

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 - HLM6930 - 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 - HLM6930 - 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 / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2082.9 lumens
Efficiency: N/A
Efficacy: 75.5 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

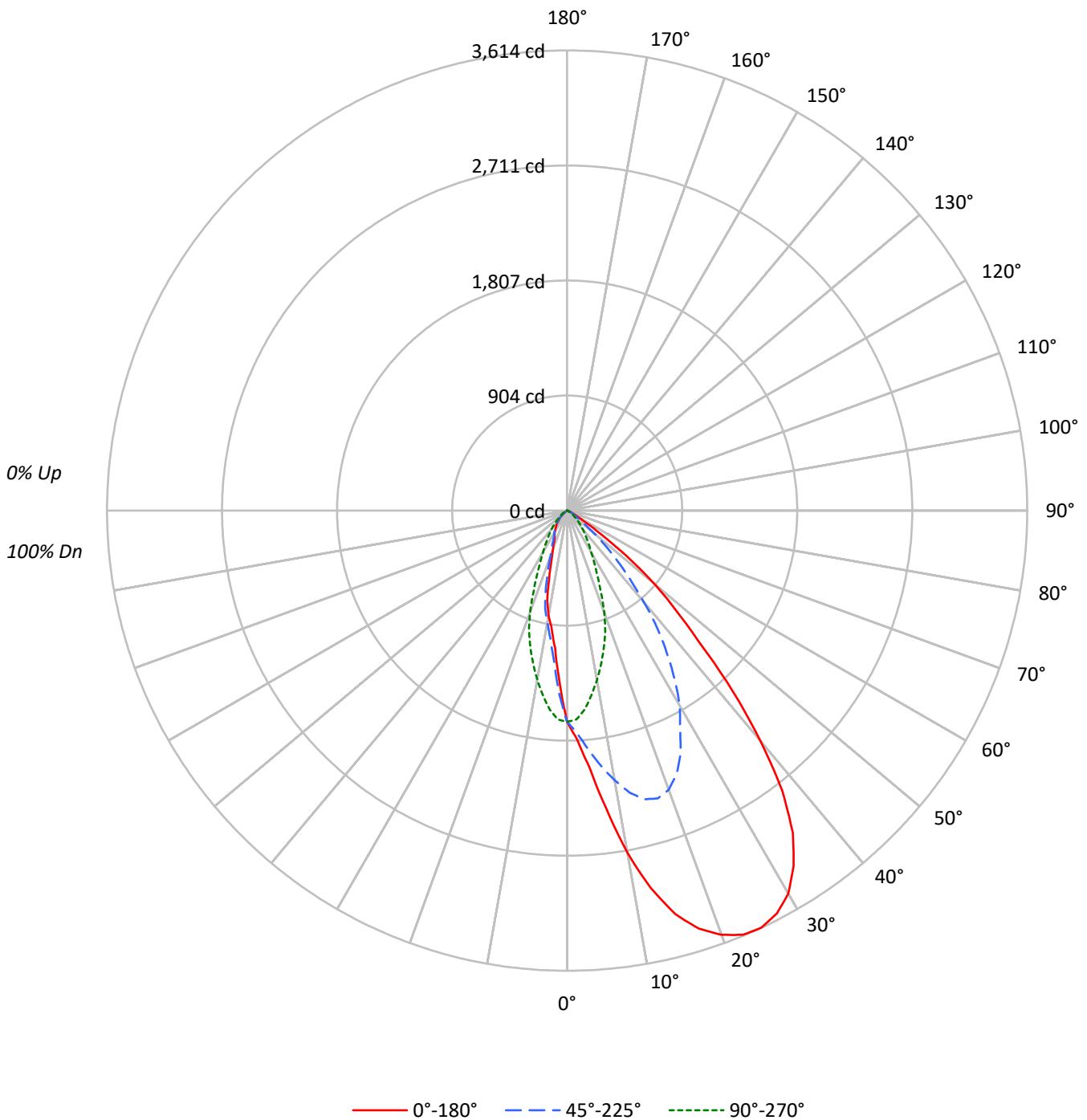
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	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°	99009	99009	99009
5°	118784	91877	63570
10°	158145	78071	48455
15°	189260	64254	31377
20°	205361	49417	18975
25°	211764	32758	13431
30°	207549	22552	11695
35°	189800	16342	9234
40°	150602	12055	6817
45°	98293	8437	4762
50°	63066	5339	2518
55°	24224	3591	324
60°	7423	2207	0
65°	4184	972	0
70°	1967	222	0
75°	255	255	0
80°	0	302	0
85°	0	373	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.4	7.1
10°-20°	423.0	20.3
20°-30°	567.9	27.3
30°-40°	531.3	25.5
40°-50°	306.3	14.7
50°-60°	86.4	4.1
60°-70°	16.5	0.8
70°-80°	2.1	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°	1139.3	54.7
0°-40°	1670.7	80.2
0°-60°	2063.4	99.1
0°-90°	2082.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2082.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1659	1659	1659	1659	1659	
5°	2028	1879	1569	1181	1086	216
15°	3281	2348	1114	650	544	926
25°	3614	2109	559	257	229	1653
35°	3089	1365	266	163	150	1886
45°	1474	558	126	80	71	1182
55°	321	90	48	24	4	342
65°	46	29	11	1	0	48
75°	2	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°	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7
2.5°	1797.1	1800.4	1809.0	1790.7	1773.4	1767.9	1773.4	1744.2	1752.8	1744.2	1723.6
5°	2028.5	2042.6	2043.7	2017.7	1991.8	1979.9	1970.2	1911.8	1910.7	1879.3	1832.8
7.5°	2361.6	2367.0	2345.4	2308.6	2258.9	2218.9	2183.2	2101.0	2077.2	2019.9	1951.8
10°	2731.4	2745.5	2718.4	2665.4	2583.3	2523.8	2433.0	2311.8	2243.7	2150.7	2053.4
12.5°	3035.2	3046.1	3030.9	2958.5	2877.4	2810.3	2684.9	2527.0	2411.3	2268.6	2122.6
15°	3280.7	3286.1	3272.1	3193.1	3102.3	3011.5	2880.6	2695.7	2548.7	2347.5	2156.1
17.5°	3441.8	3447.2	3442.9	3351.0	3255.8	3160.7	3007.1	2801.7	2608.1	2369.2	2143.2
20°	3545.6	3562.9	3542.4	3458.0	3345.6	3243.9	3067.7	2834.1	2610.3	2332.4	2079.4
22.5°	3606.2	3621.3	3596.4	3506.7	3384.5	3272.1	3070.9	2807.1	2547.6	2242.6	1981.0
25°	3613.7	3630.0	3600.8	3500.2	3371.5	3236.4	3005.0	2711.9	2414.6	2108.6	1857.7
27.5°	3566.2	3582.4	3546.7	3444.0	3305.6	3144.5	2870.9	2549.7	2240.5	1918.2	1697.7
30°	3473.2	3474.3	3438.6	3332.6	3170.4	2982.3	2667.6	2321.6	2050.2	1767.9	1521.4
32.5°	3309.9	3324.0	3272.1	3149.9	2895.8	2734.6	2403.8	2084.8	1837.1	1571.1	1362.5
35°	3089.3	3094.7	3028.8	2889.3	2647.1	2414.6	2106.4	1840.4	1616.6	1364.6	1149.4
37.5°	2774.6	2779.0	2693.5	2543.2	2287.0	2085.9	1820.9	1590.6	1381.9	1163.5	963.4
40°	2363.7	2363.7	2267.5	2129.1	1921.5	1762.5	1542.0	1330.0	1139.7	935.3	768.8
42.5°	1929.1	1910.7	1849.0	1723.6	1560.3	1398.1	1204.6	1033.7	885.6	726.6	590.4
45°	1473.8	1466.3	1427.3	1333.3	1215.4	1104.0	948.3	820.7	694.2	558.0	440.1
47.5°	1155.9	1155.9	1126.7	1051.0	960.2	868.3	749.3	631.5	524.4	403.3	319.0
50°	894.2	899.7	855.3	792.6	712.6	644.5	530.9	430.4	340.6	264.9	211.9
52.5°	588.2	595.8	558.0	511.5	445.5	391.4	296.3	232.5	184.9	152.5	126.5
55°	321.1	316.8	294.1	260.6	210.9	177.3	140.6	117.9	102.7	89.7	81.1
57.5°	153.5	151.4	136.2	120.0	107.0	96.2	85.4	77.9	72.4	68.1	63.8
60°	90.8	88.7	86.5	80.0	75.7	70.3	64.9	60.6	57.3	53.0	49.7
62.5°	63.8	63.8	62.7	60.6	56.2	53.0	48.7	45.4	43.3	40.0	37.8
65°	46.5	45.4	45.4	43.3	41.1	38.9	35.7	33.5	32.4	29.2	27.0
67.5°	31.4	31.4	31.4	30.3	28.1	26.0	23.8	22.7	20.5	18.4	17.3
70°	19.5	19.5	18.4	17.3	16.2	15.1	13.0	13.0	11.9	9.7	8.7
72.5°	8.7	8.7	8.7	7.6	7.6	6.5	5.4	5.4	4.3	3.2	3.2
75°	2.2	2.2	2.2	2.2	2.2	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°	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7
2.5°	1753.9	1720.4	1711.7	1723.6	1706.3	1671.7	1664.1	1642.5	1615.5	1602.5	1587.4
5°	1842.6	1796.1	1769.0	1762.5	1722.5	1662.0	1624.1	1569.0	1516.0	1474.9	1427.3
7.5°	1938.8	1863.1	1809.0	1769.0	1694.4	1601.4	1533.3	1460.9	1385.2	1328.9	1272.7
10°	2011.2	1898.8	1806.9	1732.3	1631.7	1511.7	1433.8	1348.4	1261.9	1193.8	1135.4
12.5°	2043.7	1894.5	1774.4	1676.0	1553.8	1427.3	1326.8	1231.6	1139.7	1075.9	1014.3
15°	2041.5	1862.0	1717.1	1601.4	1463.0	1322.4	1211.1	1113.8	1025.1	965.6	908.3
17.5°	1996.1	1793.9	1627.4	1497.6	1348.4	1201.3	1096.5	994.8	907.2	834.8	761.2
20°	1918.2	1700.9	1517.1	1367.9	1217.6	1070.5	958.0	853.2	748.3	674.7	599.0
22.5°	1808.0	1579.8	1384.1	1226.2	1071.6	925.6	801.3	689.9	593.6	528.8	477.9
25°	1667.4	1434.9	1235.9	1073.7	919.1	775.3	651.0	559.0	475.8	426.0	387.1
27.5°	1501.9	1269.5	1084.6	927.8	772.1	636.9	529.8	455.2	393.6	354.7	324.4
30°	1327.9	1109.4	927.8	786.1	636.9	512.5	431.4	377.4	333.0	298.4	276.8
32.5°	1142.9	946.1	790.4	646.6	515.8	420.6	362.2	321.1	279.0	257.4	239.0
35°	969.9	788.3	640.1	514.7	419.5	352.5	303.8	266.0	241.1	220.6	206.5
37.5°	806.7	635.8	496.3	405.5	338.5	285.5	250.9	224.9	204.4	189.2	179.5
40°	626.1	485.5	388.2	327.6	276.8	233.6	208.7	189.2	174.1	163.3	154.6
42.5°	473.6	370.9	309.3	262.8	224.9	193.6	177.3	157.9	146.0	137.3	128.7
45°	356.8	288.7	243.3	210.9	180.6	155.7	141.7	126.5	115.7	110.3	103.8
47.5°	266.0	217.3	181.7	159.0	134.1	116.8	107.0	97.3	90.8	86.5	83.3
50°	179.5	146.0	124.4	108.1	96.2	87.6	82.2	75.7	72.4	70.3	66.0
52.5°	110.3	94.1	84.3	78.9	73.5	69.2	66.0	61.6	56.2	54.1	50.8
55°	75.7	70.3	67.0	62.7	58.4	54.1	50.8	47.6	45.4	43.3	40.0
57.5°	61.6	56.2	51.9	48.7	45.4	42.2	40.0	37.8	34.6	32.4	30.3
60°	46.5	43.3	40.0	37.8	34.6	32.4	30.3	27.0	24.9	22.7	20.5
62.5°	35.7	32.4	30.3	28.1	26.0	22.7	20.5	18.4	16.2	14.1	11.9
65°	24.9	22.7	20.5	18.4	16.2	14.1	13.0	10.8	8.7	6.5	4.3
67.5°	16.2	14.1	11.9	9.7	8.7	6.5	5.4	4.3	2.2	2.2	1.1
70°	7.6	6.5	4.3	4.3	3.2	2.2	2.2	2.2	1.1	1.1	1.1
72.5°	2.2	2.2	2.2	2.2	2.2	1.1	1.1	1.1	1.1	1.1	1.1
75°	1.1	1.1	1.1	1.1	2.2	2.2	1.1	2.2	2.2	1.1	1.1
77.5°	1.1	1.1	1.1	2.2	2.2	2.2	2.2	2.2	1.1	1.1	2.2
80°	1.1	1.1	1.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.1
82.5°	1.1	1.1	1.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
85°	1.1	1.1	1.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
87.5°	1.1	1.1	1.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	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°	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7	1658.7
2.5°	1545.2	1542.0	1511.7	1485.7	1467.3	1437.1	1423.0	1407.9	1372.2	1373.3	1388.4
5°	1367.9	1339.7	1297.6	1254.3	1224.0	1180.8	1160.2	1138.6	1122.4	1105.1	1104.0
7.5°	1202.4	1164.6	1120.2	1078.1	1052.1	1009.9	991.6	969.9	954.8	944.0	945.1
10°	1061.8	1026.2	984.0	963.4	926.7	892.1	879.1	864.0	854.2	846.7	853.2
12.5°	954.8	919.1	883.4	847.7	825.0	794.8	778.5	764.5	751.5	745.0	742.9
15°	841.3	801.3	759.1	715.8	694.2	649.9	632.6	610.9	593.6	578.5	562.3
17.5°	692.0	649.9	607.7	561.2	528.8	500.6	480.1	457.4	439.0	426.0	419.5
20°	543.9	502.8	470.4	429.3	406.6	382.8	369.8	352.5	342.8	337.4	335.2
22.5°	429.3	394.7	369.8	342.8	326.6	310.3	301.7	289.8	281.1	274.7	274.7
25°	349.3	325.5	304.9	286.5	275.7	257.4	250.9	243.3	237.9	233.6	235.7
27.5°	292.0	283.3	261.7	243.3	234.6	222.8	219.5	214.1	211.9	209.8	210.9
30°	251.9	236.8	227.1	214.1	207.6	199.0	199.0	195.7	194.6	194.6	196.8
32.5°	219.5	207.6	199.0	190.3	188.1	181.7	182.7	179.5	177.3	176.3	176.3
35°	191.4	182.7	177.3	171.9	169.8	163.3	162.2	159.0	155.7	152.5	153.5
37.5°	167.6	162.2	156.8	151.4	148.1	141.7	140.6	138.4	136.2	135.2	135.2
40°	144.9	139.5	135.2	128.7	126.5	120.0	121.1	118.9	114.6	112.5	111.4
42.5°	120.0	115.7	111.4	108.1	106.0	99.5	97.3	91.9	90.8	89.7	90.8
45°	98.4	94.1	90.8	85.4	83.3	80.0	78.9	76.8	74.6	72.4	73.5
47.5°	78.9	75.7	71.4	69.2	67.0	63.8	62.7	60.6	59.5	57.3	57.3
50°	61.6	59.5	57.3	54.1	53.0	49.7	48.7	46.5	44.3	42.2	41.1
52.5°	48.7	47.6	45.4	42.2	40.0	37.8	35.7	31.4	28.1	24.9	24.9
55°	37.8	35.7	33.5	30.3	28.1	23.8	20.5	17.3	14.1	9.7	8.7
57.5°	28.1	24.9	22.7	18.4	15.1	10.8	8.7	4.3	3.2	1.1	0.0
60°	17.3	15.1	10.8	7.6	5.4	2.2	1.1	1.1	0.0	0.0	0.0
62.5°	8.7	6.5	3.2	2.2	1.1	1.1	0.0	0.0	0.0	0.0	0.0
65°	3.2	2.2	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 - HLM6930 - HL6FL - 455SC

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1658.7	1658.7	1658.7	1658.7
2.5°	1330.0	1346.2	1318.1	1349.5
5°	1067.3	1069.4	1061.8	1085.6
7.5°	914.8	923.4	912.6	929.9
10°	827.2	830.4	825.0	836.9
12.5°	725.6	715.8	711.5	723.4
15°	554.7	551.5	537.4	543.9
17.5°	409.8	405.5	404.4	403.3
20°	325.5	321.1	320.1	327.6
22.5°	266.0	263.8	260.6	268.2
25°	229.2	229.2	227.1	229.2
27.5°	206.5	207.6	206.5	209.8
30°	192.5	193.6	192.5	195.7
32.5°	170.8	171.9	169.8	170.8
35°	149.2	149.2	148.1	150.3
37.5°	131.9	133.0	131.9	134.1
40°	108.1	107.0	106.0	107.0
42.5°	88.7	87.6	87.6	89.7
45°	70.3	70.3	70.3	71.4
47.5°	55.1	54.1	54.1	54.1
50°	38.9	36.8	36.8	35.7
52.5°	20.5	19.5	19.5	18.4
55°	6.5	5.4	5.4	4.3
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)