

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: P130053

Luminaire Tested: **HL618TAT - HLM6935 - HL6FL - 73PS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130053
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33459)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6935 - HL6FL - 73PS
Description: HALO ALLSLOPE 6" 30W, Fresnel Glass Lens, White Polymer Trim Ring
"Dead Front", Wet Location - Showerlight 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: 1600.6 lumens
Efficiency: N/A
Efficacy: 58.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 0.8 / 1.07
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

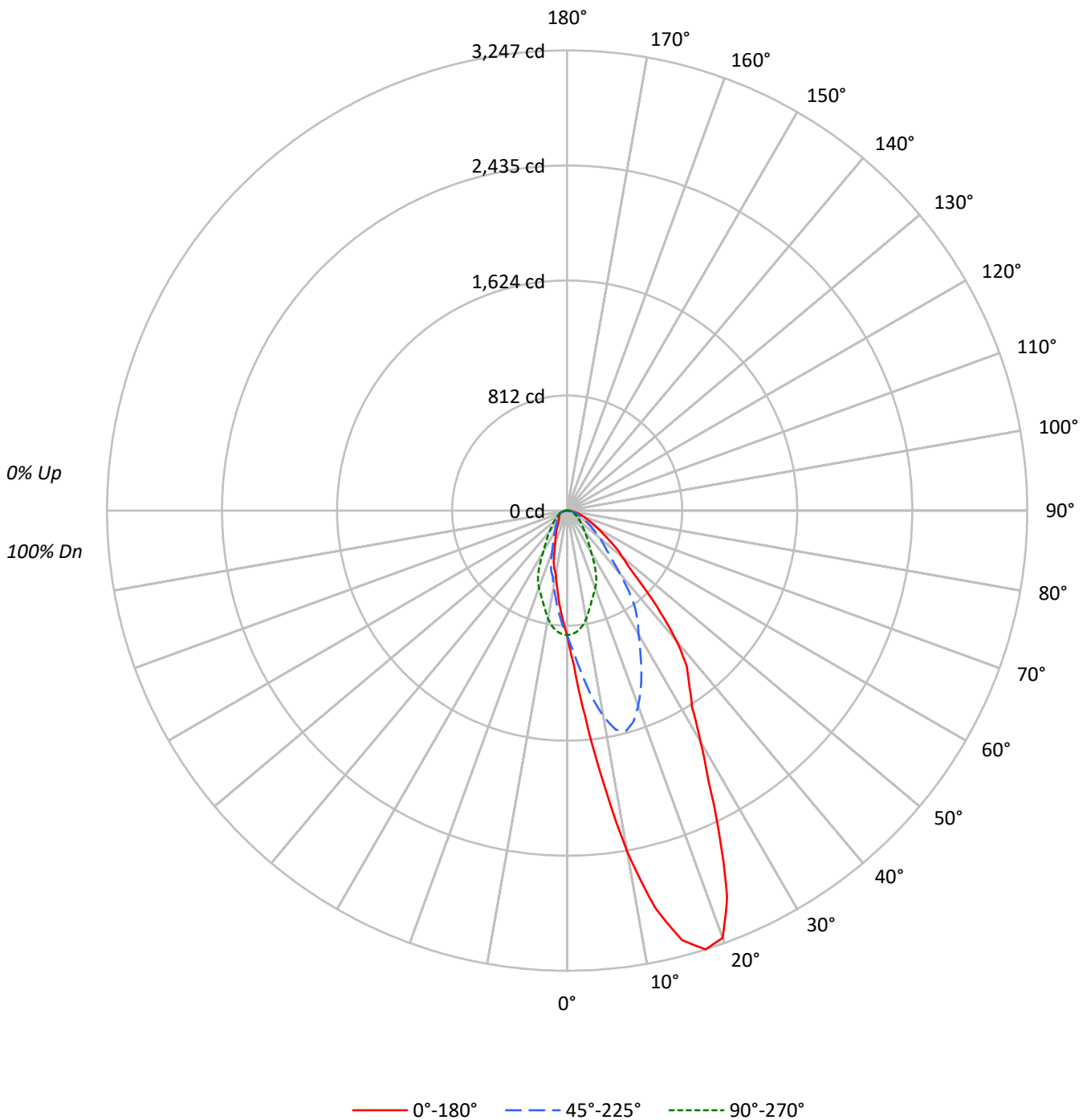
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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			
1	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89					89			
2	103	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	80	79					79			
3	96	88	81	76	94	86	80	76	84	79	74	81	77	73	79	75	72	70					70			
4	90	80	73	68	88	79	72	67	77	71	66	74	70	65	72	68	65	63					63			
5	84	74	66	61	82	72	66	60	71	64	60	69	63	59	67	62	59	57					57			
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	53	52					52			
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47					47			
8	70	58	51	46	68	58	51	46	56	50	46	55	49	45	54	49	45	43					43			
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	45	42	40					40			
10	62	51	44	39	61	50	44	39	49	43	39	48	43	39	48	42	39	37					37			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	52474	52474	52474
5°	85347	49996	37898
10°	141661	44848	26512
15°	180999	38265	21120
20°	185847	33634	14289
25°	149566	28111	11029
30°	112398	20300	8707
35°	92292	15513	6979
40°	76700	12354	5925
45°	50667	10104	5509
50°	35610	8421	5177
55°	27015	7189	5537
60°	20455	6377	5347
65°	15592	5578	5470
70°	12045	4630	5205
75°	9565	3983	4516
80°	6609	3304	3455
85°	4665	2137	2341



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.4	5.8
10°-20°	310.6	19.4
20°-30°	379.1	23.7
30°-40°	315.5	19.7
40°-50°	211.6	13.2
50°-60°	136.3	8.5
60°-70°	87.3	5.5
70°-80°	49.4	3.1
80°-90°	17.5	1.1
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°	783.1	48.9
0°-40°	1098.6	68.6
0°-60°	1446.5	90.4
0°-90°	1600.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1600.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	879	879	879	879	879	
5°	1458	1149	854	709	647	170
15°	3138	1609	663	435	366	867
25°	2552	1239	480	231	188	1162
35°	1502	833	252	140	114	946
45°	760	395	152	95	83	608
55°	358	215	95	73	73	328
65°	173	111	62	61	61	175
75°	83	54	34	38	39	86
85°	28	20	13	14	14	30
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°	879.1	879.1	879.1	879.1	879.1	879.1	879.1	879.1	879.1	879.1	879.1
2.5°	1092.5	1070.7	1073.0	1075.3	1047.8	1046.6	1036.3	1034.0	1007.6	990.4	989.2
5°	1457.5	1407.0	1409.3	1387.4	1351.9	1319.7	1283.0	1250.9	1195.8	1148.7	1117.8
7.5°	1915.3	1838.5	1856.8	1812.1	1726.0	1667.5	1584.8	1507.9	1408.1	1322.0	1241.7
10°	2446.7	2360.6	2361.8	2298.6	2162.1	2042.7	1914.2	1792.6	1612.4	1473.5	1347.3
12.5°	2873.6	2812.8	2788.7	2710.6	2532.8	2414.6	2229.8	2020.9	1792.6	1584.8	1416.1
15°	3137.5	3066.4	3050.3	2963.1	2781.8	2625.7	2397.3	2141.4	1866.0	1608.9	1412.7
17.5°	3246.6	3175.4	3158.2	3052.6	2843.8	2660.1	2391.6	2108.1	1816.7	1559.6	1361.1
20°	3208.7	3088.2	3088.2	2950.5	2700.3	2492.6	2236.7	1957.8	1696.2	1464.3	1294.5
22.5°	2949.3	2875.9	2830.0	2683.1	2442.1	2261.9	2006.0	1778.8	1558.4	1358.8	1208.4
25°	2552.3	2476.5	2440.9	2319.3	2102.4	1968.1	1769.6	1573.4	1405.8	1239.4	1108.6
27.5°	2165.5	2102.4	2084.0	1991.1	1831.6	1711.1	1556.1	1402.4	1257.8	1116.6	1008.7
30°	1880.9	1823.5	1812.1	1731.7	1598.6	1467.8	1372.5	1247.4	1130.4	1007.6	916.9
32.5°	1639.9	1604.3	1586.0	1512.5	1408.1	1333.5	1238.3	1133.8	1034.0	925.0	840.0
35°	1502.2	1460.9	1444.8	1385.2	1286.5	1219.9	1133.8	1038.6	938.7	833.2	747.1
37.5°	1385.2	1347.3	1327.8	1272.7	1178.6	1102.8	1016.8	918.1	815.9	712.7	632.3
40°	1203.8	1166.0	1157.9	1100.5	1014.5	943.3	863.0	765.4	666.8	576.1	511.8
42.5°	973.2	949.1	941.0	904.3	819.4	760.9	684.0	605.9	540.5	468.2	416.6
45°	759.7	736.8	721.8	690.9	633.5	603.6	542.8	488.9	441.8	394.8	361.5
47.5°	593.3	585.3	584.1	558.9	518.7	495.8	453.3	415.4	378.7	342.0	313.3
50°	504.9	490.0	488.9	477.4	447.6	429.2	392.5	359.2	331.7	299.5	272.0
52.5°	440.7	429.2	423.5	406.3	375.3	362.6	331.7	306.4	282.3	254.8	234.1
55°	358.1	352.3	347.7	336.2	312.1	298.4	278.9	255.9	236.4	214.6	198.5
57.5°	296.1	289.2	288.0	280.0	261.7	252.5	236.4	215.7	200.8	182.5	168.7
60°	250.2	244.4	241.0	234.1	219.2	212.3	199.7	182.5	171.0	153.8	144.6
62.5°	208.9	204.3	200.8	195.1	184.8	177.9	168.7	156.1	144.6	132.0	122.8
65°	173.3	169.8	167.5	163.0	153.8	149.2	141.2	132.0	121.6	111.3	104.4
67.5°	143.5	142.3	141.2	135.4	128.5	126.2	118.2	110.2	103.3	94.1	87.2
70°	119.4	118.2	117.1	113.6	107.9	104.4	98.7	91.8	86.1	78.0	73.4
72.5°	96.4	96.4	95.3	93.0	87.2	84.9	79.2	74.6	70.0	64.3	60.8
75°	82.6	81.5	80.3	76.9	73.4	71.2	67.7	63.1	58.5	53.9	50.5
77.5°	64.3	63.1	63.1	62.0	58.5	57.4	53.9	50.5	48.2	45.9	43.6
80°	48.2	47.1	47.1	45.9	43.6	42.5	41.3	37.9	36.7	33.3	32.1
82.5°	41.3	40.2	39.0	37.9	35.6	35.6	32.1	29.8	27.5	25.2	24.1
85°	27.5	26.4	26.4	26.4	25.2	25.2	23.0	21.8	21.8	19.5	18.4
87.5°	17.2	16.1	16.1	16.1	14.9	14.9	14.9	12.6	12.6	11.5	11.5
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°	879.1	879.1	879.1	879.1	879.1	879.1	879.1	879.1	879.1	879.1	879.1
2.5°	975.5	961.7	949.1	935.3	914.6	913.5	888.2	871.0	853.8	861.8	837.7
5°	1083.3	1046.6	1013.3	981.2	944.5	925.0	884.8	853.8	826.3	824.0	793.0
7.5°	1166.0	1101.7	1048.9	1000.7	946.8	916.9	865.3	821.7	785.0	771.2	732.2
10°	1230.2	1135.0	1058.1	993.8	927.3	884.8	819.4	774.6	728.7	709.2	666.8
12.5°	1258.9	1136.1	1045.5	975.5	890.5	840.0	774.6	716.1	669.1	648.4	610.5
15°	1247.4	1114.3	1020.2	937.6	851.5	788.4	717.3	663.3	630.0	597.9	557.7
17.5°	1206.1	1074.2	977.8	889.4	802.2	741.4	673.6	619.7	576.1	552.0	513.0
20°	1144.2	1026.0	927.3	841.2	754.0	697.7	627.7	580.7	537.1	509.5	463.6
22.5°	1073.0	957.1	865.3	785.0	702.3	649.5	589.9	539.4	488.9	462.5	412.0
25°	978.9	882.5	797.6	724.1	649.5	599.0	531.3	479.7	423.5	392.5	345.4
27.5°	899.7	809.1	734.5	666.8	588.7	532.5	462.5	407.4	356.9	327.1	290.3
30°	825.1	741.4	657.6	591.0	510.7	449.9	390.2	339.7	298.4	278.9	253.6
32.5°	755.1	658.7	581.8	507.2	431.5	373.0	325.9	290.3	260.5	245.6	223.8
35°	653.0	558.9	491.2	417.7	354.6	317.9	280.0	252.5	228.4	214.6	196.2
37.5°	538.2	461.3	392.5	344.3	301.8	276.6	244.4	220.3	199.7	189.4	174.4
40°	432.6	375.3	330.5	298.4	265.1	241.0	212.3	193.9	177.9	167.5	154.9
42.5°	367.2	327.1	288.0	260.5	230.7	211.2	188.2	169.8	156.1	148.0	136.6
45°	321.3	289.2	255.9	230.7	204.3	187.1	166.4	151.5	140.0	132.0	122.8
47.5°	280.0	251.3	227.2	203.1	180.2	166.4	148.0	134.3	122.8	118.2	109.0
50°	245.6	219.2	196.2	176.7	158.4	145.7	130.8	119.4	111.3	107.9	101.0
52.5°	211.2	189.4	169.8	154.9	138.9	128.5	115.9	106.7	101.0	97.5	93.0
55°	177.9	161.8	145.7	133.1	120.5	113.6	103.3	95.3	90.7	89.5	83.8
57.5°	152.6	137.7	127.4	115.9	106.7	99.8	91.8	87.2	82.6	81.5	78.0
60°	130.8	118.2	109.0	101.0	93.0	88.4	82.6	78.0	73.4	73.4	71.2
62.5°	111.3	101.0	94.1	87.2	80.3	76.9	72.3	68.9	66.6	66.6	65.4
65°	96.4	86.1	80.3	75.7	71.2	68.9	64.3	62.0	59.7	59.7	58.5
67.5°	81.5	73.4	68.9	65.4	60.8	58.5	55.1	53.9	52.8	51.6	50.5
70°	68.9	63.1	58.5	55.1	51.6	50.5	47.1	45.9	44.8	45.9	44.8
72.5°	57.4	52.8	49.3	47.1	44.8	43.6	41.3	40.2	39.0	39.0	39.0
75°	47.1	43.6	41.3	39.0	37.9	36.7	35.6	34.4	33.3	34.4	33.3
77.5°	40.2	36.7	34.4	33.3	32.1	31.0	29.8	29.8	28.7	28.7	28.7
80°	31.0	28.7	27.5	25.2	25.2	24.1	24.1	24.1	23.0	24.1	24.1
82.5°	23.0	20.7	19.5	19.5	18.4	18.4	18.4	18.4	17.2	18.4	18.4
85°	17.2	16.1	14.9	13.8	13.8	13.8	13.8	12.6	12.6	12.6	12.6
87.5°	10.3	9.2	8.0	8.0	6.9	8.0	6.9	6.9	6.9	6.9	6.9
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°	879.1	879.1	879.1	879.1	879.1	879.1	879.1	879.1	879.1	879.1	879.1
2.5°	822.8	815.9	815.9	789.5	785.0	801.0	782.7	768.9	776.9	766.6	771.2
5°	770.0	756.3	745.9	719.5	710.4	709.2	690.9	670.2	670.2	664.5	663.3
7.5°	702.3	681.7	665.6	638.1	625.4	620.9	600.2	578.4	576.1	565.8	562.3
10°	631.2	612.8	591.0	563.5	549.7	539.4	514.1	498.1	490.0	479.7	475.1
12.5°	569.2	550.8	529.0	495.8	480.8	475.1	454.4	443.0	440.7	433.8	431.5
15°	522.2	495.8	476.3	449.9	438.4	434.9	415.4	402.8	397.1	387.9	378.7
17.5°	478.5	451.0	433.8	407.4	392.5	378.7	354.6	337.4	322.5	317.9	309.9
20°	431.5	401.7	374.1	345.4	324.8	311.0	288.0	275.4	272.0	263.9	258.2
22.5°	362.6	342.0	312.1	286.9	270.8	263.9	250.2	239.8	236.4	229.5	226.1
25°	309.9	284.6	266.2	250.2	236.4	230.7	218.0	210.0	206.6	200.8	198.5
27.5°	266.2	247.9	234.1	219.2	207.7	203.1	192.8	184.8	181.3	175.6	173.3
30°	231.8	218.0	206.6	191.6	183.6	177.9	169.8	161.8	159.5	156.1	152.6
32.5°	205.4	193.9	182.5	169.8	161.8	157.2	150.3	143.5	141.2	137.7	135.4
35°	182.5	171.0	161.8	148.0	143.5	140.0	133.1	126.2	125.1	121.6	119.4
37.5°	160.7	152.6	143.5	133.1	127.4	125.1	119.4	113.6	112.5	109.0	107.9
40°	142.3	135.4	128.5	117.1	114.8	113.6	107.9	102.1	102.1	99.8	98.7
42.5°	126.2	121.6	114.8	109.0	104.4	103.3	98.7	95.3	95.3	93.0	91.8
45°	113.6	110.2	105.6	99.8	96.4	95.3	91.8	88.4	88.4	87.2	87.2
47.5°	104.4	99.8	96.4	91.8	88.4	88.4	84.9	82.6	82.6	81.5	81.5
50°	95.3	93.0	89.5	86.1	82.6	82.6	79.2	76.9	78.0	78.0	76.9
52.5°	87.2	86.1	83.8	80.3	78.0	78.0	75.7	73.4	74.6	73.4	73.4
55°	80.3	80.3	78.0	75.7	73.4	73.4	71.2	70.0	71.2	72.3	72.3
57.5°	75.7	74.6	73.4	71.2	71.2	71.2	70.0	68.9	70.0	70.0	70.0
60°	68.9	70.0	68.9	67.7	66.6	67.7	66.6	64.3	65.4	65.4	66.6
62.5°	63.1	64.3	64.3	64.3	64.3	64.3	64.3	63.1	65.4	66.6	66.6
65°	57.4	58.5	58.5	58.5	58.5	60.8	59.7	58.5	59.7	60.8	60.8
67.5°	50.5	51.6	51.6	51.6	51.6	52.8	52.8	51.6	52.8	53.9	55.1
70°	43.6	45.9	45.9	45.9	47.1	48.2	48.2	47.1	49.3	50.5	52.8
72.5°	37.9	39.0	40.2	40.2	41.3	43.6	43.6	43.6	44.8	44.8	44.8
75°	33.3	34.4	34.4	35.6	35.6	37.9	37.9	37.9	39.0	39.0	39.0
77.5°	28.7	28.7	29.8	29.8	31.0	32.1	32.1	32.1	33.3	33.3	33.3
80°	23.0	24.1	24.1	25.2	25.2	25.2	25.2	25.2	26.4	26.4	27.5
82.5°	17.2	18.4	18.4	19.5	19.5	19.5	19.5	19.5	20.7	20.7	20.7
85°	12.6	12.6	12.6	13.8	12.6	13.8	13.8	13.8	13.8	13.8	13.8
87.5°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	5.7	6.9	5.7
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: P130053

CATALOG NUMBER: HL618TAT - HLM6935 - HL6FL - 73PS

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	879.1	879.1	879.1	879.1
2.5°	768.9	762.0	756.3	757.4
5°	659.9	645.0	653.0	647.2
7.5°	560.0	552.0	547.4	542.8
10°	470.5	456.7	460.2	457.9
12.5°	425.8	421.2	421.2	418.9
15°	376.4	369.5	367.2	366.1
17.5°	299.5	294.9	293.8	292.6
20°	255.9	250.2	247.9	246.7
22.5°	222.6	218.0	216.9	214.6
25°	196.2	190.5	190.5	188.2
27.5°	169.8	167.5	166.4	165.3
30°	151.5	148.0	146.9	145.7
32.5°	136.6	130.8	129.7	128.5
35°	117.1	115.9	113.6	113.6
37.5°	106.7	104.4	104.4	103.3
40°	97.5	95.3	94.1	93.0
42.5°	91.8	89.5	88.4	88.4
45°	86.1	84.9	83.8	82.6
47.5°	81.5	80.3	79.2	78.0
50°	76.9	75.7	75.7	73.4
52.5°	74.6	74.6	74.6	73.4
55°	73.4	73.4	74.6	73.4
57.5°	70.0	70.0	68.9	67.7
60°	67.7	67.7	67.7	65.4
62.5°	66.6	65.4	66.6	65.4
65°	60.8	60.8	62.0	60.8
67.5°	57.4	57.4	57.4	56.2
70°	52.8	52.8	51.6	51.6
72.5°	45.9	45.9	45.9	45.9
75°	39.0	39.0	39.0	39.0
77.5°	33.3	32.1	32.1	32.1
80°	26.4	25.2	25.2	25.2
82.5°	20.7	20.7	20.7	19.5
85°	13.8	13.8	13.8	13.8
87.5°	5.7	5.7	5.7	5.7
90°	0.0	0.0	0.0	0.0

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