

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: P130034

Luminaire Tested: **HL618TAT - HLM6927 - HL6FL - 455TBZ**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130034
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33451)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6927 - HL6FL - 455TBZ
Description: HALO ALLSLOPE 6" 30W, Tuscan Bronze Reflector, Tuscan Bronze Metal Trim Ring using 40 Degree Optic at a 6-12 Pitch
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1784.0 lumens
Efficiency: N/A
Efficacy: 64.6 lumens/watt
Spacing Criteria (0/90/45): 1.55 / 0.65 / 1.05
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

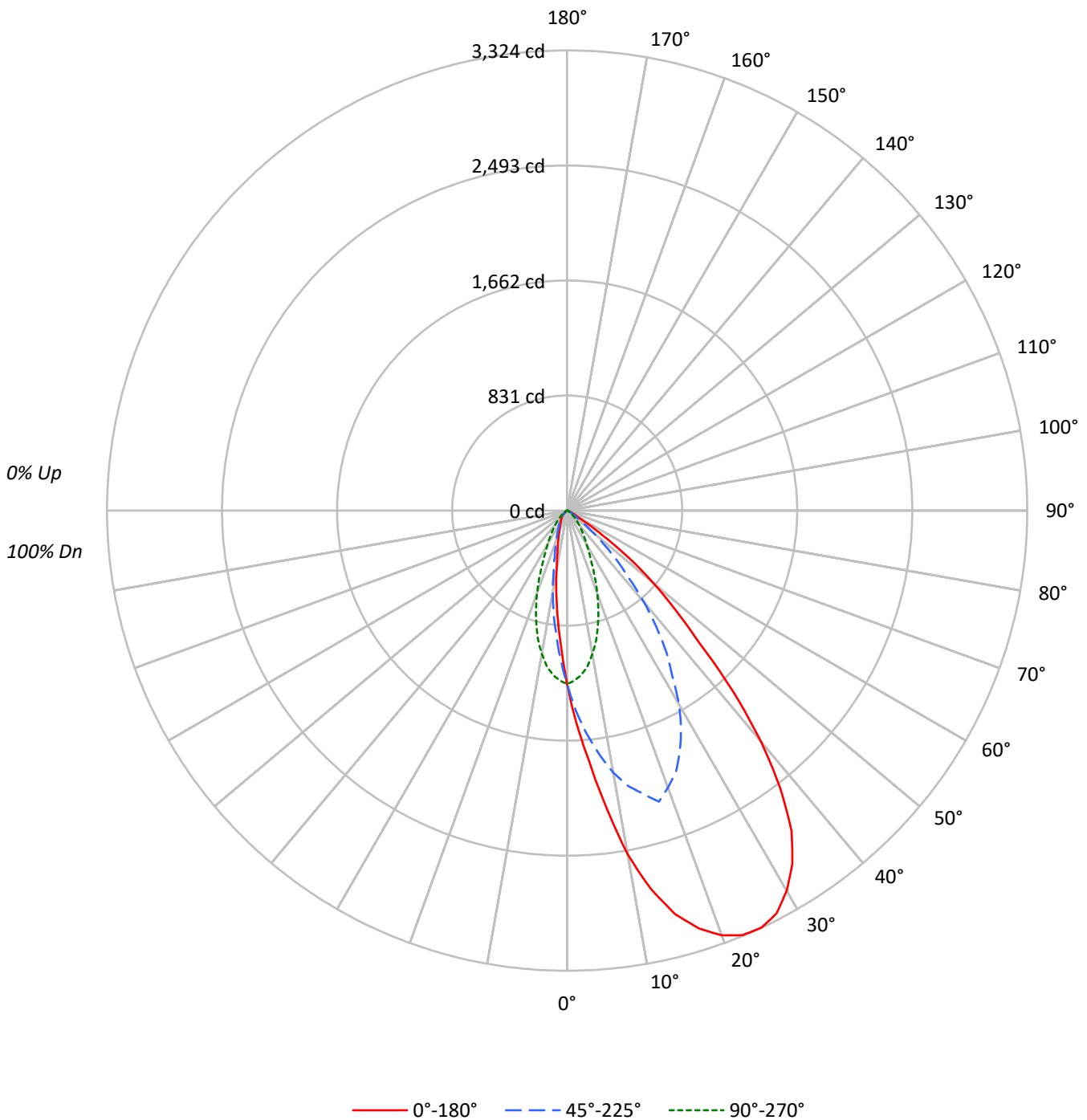
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	96	95	94	92		
1	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92	92	92	92	92	92	92		
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	88	85	84	84	84	84	84	84	84		
3	100	93	87	82	98	91	86	82	88	84	80	86	82	79	84	80	78	76	76	76	76	76	76	76		
4	94	85	79	74	92	84	78	74	82	77	73	80	75	72	78	74	71	69	69	69	69	69	69	69		
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63	63	63	63	63	63	63		
6	83	73	66	61	81	72	65	61	70	65	60	69	64	60	67	63	59	58	58	58	58	58	58	58		
7	78	67	61	56	76	67	60	56	65	60	55	64	59	55	63	58	55	53	53	53	53	53	53	53		
8	73	63	56	51	72	62	56	51	61	55	51	60	55	51	59	54	50	49	49	49	49	49	49	49		
9	69	58	52	47	68	58	52	47	57	51	47	56	51	47	55	50	47	45	45	45	45	45	45	45		
10	66	55	48	44	64	54	48	44	53	48	44	52	47	43	52	47	43	42	42	42	42	42	42	42		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	74786	74786	74786
5°	106387	69736	45786
10°	146119	60846	25360
15°	174088	49434	14884
20°	189091	36889	9731
25°	194770	24612	7032
30°	189473	16852	5498
35°	173605	11796	4546
40°	138758	8474	3441
45°	89496	5736	2201
50°	56980	3667	1128
55°	23688	2489	302
60°	6459	1472	82
65°	3869	630	0
70°	1816	202	0
75°	347	232	0
80°	0	274	0
85°	0	339	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.4	6.8
10°-20°	351.2	19.7
20°-30°	494.1	27.7
30°-40°	462.4	25.9
40°-50°	264.3	14.8
50°-60°	74.2	4.2
60°-70°	14.3	0.8
70°-80°	2.2	0.1
80°-90°	0.9	0.0
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°	965.7	54.1
0°-40°	1428.1	80.1
0°-60°	1766.6	99.0
0°-90°	1784.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1784.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1253	1253	1253	1253	1253	
5°	1817	1617	1191	900	782	195
15°	3018	2118	857	350	258	852
25°	3324	1924	420	156	120	1519
35°	2826	1250	192	90	74	1724
45°	1342	507	86	45	33	1082
55°	314	77	33	12	4	323
65°	43	25	7	1	0	44
75°	3	1	2	1	0	5
85°	0	1	2	1	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9
2.5°	1531.8	1522.8	1544.8	1514.8	1486.8	1492.8	1488.8	1478.8	1473.9	1445.9	1406.9
5°	1816.8	1816.8	1830.8	1791.8	1751.8	1748.8	1757.8	1697.8	1674.8	1616.8	1557.8
7.5°	2158.8	2166.8	2172.8	2108.8	2057.8	2019.8	1960.8	1914.8	1862.8	1774.8	1689.8
10°	2523.7	2525.7	2529.7	2440.8	2374.8	2315.8	2224.8	2140.8	2041.8	1921.8	1794.8
12.5°	2800.7	2813.7	2820.7	2722.7	2639.7	2563.7	2459.8	2342.8	2215.8	2037.8	1865.8
15°	3017.7	3028.7	3041.7	2939.7	2836.7	2764.7	2640.7	2503.7	2328.8	2117.8	1906.8
17.5°	3163.7	3183.7	3195.7	3086.7	2980.7	2894.7	2760.7	2594.7	2402.8	2204.8	1907.8
20°	3264.7	3285.7	3290.7	3181.7	3064.7	2975.7	2821.7	2633.7	2409.8	2128.8	1860.8
22.5°	3318.7	3335.7	3344.7	3223.7	3099.7	2999.7	2826.7	2607.7	2352.8	2049.8	1775.8
25°	3323.7	3344.7	3346.7	3213.7	3081.7	2966.7	2768.7	2517.7	2229.8	1923.8	1658.8
27.5°	3278.7	3299.7	3295.7	3158.7	3013.7	2878.7	2641.7	2367.8	2062.8	1782.8	1522.8
30°	3170.7	3245.7	3188.7	3050.7	2890.7	2729.7	2453.8	2152.8	1873.8	1616.8	1366.9
32.5°	3026.7	3046.7	3028.7	2876.7	2684.7	2500.7	2209.8	1912.8	1676.8	1409.9	1196.9
35°	2825.7	2832.7	2796.7	2621.7	2398.8	2184.8	1923.8	1686.8	1476.9	1249.9	1022.9
37.5°	2528.7	2538.7	2500.7	2298.8	2089.8	1888.8	1683.8	1465.9	1261.9	1055.9	864.9
40°	2177.8	2156.8	2093.8	1924.8	1755.8	1601.8	1424.9	1232.9	1042.9	863.9	675.9
42.5°	1775.8	1761.8	1707.8	1572.8	1413.9	1283.9	1128.9	959.9	808.9	658.9	516.9
45°	1341.9	1352.9	1310.9	1216.9	1106.9	994.9	877.9	751.9	631.9	506.9	384.0
47.5°	1054.9	1061.9	1040.9	957.9	878.9	775.9	682.9	574.9	467.0	359.0	283.0
50°	807.9	819.9	803.9	737.9	662.9	589.9	496.9	388.0	305.0	235.0	187.0
52.5°	571.9	568.9	550.9	488.0	425.0	362.0	280.0	215.0	171.0	134.0	109.0
55°	314.0	313.0	286.0	250.0	201.0	164.0	131.0	104.0	89.0	77.0	67.0
57.5°	141.0	135.0	127.0	109.0	94.0	84.0	74.0	67.0	63.0	57.0	52.0
60°	79.0	79.0	77.0	70.0	66.0	61.0	57.0	53.0	49.0	45.0	41.0
62.5°	58.0	58.0	56.0	53.0	50.0	47.0	44.0	41.0	38.0	35.0	32.0
65°	43.0	42.0	42.0	39.0	37.0	35.0	33.0	31.0	28.0	25.0	23.0
67.5°	29.0	30.0	30.0	27.0	26.0	24.0	23.0	21.0	19.0	17.0	15.0
70°	18.0	18.0	17.0	17.0	15.0	14.0	13.0	12.0	10.0	9.0	8.0
72.5°	9.0	9.0	8.0	8.0	7.0	7.0	6.0	5.0	5.0	4.0	3.0
75°	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0
77.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
85°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
87.5°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9
2.5°	1403.9	1371.9	1360.9	1335.9	1313.9	1289.9	1278.9	1227.9	1221.9	1181.9	1163.9
5°	1534.8	1476.9	1440.9	1392.9	1345.9	1297.9	1281.9	1190.9	1163.9	1107.9	1071.9
7.5°	1644.8	1586.8	1492.8	1421.9	1348.9	1277.9	1221.9	1131.9	1086.9	1019.9	965.9
10°	1719.8	1607.8	1516.8	1423.9	1324.9	1233.9	1152.9	1050.9	992.9	914.9	849.9
12.5°	1760.8	1620.8	1505.8	1391.9	1273.9	1165.9	1068.9	961.9	890.9	795.9	730.9
15°	1769.8	1605.8	1464.9	1331.9	1199.9	1078.9	971.9	856.9	778.9	685.9	610.9
17.5°	1744.8	1560.8	1396.9	1253.9	1104.9	979.9	868.9	747.9	662.9	576.9	494.9
20°	1680.8	1481.8	1309.9	1152.9	996.9	868.9	754.9	636.9	548.9	465.0	399.0
22.5°	1581.8	1379.9	1199.9	1039.9	882.9	756.9	635.9	523.9	443.0	372.0	326.0
25°	1439.9	1256.9	1078.9	916.9	762.9	642.9	523.9	420.0	358.0	305.0	268.0
27.5°	1322.9	1115.9	948.9	788.9	657.9	528.9	420.0	341.0	298.0	254.0	222.0
30°	1179.9	969.9	809.9	666.9	531.9	425.0	341.0	282.0	246.0	209.0	186.0
32.5°	1016.9	824.9	676.9	547.9	425.0	344.0	282.0	234.0	203.0	176.0	156.0
35°	849.9	686.9	563.9	430.0	336.0	279.0	230.0	192.0	169.0	147.0	132.0
37.5°	699.9	544.9	420.0	336.0	269.0	225.0	188.0	161.0	142.0	124.0	113.0
40°	546.9	413.0	320.0	265.0	215.0	180.0	156.0	133.0	119.0	105.0	96.0
42.5°	409.0	316.0	254.0	210.0	174.0	149.0	128.0	109.0	99.0	88.0	80.0
45°	304.0	239.0	197.0	165.0	138.0	117.0	100.0	86.0	78.0	70.0	64.0
47.5°	223.0	177.0	145.0	122.0	99.0	87.0	74.0	66.0	61.0	55.0	52.0
50°	148.0	117.0	97.0	83.0	71.0	64.0	57.0	52.0	49.0	45.0	41.0
52.5°	89.0	75.0	66.0	60.0	54.0	51.0	46.0	42.0	39.0	35.0	32.0
55°	61.0	56.0	51.0	48.0	44.0	40.0	36.0	33.0	30.0	28.0	25.0
57.5°	49.0	45.0	41.0	38.0	34.0	32.0	29.0	25.0	23.0	21.0	18.0
60°	38.0	35.0	31.0	30.0	26.0	24.0	21.0	18.0	17.0	14.0	12.0
62.5°	29.0	26.0	23.0	22.0	19.0	17.0	14.0	12.0	10.0	8.0	7.0
65°	21.0	19.0	16.0	14.0	12.0	10.0	9.0	7.0	6.0	4.0	3.0
67.5°	13.0	11.0	10.0	8.0	7.0	6.0	5.0	3.0	3.0	2.0	2.0
70°	7.0	6.0	5.0	4.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
72.5°	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75°	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
82.5°	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0
85°	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0
87.5°	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9	1252.9
2.5°	1156.9	1133.9	1128.9	1102.9	1095.9	1076.9	1045.9	1014.9	1037.9	1026.9	1031.9
5°	1043.9	1008.9	992.9	949.9	926.9	899.9	882.9	851.9	836.9	833.9	813.9
7.5°	921.9	880.9	847.9	807.9	793.9	746.9	713.9	684.9	660.9	651.9	630.9
10°	803.9	747.9	708.9	660.9	626.9	591.9	558.9	525.9	506.9	490.0	467.0
12.5°	677.9	620.9	572.9	520.9	481.0	452.0	417.0	391.0	380.0	366.0	354.0
15°	552.9	490.0	450.0	410.0	378.0	350.0	330.0	312.0	299.0	286.0	276.0
17.5°	438.0	393.0	364.0	323.0	303.0	279.0	262.0	248.0	235.0	226.0	218.0
20°	353.0	316.0	291.0	265.0	244.0	224.0	210.0	200.0	192.0	185.0	180.0
22.5°	293.0	262.0	236.0	215.0	200.0	188.0	177.0	166.0	158.0	154.0	150.0
25°	238.0	213.0	195.0	180.0	168.0	156.0	144.0	138.0	134.0	129.0	127.0
27.5°	198.0	179.0	165.0	151.0	141.0	132.0	127.0	119.0	115.0	112.0	111.0
30°	167.0	151.0	139.0	129.0	121.0	115.0	110.0	105.0	102.0	100.0	98.0
32.5°	141.0	129.0	120.0	112.0	106.0	102.0	98.0	94.0	92.0	89.0	88.0
35°	121.0	111.0	105.0	98.0	94.0	90.0	87.0	84.0	82.0	79.0	78.0
37.5°	104.0	97.0	92.0	86.0	82.0	79.0	76.0	73.0	71.0	69.0	68.0
40°	91.0	84.0	79.0	74.0	71.0	67.0	64.0	61.0	60.0	58.0	57.0
42.5°	75.0	69.0	65.0	61.0	58.0	56.0	53.0	50.0	49.0	47.0	47.0
45°	60.0	56.0	53.0	50.0	48.0	45.0	42.0	40.0	38.0	37.0	35.0
47.5°	49.0	46.0	43.0	39.0	37.0	34.0	32.0	31.0	29.0	28.0	27.0
50°	39.0	35.0	33.0	30.0	28.0	26.0	25.0	22.0	21.0	20.0	19.0
52.5°	30.0	28.0	26.0	23.0	21.0	19.0	17.0	15.0	14.0	12.0	11.0
55°	23.0	21.0	18.0	16.0	14.0	12.0	11.0	9.0	7.0	6.0	6.0
57.5°	16.0	14.0	12.0	10.0	8.0	7.0	5.0	4.0	3.0	3.0	2.0
60°	10.0	8.0	7.0	5.0	4.0	3.0	2.0	2.0	1.0	1.0	1.0
62.5°	6.0	4.0	3.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
65°	3.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
67.5°	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70°	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
72.5°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
75°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
77.5°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
80°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
85°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	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: P130034

CATALOG NUMBER: HL618TAT - HLM6927 - HL6FL - 455TBZ

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1252.9	1252.9	1252.9	1252.9
2.5°	1018.9	999.9	999.9	984.9
5°	811.9	785.9	796.9	781.9
7.5°	625.9	608.9	616.9	597.9
10°	464.0	451.0	448.0	438.0
12.5°	348.0	338.0	335.0	326.0
15°	270.0	262.0	262.0	258.0
17.5°	213.0	207.0	208.0	207.0
20°	176.0	171.0	170.0	168.0
22.5°	147.0	142.0	142.0	141.0
25°	124.0	121.0	121.0	120.0
27.5°	108.0	106.0	106.0	105.0
30°	96.0	94.0	94.0	92.0
32.5°	86.0	84.0	85.0	84.0
35°	76.0	75.0	75.0	74.0
37.5°	67.0	65.0	65.0	64.0
40°	56.0	55.0	56.0	54.0
42.5°	45.0	44.0	45.0	44.0
45°	34.0	33.0	34.0	33.0
47.5°	26.0	25.0	24.0	24.0
50°	18.0	17.0	17.0	16.0
52.5°	11.0	10.0	10.0	9.0
55°	5.0	5.0	4.0	4.0
57.5°	2.0	2.0	1.0	1.0
60°	1.0	1.0	1.0	1.0
62.5°	1.0	1.0	1.0	0.0
65°	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0
70°	0.0	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)