL6FL - 455H

Luminous Intensity Polar Plot





TEST NUMBER: P130029

CATALOG NUMBER: HL618TAT - HLM6940 - HL6FL - 455H

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	113	110	107	104	110	107	105	103	103	101	99	99	98	96	96	95	94	92
2	106	100	96	92	104	99	94	91	95	92	89	92	89	87	89	87	85	83
3	99	92	86	82	97	91	85	81	88	83	80	85	82	78	83	80	77	75
4	93	85	78	73	91	83	77	73	81	76	72	79	75	71	77	73	70	69
5	88	78	71	66	86	77	71	66	75	69	65	73	68	65	72	67	64	62
6	82	72	65	60	81	71	65	60	69	64	59	68	63	59	67	62	59	57
7	77	67	60	55	76	66	59	55	65	59	54	63	58	54	62	57	54	52
8	73	62	55	50	71	61	55	50	60	54	50	59	54	50	58	53	49	48
9	69	58	51	46	67	57	51	46	56	50	46	55	50	46	54	49	46	44
10	65	54	47	43	64	53	47	43	52	47	43	52	46	42	51	46	42	41

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	91762	91762	91762
5°	130290	85833	58341
10°	176504	75002	35949
15°	213674	61393	24547
20°	232479	46040	18361
25°	240379	32054	14457
30°	237715	23144	12035
35°	221926	16914	9738
40°	181555	12603	7442
45°	121369	8984	4929
50°	78505	6051	2856
55°	32997	4134	1260
60°	9353	2632	589
65°	5362	1287	216
70°	2764	484	0
75°	695	278	0
80°	165	329	0
85°	0	407	0



TEST NUMBER: P130029

CATALOG NUMBER: HL618TAT - HLM6940 - HL6FL - 455H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.9	6.5
10°-20°	430.6	18.9
20°-30°	612.1	26.9
30°-40°	592.5	26.0
40°-50°	355.7	15.6
50°-60°	109.5	4.8
60°-70°	22.8	1.0
70°-80°	3.7	0.2
80°-90°	1.3	0.1
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°	1189.5	52.3
0°-40°	1782.0	78.3
0°-60°	2247.2	98.8
0°-90°	2275.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2275.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1537	1537	1537	1537	1537	
5°	2225	1925	1466	1144	996	237
15°	3704	2457	1064	522	426	1044
25°	4102	2258	547	282	247	1880
35°	3612	1505	275	176	158	2212
45°	1820	618	135	91	74	1452
55°	437	107	55	30	17	448
65°	60	37	14	5	2	63
75°	6	2	2	1	0	9
85°	0	1	2	1	0	0
90°	0	0	0	0	0	



TEST NUMBER: P130029

CATALOG NUMBER: HL618TAT - HLM6940 - HL6FL - 455H

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3
2.5°	1897.3	1860.3	1842.4	1818.6	1834.1	1809.1	1807.9	1804.3	1767.4	1726.8	1735.2
5°	2225.0	2190.4	2163.0	2124.9	2120.1	2079.6	2016.4	2056.9	1990.2	1924.7	1908.0
7.5°	2604.0	2555.1	2526.5	2452.6	2435.9	2321.5	2322.7	2282.2	2195.2	2097.5	2047.4
10°	3048.5	2986.5	2959.1	2850.6	2804.2	2682.6	2614.7	2526.5	2390.6	2245.2	2155.9
12.5°	3417.9	3361.9	3326.2	3202.2	3147.4	3000.8	2890.0	2763.6	2568.2	2374.0	2245.2
15°	3703.9	3644.3	3555.0	3466.8	3408.4	3242.7	3170.0	2943.6	2743.4	2457.4	2284.6
17.5°	3880.3	3833.8	3779.0	3647.9	3584.8	3426.3	3260.6	3061.6	2787.5	2494.3	2276.2
20°	4013.8	3960.2	3895.8	3761.1	3689.6	3506.1	3338.1	3116.4	2800.6	2471.7	2223.8
22.5°	4080.5	4028.1	3963.7	3816.0	3733.7	3533.5	3347.6	3092.6	2739.8	2389.4	2128.5
25°	4102.0	4046.0	3976.8	3818.3	3720.6	3504.9	3294.0	3002.0	2618.3	2258.4	1996.2
27.5°	4073.4	4011.4	3936.3	3771.9	3657.5	3417.9	3172.4	2836.3	2450.2	2098.7	1838.9
30°	3978.0	3919.6	3839.8	3669.4	3533.5	3251.1	2971.0	2605.1	2236.9	1916.3	1656.5
32.5°	3832.6	3769.5	3692.0	3500.1	3335.7	3022.3	2695.7	2347.7	2024.8	1722.1	1468.2
35°	3612.2	3547.8	3464.4	3238.0	3049.7	2706.4	2383.5	2092.7	1822.2	1505.2	1262.1
37.5°	3310.7	3234.4	3108.1	2900.7	2670.7	2345.3	2076.0	1830.5	1545.7	1283.5	1060.7
40°	2849.5	2794.6	2663.5	2464.5	2257.2	2002.1	1791.2	1554.0	1288.3	1048.7	862.8
42.5°	2365.6	2302.4	2197.6	2026.0	1867.5	1644.6	1446.8	1227.5	1020.1	821.1	667.4
45°	1819.8	1778.1	1710.1	1581.4	1444.4	1282.3	1131.0	964.1	809.2	618.5	500.5
47.5°	1431.3	1400.3	1352.6	1238.2	1160.8	1007.0	891.4	749.6	609.0	457.6	361.1
50°	1113.1	1094.0	1049.9	953.4	880.7	767.5	661.4	539.9	412.3	307.5	244.3
52.5°	777.0	792.5	725.8	665.0	595.9	505.3	402.8	313.4	237.2	182.3	152.5
55°	437.4	433.8	411.2	358.7	301.5	239.5	189.5	159.7	129.9	107.3	96.5
57.5°	209.7	202.6	189.5	162.1	138.2	120.4	106.1	97.7	88.2	79.8	75.1
60°	114.4	113.2	107.3	98.9	94.1	87.0	81.0	76.3	69.1	63.2	58.4
62.5°	82.2	81.0	78.7	73.9	71.5	66.7	62.0	58.4	54.8	50.1	46.5
65°	59.6	59.6	58.4	54.8	53.6	50.1	47.7	44.1	40.5	36.9	34.6
67.5°	44.1	42.9	41.7	40.5	38.1	35.8	33.4	31.0	28.6	25.0	22.6
70°	27.4	26.2	26.2	25.0	23.8	21.5	19.1	17.9	16.7	14.3	13.1
72.5°	14.3	14.3	13.1	13.1	11.9	10.7	9.5	9.5	8.3	7.2	6.0
75°	6.0	4.8	4.8	4.8	4.8	4.8	3.6	3.6	3.6	2.4	2.4
77.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.4	2.4	2.4
80°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
82.5°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
85°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
87.5°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
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: P130029

CATALOG NUMBER: HL618TAT - HLM6940 - HL6FL - 455H

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3
2.5°	1704.2	1676.8	1675.6	1635.1	1593.4	1581.4	1530.2	1511.1	1492.1	1443.2	1439.6
5°	1847.2	1798.3	1766.2	1695.8	1625.5	1583.8	1507.6	1465.8	1422.9	1381.2	1331.2
7.5°	1961.6	1883.0	1821.0	1714.9	1620.8	1552.8	1481.3	1389.6	1326.4	1275.2	1203.7
10°	2048.6	1931.8	1840.0	1707.8	1587.4	1492.1	1382.4	1295.4	1218.0	1152.4	1077.3
12.5°	2096.3	1943.7	1826.9	1681.5	1524.2	1413.4	1279.9	1187.0	1076.1	1018.9	930.8
15°	2103.4	1923.5	1779.3	1598.1	1437.2	1310.9	1172.7	1064.2	967.7	883.1	796.1
17.5°	2068.9	1866.3	1699.4	1498.0	1335.9	1188.2	1048.7	917.6	834.2	743.6	660.2
20°	1955.6	1776.9	1585.0	1377.7	1206.0	1060.7	910.5	794.9	698.4	609.0	545.8
22.5°	1884.1	1654.1	1450.4	1240.6	1066.6	921.2	773.4	666.2	572.0	510.1	460.0
25°	1743.5	1502.8	1301.4	1096.4	923.6	778.2	641.2	547.0	479.1	423.1	389.7
27.5°	1581.4	1343.1	1145.3	949.8	784.2	647.1	530.3	457.6	402.8	365.9	331.3
30°	1384.8	1179.8	985.6	808.0	643.5	527.9	440.9	387.3	343.2	309.9	286.0
32.5°	1229.9	1014.2	836.6	659.0	527.9	442.1	371.8	326.5	292.0	269.3	246.7
35°	1047.5	852.1	680.5	529.1	431.4	364.7	311.0	275.3	249.1	230.0	213.3
37.5°	865.2	678.1	536.3	427.8	351.6	301.5	258.6	233.6	210.9	197.8	184.7
40°	682.9	524.4	419.5	343.2	286.0	246.7	218.1	197.8	180.0	170.4	159.7
42.5°	516.0	401.6	332.5	275.3	233.6	205.0	181.1	166.8	152.5	140.6	134.7
45°	390.9	314.6	263.4	221.7	189.5	168.0	145.4	134.7	123.9	116.8	112.0
47.5°	297.9	243.1	200.2	165.7	145.4	127.5	114.4	104.9	100.1	98.9	93.0
50°	201.4	163.3	139.4	118.0	106.1	96.5	90.6	85.8	82.2	78.7	73.9
52.5°	126.3	108.4	97.7	88.2	83.4	78.7	73.9	70.3	65.5	63.2	57.2
55°	88.2	82.2	77.5	71.5	67.9	63.2	58.4	54.8	52.4	50.1	46.5
57.5°	70.3	65.5	62.0	57.2	53.6	50.1	46.5	44.1	40.5	39.3	34.6
60°	56.0	52.4	48.9	45.3	41.7	38.1	35.8	32.2	29.8	27.4	23.8
62.5°	44.1	40.5	36.9	34.6	31.0	28.6	25.0	22.6	20.3	17.9	15.5
65°	32.2	28.6	26.2	23.8	21.5	19.1	16.7	14.3	11.9	10.7	9.5
67.5°	21.5	17.9	16.7	15.5	13.1	10.7	9.5	7.2	7.2	6.0	6.0
70°	11.9	10.7	9.5	8.3	7.2	6.0	4.8	4.8	3.6	3.6	3.6
72.5°	6.0	4.8	4.8	3.6	3.6	3.6	3.6	3.6	3.6	2.4	2.4
75°	3.6	2.4	2.4	3.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4
77.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
80°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
82.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
85°	1.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
87.5°	1.2	1.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
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: P130029

CATALOG NUMBER: HL618TAT - HLM6940 - HL6FL - 455H

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3	1537.3
2.5°	1448.0	1408.6	1394.3	1353.8	1332.4	1346.7	1318.1	1301.4	1291.8	1293.0	1269.2
5°	1319.3	1265.6	1233.5	1239.4	1128.6	1144.1	1114.3	1085.7	1076.1	1059.5	1045.2
7.5°	1173.9	1117.9	1073.8	1013.0	976.0	958.2	934.3	885.5	873.5	849.7	833.0
10°	1028.5	962.9	914.1	840.2	800.9	778.2	740.1	704.3	691.2	675.7	650.7
12.5°	880.7	810.4	752.0	687.6	649.5	630.4	598.3	574.4	561.3	547.0	536.3
15°	729.3	655.5	613.7	564.9	533.9	522.0	497.0	480.3	467.2	457.6	449.3
17.5°	604.2	548.2	512.4	474.3	449.3	439.8	420.7	404.0	394.5	387.3	382.5
20°	505.3	460.0	433.8	402.8	386.1	373.0	356.3	348.0	342.0	337.3	332.5
22.5°	429.0	389.7	368.2	343.2	328.9	323.0	312.2	301.5	297.9	294.4	289.6
25°	365.9	334.9	317.0	299.1	287.2	282.4	272.9	265.8	263.4	259.8	257.4
27.5°	312.2	289.6	276.5	261.0	252.6	249.1	240.7	236.0	236.0	232.4	233.6
30°	270.5	252.6	241.9	230.0	224.0	221.7	215.7	212.1	210.9	208.6	207.4
32.5°	236.0	220.5	214.5	203.8	200.2	197.8	193.1	189.5	190.7	188.3	187.1
35°	205.0	194.3	189.5	181.1	178.8	176.4	172.8	169.2	169.2	166.8	164.5
37.5°	178.8	171.6	166.8	159.7	157.3	154.9	151.4	146.6	146.6	144.2	144.2
40°	157.3	147.8	145.4	137.1	133.5	131.1	128.7	126.3	123.9	121.6	121.6
42.5°	132.3	123.9	121.6	115.6	113.2	110.8	108.4	102.5	102.5	100.1	100.1
45°	108.4	103.7	101.3	96.5	93.0	90.6	87.0	83.4	82.2	79.8	78.7
47.5°	89.4	84.6	82.2	77.5	75.1	72.7	70.3	66.7	65.5	63.2	60.8
50°	72.7	67.9	65.5	62.0	59.6	57.2	54.8	51.2	50.1	46.5	45.3
52.5°	57.2	54.8	51.2	47.7	45.3	41.7	40.5	36.9	34.6	32.2	31.0
55°	44.1	41.7	38.1	34.6	32.2	29.8	27.4	25.0	22.6	21.5	19.1
57.5°	33.4	29.8	26.2	23.8	21.5	19.1	17.9	15.5	14.3	13.1	11.9
60°	22.6	19.1	17.9	15.5	13.1	11.9	10.7	9.5	9.5	8.3	8.3
62.5°	14.3	11.9	10.7	9.5	8.3	8.3	7.2	6.0	6.0	4.8	4.8
65°	8.3	7.2	7.2	6.0	6.0	4.8	4.8	3.6	3.6	3.6	2.4
67.5°	4.8	4.8	4.8	3.6	3.6	2.4	2.4	2.4	2.4	1.2	1.2
70°	3.6	3.6	3.6	2.4	2.4	2.4	2.4	1.2	1.2	1.2	1.2
72.5°	2.4	2.4	2.4	2.4	2.4	1.2	1.2	1.2	1.2	1.2	1.2
75°	2.4	2.4	2.4	2.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2
77.5°	2.4	2.4	2.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0
80°	2.4	2.4	2.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0
82.5°	2.4	2.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0	0.0
85°	2.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0	0.0
87.5°	2.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0	0.0
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: P130029

CATALOG NUMBER: HL618TAT - HLM6940 - HL6FL - 455H

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1537.3	1537.3	1537.3	1537.3
2.5°	1258.5	1252.5	1266.8	1232.3
5°	1039.2	1020.1	1038.0	996.3
7.5°	827.1	811.6	819.9	785.4
10°	649.5	629.2	640.0	620.9
12.5°	529.1	519.6	520.8	508.9
15°	443.3	433.8	437.4	425.5
17.5°	375.4	368.2	375.4	362.3
20°	326.5	319.4	325.3	317.0
22.5°	287.2	282.4	289.6	280.1
25°	249.1	251.5	253.8	246.7
27.5°	228.8	225.2	228.8	222.9
30°	206.2	202.6	206.2	201.4
32.5°	185.9	182.3	184.7	180.0
35°	163.3	160.9	163.3	158.5
37.5°	141.8	138.2	140.6	139.4
40°	119.2	118.0	119.2	116.8
42.5°	96.5	95.3	96.5	95.3
45°	76.3	75.1	77.5	73.9
47.5°	59.6	57.2	58.4	57.2
50°	42.9	41.7	41.7	40.5
52.5°	29.8	27.4	28.6	27.4
55°	19.1	17.9	17.9	16.7
57.5°	11.9	10.7	10.7	10.7
60°	7.2	7.2	7.2	7.2
62.5°	4.8	3.6	3.6	3.6
65°	2.4	2.4	2.4	2.4
67.5°	1.2	1.2	1.2	1.2
70°	1.2	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)