

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: P130025

Luminaire Tested: **HL618TAT - HLM6935 - HL6FL - 455SC**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130025
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33449)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6935 - HL6FL - 455SC
Description: HALO ALLSLOPE 6" 30W, Specular Clear Reflector, 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: 2209.9 lumens
Efficiency: N/A
Efficacy: 80.1 lumens/watt
Spacing Criteria (0/90/45): 1.45 / 0.65 / 1
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

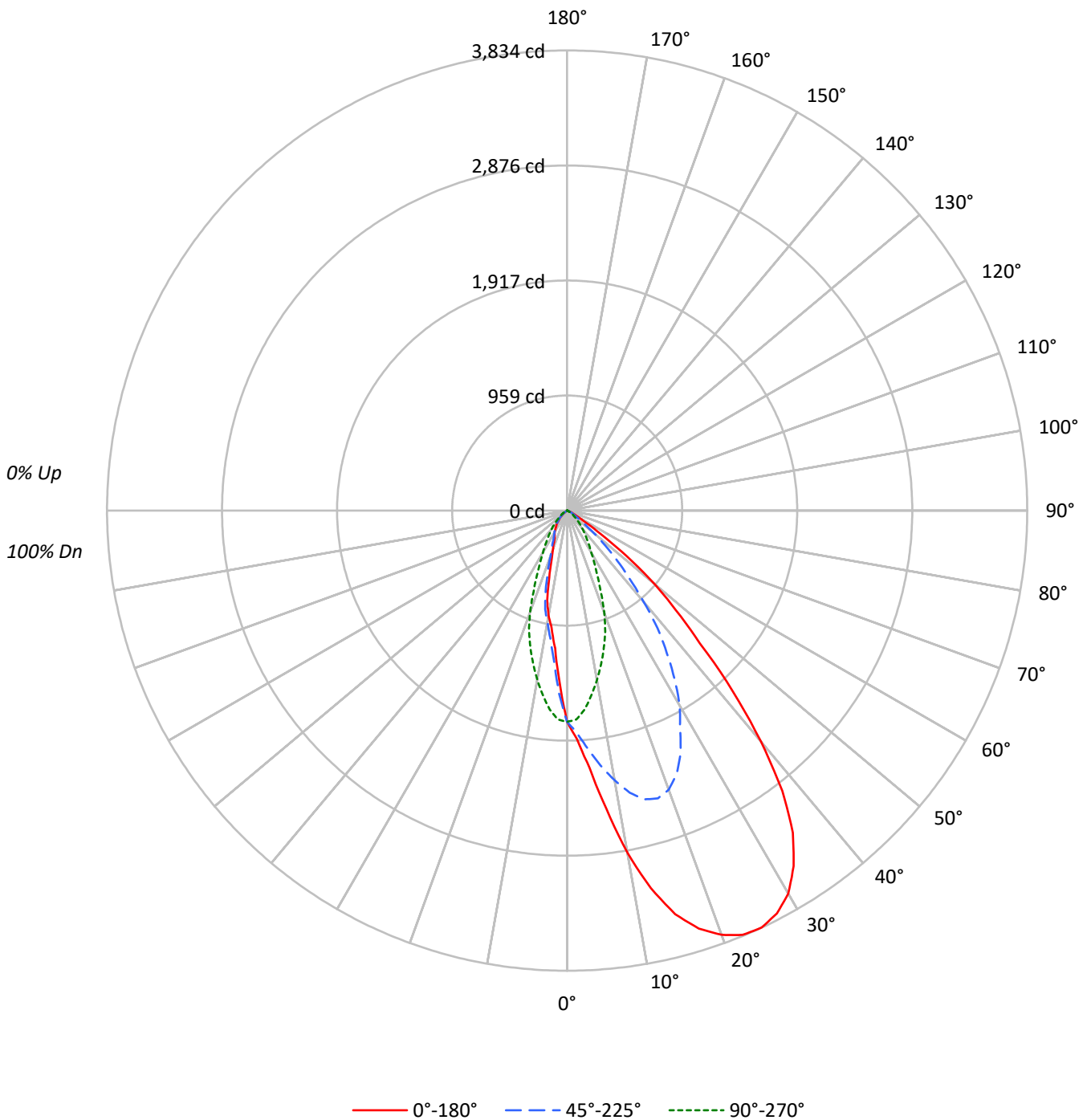
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	108	105	103	103	101	100		100	98	97		96	95	94	92
2	106	101	96	92	104	99	95	91	96	92	89		93	90	87		90	88	86	84
3	100	93	87	83	98	91	86	82	89	84	81		86	82	79		84	81	78	76
4	94	85	79	74	92	84	78	74	82	77	73		80	76	72		78	74	71	70
5	88	79	72	67	87	78	72	67	76	71	66		74	69	66		73	68	65	64
6	83	73	66	61	81	72	66	61	71	65	61		69	64	60		68	63	60	58
7	78	68	61	56	77	67	61	56	66	60	56		64	59	55		63	59	55	53
8	74	63	56	52	72	62	56	52	61	55	51		60	55	51		59	54	51	49
9	70	59	52	48	68	58	52	48	57	51	47		56	51	47		55	51	47	46
10	66	55	49	44	65	55	48	44	54	48	44		53	48	44		52	47	44	42

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	105056	105056	105056
5°	126033	97480	67452
10°	167796	82836	51414
15°	200809	68171	33292
20°	217894	52429	20133
25°	224691	34762	14252
30°	220212	23927	12412
35°	201381	17338	9799
40°	159796	12794	7238
45°	104295	8950	5049
50°	66917	5663	2673
55°	25702	3810	347
60°	7881	2346	0
65°	4436	1035	0
70°	2088	232	0
75°	266	266	0
80°	0	315	0
85°	0	390	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.5	7.1
10°-20°	448.9	20.3
20°-30°	602.5	27.3
30°-40°	563.8	25.5
40°-50°	325.0	14.7
50°-60°	91.6	4.1
60°-70°	17.5	0.8
70°-80°	2.1	0.1
80°-90°	1.0	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°	1208.9	54.7
0°-40°	1772.6	80.2
0°-60°	2189.3	99.1
0°-90°	2209.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2209.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1760	1760	1760	1760	1760	
5°	2152	1994	1665	1253	1152	230
15°	3481	2491	1182	690	577	982
25°	3834	2237	593	273	243	1754
35°	3278	1448	282	173	160	2001
45°	1564	592	134	85	76	1254
55°	341	95	50	25	5	363
65°	49	31	12	1	0	51
75°	2	1	2	1	0	6
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°	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0
2.5°	1906.8	1910.3	1919.4	1899.9	1881.6	1875.8	1881.6	1850.6	1859.8	1850.6	1828.8
5°	2152.3	2167.2	2168.4	2140.9	2113.3	2100.7	2090.4	2028.4	2027.3	1994.0	1944.7
7.5°	2505.7	2511.4	2488.5	2449.5	2396.7	2354.3	2316.4	2229.2	2204.0	2143.2	2070.9
10°	2898.1	2913.0	2884.3	2828.1	2740.9	2677.8	2581.4	2452.9	2380.6	2282.0	2178.7
12.5°	3220.5	3231.9	3215.9	3139.0	3053.0	2981.8	2848.7	2681.2	2558.5	2407.0	2252.1
15°	3480.9	3486.6	3471.7	3388.0	3291.6	3195.2	3056.4	2860.2	2704.2	2490.8	2287.7
17.5°	3651.8	3657.6	3653.0	3555.5	3454.5	3353.6	3190.6	2972.6	2767.3	2513.7	2273.9
20°	3762.0	3780.3	3758.5	3669.1	3549.7	3441.9	3254.9	3007.1	2769.6	2474.7	2206.3
22.5°	3826.2	3842.3	3815.9	3720.7	3591.0	3471.7	3258.3	2978.4	2703.0	2379.5	2101.9
25°	3834.3	3851.5	3820.5	3713.8	3577.3	3433.9	3188.3	2877.4	2561.9	2237.2	1971.1
27.5°	3783.8	3801.0	3763.1	3654.1	3507.3	3336.3	3046.1	2705.3	2377.2	2035.3	1801.3
30°	3685.1	3686.3	3648.4	3536.0	3363.9	3164.2	2830.4	2463.2	2175.3	1875.8	1614.2
32.5°	3511.9	3526.8	3471.7	3342.1	3072.5	2901.5	2550.4	2212.0	1949.3	1667.0	1445.6
35°	3277.8	3283.6	3213.6	3065.6	2808.6	2561.9	2234.9	1952.7	1715.2	1447.9	1219.6
37.5°	2944.0	2948.6	2857.9	2698.4	2426.5	2213.1	1932.1	1687.7	1466.2	1234.5	1022.2
40°	2508.0	2508.0	2405.9	2259.0	2038.7	1870.1	1636.0	1411.2	1209.3	992.4	815.7
42.5°	2046.8	2027.3	1961.9	1828.8	1655.6	1483.5	1278.1	1096.8	939.6	771.0	626.4
45°	1563.8	1555.7	1514.4	1414.6	1289.6	1171.4	1006.2	870.8	736.6	592.0	467.0
47.5°	1226.5	1226.5	1195.5	1115.2	1018.8	921.3	795.1	670.0	556.4	427.9	338.5
50°	948.8	954.6	907.5	841.0	756.1	683.8	563.3	456.6	361.4	281.1	224.9
52.5°	624.1	632.2	592.0	542.7	472.7	415.3	314.4	246.7	196.2	161.8	134.2
55°	340.7	336.2	312.1	276.5	223.7	188.2	149.1	125.1	109.0	95.2	86.0
57.5°	162.9	160.6	144.6	127.4	113.6	102.1	90.6	82.6	76.9	72.3	67.7
60°	96.4	94.1	91.8	84.9	80.3	74.6	68.8	64.2	60.8	56.2	52.8
62.5°	67.7	67.7	66.5	64.2	59.7	56.2	51.6	48.2	45.9	42.5	40.2
65°	49.3	48.2	48.2	45.9	43.6	41.3	37.9	35.6	34.4	31.0	28.7
67.5°	33.3	33.3	33.3	32.1	29.8	27.5	25.2	24.1	21.8	19.5	18.4
70°	20.7	20.7	19.5	18.4	17.2	16.1	13.8	13.8	12.6	10.3	9.2
72.5°	9.2	9.2	9.2	8.0	8.0	6.9	5.7	5.7	4.6	3.4	3.4
75°	2.3	2.3	2.3	2.3	2.3	1.1	1.1	1.1	1.1	1.1	1.1
77.5°	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1	1.1	1.1
80°	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1	1.1	1.1
85°	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1	1.1	1.1
87.5°	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1	1.1	1.1
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°	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0
2.5°	1860.9	1825.4	1816.2	1828.8	1810.4	1773.7	1765.7	1742.7	1714.1	1700.3	1684.2
5°	1955.0	1905.7	1877.0	1870.1	1827.6	1763.4	1723.2	1664.7	1608.5	1564.9	1514.4
7.5°	2057.1	1976.8	1919.4	1877.0	1797.8	1699.1	1626.9	1550.0	1469.7	1410.0	1350.4
10°	2134.0	2014.7	1917.1	1838.0	1731.3	1603.9	1521.3	1430.7	1338.9	1266.6	1204.7
12.5°	2168.4	2010.1	1882.7	1778.3	1648.7	1514.4	1407.7	1306.8	1209.3	1141.6	1076.2
15°	2166.1	1975.6	1821.9	1699.1	1552.3	1403.1	1285.0	1181.7	1087.6	1024.5	963.7
17.5°	2117.9	1903.4	1726.7	1589.0	1430.7	1274.6	1163.4	1055.5	962.6	885.7	807.7
20°	2035.3	1804.7	1609.7	1451.3	1291.9	1135.8	1016.5	905.2	793.9	715.9	635.6
22.5°	1918.3	1676.2	1468.5	1301.0	1137.0	982.1	850.1	732.0	629.9	561.0	507.1
25°	1769.1	1522.5	1311.4	1139.3	975.2	822.6	690.7	593.2	504.8	452.0	410.7
27.5°	1593.6	1346.9	1150.7	984.4	819.2	675.8	562.2	483.0	417.6	376.3	344.2
30°	1408.9	1177.1	984.4	834.1	675.8	543.8	457.8	400.4	353.4	316.7	293.7
32.5°	1212.7	1003.9	838.7	686.1	547.3	446.3	384.3	340.7	296.0	273.1	253.6
35°	1029.1	836.4	679.2	546.1	445.2	374.0	322.4	282.2	255.8	234.0	219.1
37.5°	855.9	674.6	526.6	430.2	359.1	302.9	266.2	238.6	216.8	200.8	190.5
40°	664.3	515.1	411.9	347.6	293.7	247.8	221.4	200.8	184.7	173.2	164.1
42.5°	502.5	393.5	328.1	278.8	238.6	205.4	188.2	167.5	154.9	145.7	136.5
45°	378.6	306.3	258.1	223.7	191.6	165.2	150.3	134.2	122.8	117.0	110.1
47.5°	282.2	230.6	192.7	168.7	142.3	123.9	113.6	103.3	96.4	91.8	88.3
50°	190.5	154.9	131.9	114.7	102.1	92.9	87.2	80.3	76.9	74.6	70.0
52.5°	117.0	99.8	89.5	83.8	78.0	73.4	70.0	65.4	59.7	57.4	53.9
55°	80.3	74.6	71.1	66.5	62.0	57.4	53.9	50.5	48.2	45.9	42.5
57.5°	65.4	59.7	55.1	51.6	48.2	44.7	42.5	40.2	36.7	34.4	32.1
60°	49.3	45.9	42.5	40.2	36.7	34.4	32.1	28.7	26.4	24.1	21.8
62.5°	37.9	34.4	32.1	29.8	27.5	24.1	21.8	19.5	17.2	14.9	12.6
65°	26.4	24.1	21.8	19.5	17.2	14.9	13.8	11.5	9.2	6.9	4.6
67.5°	17.2	14.9	12.6	10.3	9.2	6.9	5.7	4.6	2.3	2.3	1.1
70°	8.0	6.9	4.6	4.6	3.4	2.3	2.3	2.3	1.1	1.1	1.1
72.5°	2.3	2.3	2.3	2.3	2.3	1.1	1.1	1.1	1.1	1.1	1.1
75°	1.1	1.1	1.1	1.1	2.3	2.3	1.1	2.3	2.3	1.1	1.1
77.5°	1.1	1.1	1.1	2.3	2.3	2.3	2.3	2.3	1.1	1.1	2.3
80°	1.1	1.1	1.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.1
82.5°	1.1	1.1	1.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
85°	1.1	1.1	1.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
87.5°	1.1	1.1	1.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.1
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°	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0	1760.0
2.5°	1639.5	1636.0	1603.9	1576.4	1556.9	1524.8	1509.8	1493.8	1455.9	1457.1	1473.1
5°	1451.3	1421.5	1376.8	1330.9	1298.7	1252.8	1231.1	1208.1	1190.9	1172.5	1171.4
7.5°	1275.8	1235.6	1188.6	1143.9	1116.3	1071.6	1052.1	1029.1	1013.1	1001.6	1002.7
10°	1126.6	1088.8	1044.0	1022.2	983.2	946.5	932.8	916.7	906.4	898.3	905.2
12.5°	1013.1	975.2	937.3	899.5	875.4	843.3	826.1	811.1	797.4	790.5	788.2
15°	892.6	850.1	805.4	759.5	736.6	689.5	671.2	648.2	629.9	613.8	596.6
17.5°	734.3	689.5	644.8	595.4	561.0	531.2	509.4	485.3	465.8	452.0	445.2
20°	577.1	533.5	499.1	455.5	431.4	406.1	392.4	374.0	363.7	358.0	355.7
22.5°	455.5	418.8	392.4	363.7	346.5	329.3	320.1	307.5	298.3	291.4	291.4
25°	370.6	345.3	323.5	304.0	292.6	273.1	266.2	258.1	252.4	247.8	250.1
27.5°	309.8	300.6	277.6	258.1	249.0	236.3	232.9	227.2	224.9	222.6	223.7
30°	267.3	251.3	240.9	227.2	220.3	211.1	211.1	207.7	206.5	206.5	208.8
32.5°	232.9	220.3	211.1	201.9	199.6	192.7	193.9	190.5	188.2	187.0	187.0
35°	203.1	193.9	188.2	182.4	180.1	173.2	172.1	168.7	165.2	161.8	162.9
37.5°	177.8	172.1	166.4	160.6	157.2	150.3	149.1	146.9	144.6	143.4	143.4
40°	153.7	148.0	143.4	136.5	134.2	127.4	128.5	126.2	121.6	119.3	118.2
42.5°	127.4	122.8	118.2	114.7	112.4	105.6	103.3	97.5	96.4	95.2	96.4
45°	104.4	99.8	96.4	90.6	88.3	84.9	83.8	81.5	79.2	76.9	78.0
47.5°	83.8	80.3	75.7	73.4	71.1	67.7	66.5	64.2	63.1	60.8	60.8
50°	65.4	63.1	60.8	57.4	56.2	52.8	51.6	49.3	47.0	44.7	43.6
52.5°	51.6	50.5	48.2	44.7	42.5	40.2	37.9	33.3	29.8	26.4	26.4
55°	40.2	37.9	35.6	32.1	29.8	25.2	21.8	18.4	14.9	10.3	9.2
57.5°	29.8	26.4	24.1	19.5	16.1	11.5	9.2	4.6	3.4	1.1	0.0
60°	18.4	16.1	11.5	8.0	5.7	2.3	1.1	1.1	0.0	0.0	0.0
62.5°	9.2	6.9	3.4	2.3	1.1	1.1	0.0	0.0	0.0	0.0	0.0
65°	3.4	2.3	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
67.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0
70°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0
72.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0
75°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0
77.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0
85°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0
87.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	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: P130025

CATALOG NUMBER: HL618TAT - HLM6935 - HL6FL - 455SC

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1760.0	1760.0	1760.0	1760.0
2.5°	1411.2	1428.4	1398.6	1431.8
5°	1132.4	1134.7	1126.6	1151.9
7.5°	970.6	979.8	968.3	986.7
10°	877.7	881.1	875.4	888.0
12.5°	769.8	759.5	754.9	767.5
15°	588.6	585.1	570.2	577.1
17.5°	434.8	430.2	429.1	427.9
20°	345.3	340.7	339.6	347.6
22.5°	282.2	279.9	276.5	284.5
25°	243.2	243.2	240.9	243.2
27.5°	219.1	220.3	219.1	222.6
30°	204.2	205.4	204.2	207.7
32.5°	181.3	182.4	180.1	181.3
35°	158.3	158.3	157.2	159.5
37.5°	140.0	141.1	140.0	142.3
40°	114.7	113.6	112.4	113.6
42.5°	94.1	92.9	92.9	95.2
45°	74.6	74.6	74.6	75.7
47.5°	58.5	57.4	57.4	57.4
50°	41.3	39.0	39.0	37.9
52.5°	21.8	20.7	20.7	19.5
55°	6.9	5.7	5.7	4.6
57.5°	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	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)