

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: P130093

Luminaire Tested: **HL618TAT - HLM6935 - HL6NFL - 73PS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130093
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33478)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6935 - HL6NFL - 73PS
Description: HALO ALLSLOPE 6" 30W, Fresnel Glass Lens, White Polymer Trim Ring
"Dead Front", Wet Location - Showerlight using 25 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: 1603.4 lumens
Efficiency: N/A
Efficacy: 58.1 lumens/watt
Spacing Criteria (0/90/45): 1.67 / 0.76 / 1.09
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

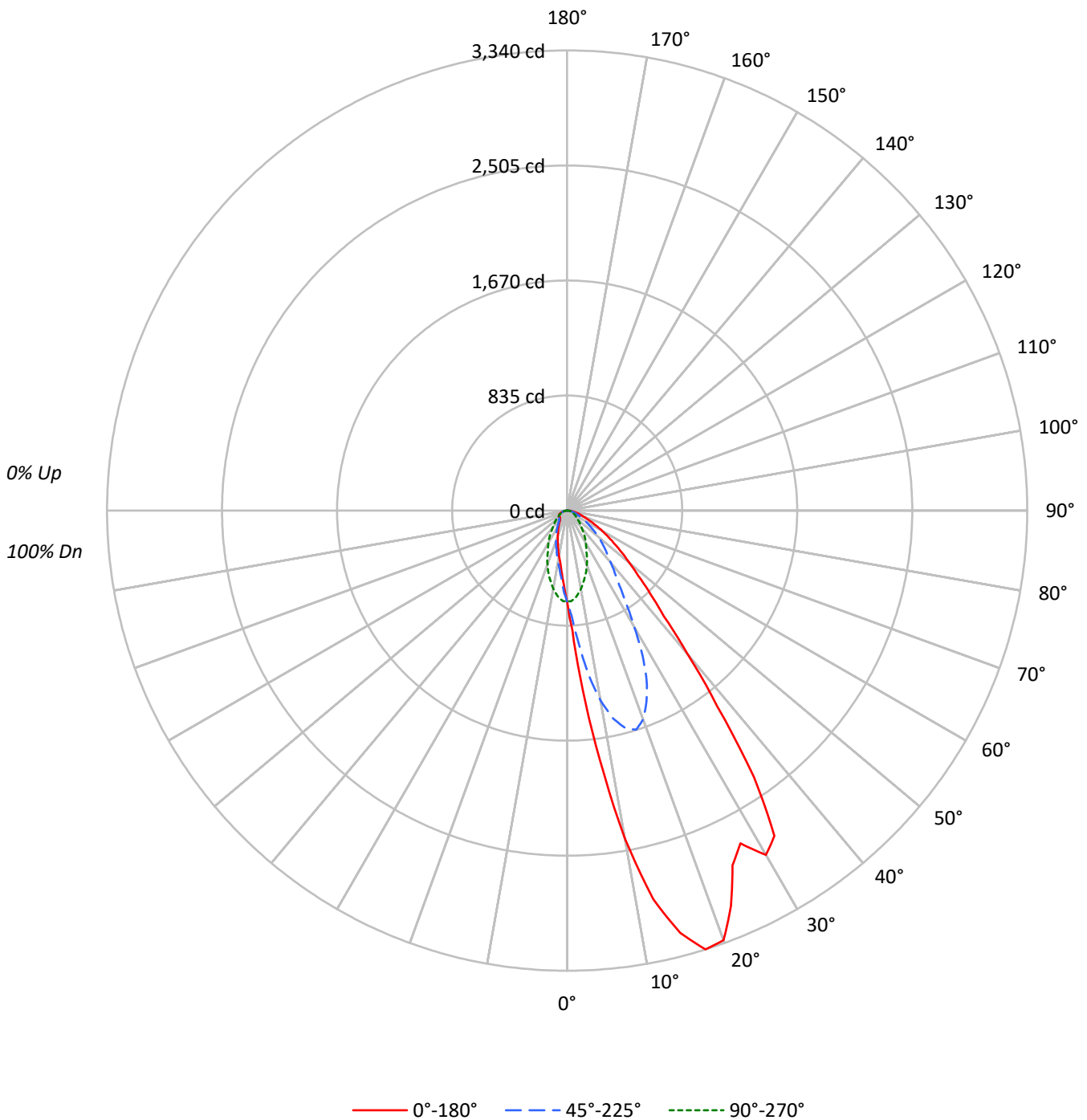
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P130093

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 73PS

Luminous Intensity Polar Plot





TEST NUMBER: P130093

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 73PS

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	78					78			
3	96	88	81	76	94	86	80	75	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	63					63			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	79	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51					51			
7	74	62	55	49	72	61	54	49	60	54	49	59	53	49	57	52	48	47					47			
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43					43			
9	65	54	46	42	64	53	46	41	52	46	41	51	45	41	50	45	41	39					39			
10	62	50	43	38	60	49	43	38	49	42	38	48	42	38	47	42	38	36					36			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	39282	39282	39282
5°	76423	37494	26345
10°	139912	33396	19599
15°	183093	28781	14838
20°	192207	24187	11480
25°	166472	19315	9007
30°	172484	16170	7123
35°	145251	13271	5818
40°	86843	10500	5110
45°	56963	8764	4829
50°	41393	7229	5106
55°	31586	6050	5545
60°	23856	5371	5461
65°	17229	4705	5812
70°	12579	4045	4943
75°	9924	3485	4250
80°	6869	2907	3812
85°	5666	2070	2070



TEST NUMBER: P130093

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 73PS

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.2	4.8
10°-20°	290.5	18.1
20°-30°	400.5	25.0
30°-40°	344.1	21.5
40°-50°	206.1	12.9
50°-60°	137.1	8.6
60°-70°	84.9	5.3
70°-80°	45.9	2.9
80°-90°	17.1	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°	768.2	47.9
0°-40°	1112.3	69.4
0°-60°	1455.5	90.8
0°-90°	1603.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1603.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	658	658	658	658	658	
5°	1305	971	640	489	450	159
15°	3174	1636	499	295	257	883
25°	2841	1368	330	187	154	1355
35°	2364	659	216	110	95	1404
45°	854	383	131	80	72	683
55°	419	212	80	67	74	380
65°	192	104	52	56	65	196
75°	86	47	30	33	37	89
85°	33	19	12	12	12	34
90°	0	0	0	0	0	



TEST NUMBER: P130093

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 73PS

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1
2.5°	869.7	838.5	845.2	836.3	834.1	807.4	809.6	796.2	779.5	766.2	766.2
5°	1305.1	1292.9	1294.0	1258.4	1221.6	1165.9	1116.9	1098.0	1029.0	971.1	932.1
7.5°	1826.3	1804.0	1791.8	1718.3	1674.8	1581.3	1503.4	1425.4	1310.7	1204.9	1118.1
10°	2416.5	2410.9	2383.1	2281.8	2190.4	2015.6	1874.2	1745.0	1549.0	1400.9	1260.6
12.5°	2889.8	2873.1	2861.9	2774.0	2635.9	2429.9	2218.3	2005.6	1751.7	1546.8	1365.3
15°	3173.8	3174.9	3169.3	3074.6	2927.6	2693.8	2434.3	2176.0	1880.9	1635.9	1425.4
17.5°	3339.7	3321.9	3317.4	3200.5	3024.5	2765.1	2497.8	2235.0	1897.6	1667.1	1423.2
20°	3318.5	3304.0	3279.5	3150.4	2946.6	2687.1	2433.2	2184.9	1883.1	1613.6	1353.0
22.5°	3106.9	3104.7	3079.1	2968.8	2768.4	2530.1	2306.3	2078.0	1782.9	1504.5	1255.0
25°	2840.8	2853.0	2858.6	2769.5	2619.2	2425.4	2213.8	1965.5	1654.8	1367.5	1121.4
27.5°	2722.7	2740.6	2771.7	2712.7	2580.2	2360.8	2129.2	1831.9	1474.4	1184.9	958.8
30°	2886.4	2876.4	2844.1	2717.2	2525.6	2225.0	1909.8	1574.6	1216.0	973.3	801.8
32.5°	2799.6	2758.4	2688.2	2484.4	2231.6	1890.9	1560.1	1249.5	972.2	792.9	673.7
35°	2364.2	2343.0	2262.8	2015.6	1769.5	1446.6	1194.9	969.9	786.2	659.2	581.3
37.5°	1788.4	1742.8	1665.9	1501.1	1323.0	1099.1	922.1	779.5	653.7	566.8	496.7
40°	1363.0	1325.2	1271.7	1144.8	1010.0	867.5	748.3	648.1	560.1	491.1	435.4
42.5°	1036.8	1025.6	991.1	912.0	822.9	716.0	637.0	561.3	490.0	433.2	389.8
45°	854.1	840.8	822.9	768.4	698.2	612.5	547.9	485.5	428.7	383.1	346.3
47.5°	702.7	692.7	674.8	632.5	584.6	521.2	472.2	423.2	376.4	338.5	304.0
50°	586.9	588.0	569.0	541.2	498.9	447.7	408.7	369.7	329.6	290.6	265.0
52.5°	498.9	494.4	480.0	457.7	423.2	385.3	353.0	319.6	282.9	252.8	226.1
55°	418.7	413.1	404.2	385.3	359.7	329.6	301.8	271.7	239.4	211.6	191.5
57.5°	350.8	346.3	338.5	324.1	301.8	276.2	252.8	228.3	201.6	179.3	162.6
60°	291.8	288.4	281.7	270.6	251.7	230.5	211.6	190.4	168.2	151.4	138.1
62.5°	239.4	235.0	231.6	223.8	206.0	191.5	174.8	157.0	141.4	125.8	114.7
65°	191.5	190.4	188.2	181.5	172.6	155.9	143.7	129.2	115.8	103.6	95.8
67.5°	154.8	153.7	153.7	147.0	137.0	124.7	115.8	105.8	94.7	85.7	79.1
70°	124.7	123.6	122.5	116.9	111.4	101.3	94.7	85.7	78.0	70.2	65.7
72.5°	99.1	99.1	99.1	95.8	90.2	83.5	76.8	70.2	63.5	57.9	53.5
75°	85.7	85.7	81.3	80.2	75.7	70.2	63.5	57.9	52.3	46.8	44.5
77.5°	65.7	67.9	65.7	64.6	61.2	55.7	51.2	46.8	41.2	37.9	35.6
80°	50.1	50.1	50.1	47.9	45.7	42.3	39.0	35.6	32.3	29.0	27.8
82.5°	41.2	41.2	39.0	36.7	34.5	32.3	31.2	29.0	25.6	22.3	21.2
85°	33.4	33.4	34.5	33.4	30.1	26.7	23.4	22.3	20.0	18.9	17.8
87.5°	24.5	23.4	22.3	22.3	20.0	17.8	16.7	15.6	13.4	12.2	12.2
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: P130093

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 73PS

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1
2.5°	742.8	727.2	708.2	703.8	696.0	669.3	664.8	658.1	644.8	628.1	628.1
5°	880.9	828.5	779.5	749.5	722.7	679.3	659.2	640.3	616.9	588.0	581.3
7.5°	1008.9	917.6	837.4	780.6	732.7	672.6	640.3	610.3	579.1	544.5	530.1
10°	1106.9	976.6	871.9	790.7	723.8	651.5	610.3	576.8	537.9	502.2	484.4
12.5°	1168.2	1004.5	875.3	778.4	701.6	621.4	575.7	536.8	497.8	458.8	438.8
15°	1188.2	998.9	856.4	751.7	668.2	586.9	540.1	498.9	457.7	420.9	404.2
17.5°	1159.3	958.8	814.0	704.9	624.7	546.8	502.2	459.9	423.2	385.3	367.5
20°	1094.7	892.0	753.9	653.7	574.6	500.0	455.5	417.6	383.1	348.6	328.5
22.5°	1000.0	811.8	684.9	594.7	522.3	452.1	410.9	377.5	341.9	311.8	295.1
25°	887.5	725.0	615.8	531.2	466.6	406.5	368.6	329.6	306.2	278.4	262.8
27.5°	766.2	637.0	539.0	475.5	416.5	361.9	329.6	299.6	276.2	250.6	235.0
30°	652.6	554.6	477.7	417.6	369.7	321.8	297.3	270.6	247.2	222.7	209.4
32.5°	567.9	483.3	419.8	374.2	333.0	292.9	268.4	243.9	220.5	198.2	186.0
35°	485.5	420.9	374.2	333.0	297.3	261.7	239.4	216.0	193.8	174.8	162.6
37.5°	428.7	375.3	330.7	296.2	262.8	231.6	209.4	188.2	170.4	152.6	142.5
40°	378.6	333.0	294.0	261.7	231.6	200.4	182.6	164.8	149.2	134.7	125.8
42.5°	339.6	297.3	262.8	230.5	203.8	177.1	160.4	145.9	133.6	121.4	113.6
45°	300.7	261.7	229.4	202.7	179.3	157.0	143.7	131.4	119.2	109.1	102.5
47.5°	265.0	229.4	200.4	179.3	159.2	139.2	125.8	116.9	106.9	96.9	92.4
50°	230.5	198.2	174.8	155.9	138.1	122.5	112.5	102.5	94.7	86.9	83.5
52.5°	197.1	169.3	149.2	133.6	118.0	104.7	98.0	90.2	84.6	79.1	76.8
55°	167.0	145.9	128.1	113.6	102.5	91.3	85.7	80.2	76.8	73.5	71.3
57.5°	141.4	124.7	109.1	99.1	91.3	81.3	76.8	72.4	70.2	66.8	65.7
60°	119.2	104.7	92.4	84.6	76.8	71.3	69.0	65.7	63.5	61.2	61.2
62.5°	99.1	88.0	79.1	74.6	66.8	63.5	61.2	59.0	57.9	55.7	56.8
65°	82.4	73.5	66.8	62.4	59.0	55.7	54.6	52.3	51.2	50.1	51.2
67.5°	70.2	62.4	56.8	53.5	51.2	49.0	47.9	45.7	45.7	45.7	46.8
70°	57.9	52.3	49.0	45.7	43.4	41.2	41.2	40.1	40.1	40.1	40.1
72.5°	47.9	43.4	40.1	39.0	36.7	35.6	35.6	35.6	35.6	34.5	35.6
75°	40.1	35.6	33.4	32.3	31.2	30.1	30.1	30.1	30.1	29.0	30.1
77.5°	32.3	30.1	29.0	27.8	26.7	26.7	26.7	25.6	25.6	25.6	25.6
80°	25.6	24.5	22.3	22.3	21.2	21.2	21.2	21.2	21.2	21.2	21.2
82.5°	20.0	17.8	17.8	17.8	16.7	16.7	16.7	16.7	15.6	16.7	16.7
85°	15.6	14.5	13.4	13.4	12.2	12.2	12.2	12.2	12.2	12.2	12.2
87.5°	10.0	10.0	8.9	8.9	7.8	7.8	7.8	7.8	6.7	6.7	6.7
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: P130093

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 73PS

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1
2.5°	610.3	611.4	594.7	586.9	583.5	583.5	562.4	563.5	555.7	563.5	551.2
5°	556.8	544.5	529.0	515.6	506.7	488.9	478.8	476.6	469.9	471.1	461.0
7.5°	502.2	491.1	467.7	455.5	442.1	426.5	413.1	410.9	403.1	400.9	393.1
10°	454.3	437.6	413.1	402.0	390.9	378.6	366.4	363.0	355.2	355.2	348.6
12.5°	410.9	395.3	376.4	361.9	350.8	337.4	325.2	322.9	314.0	312.9	304.0
15°	373.1	359.7	339.6	326.3	314.0	295.1	288.4	285.1	276.2	273.9	267.3
17.5°	338.5	324.1	304.0	290.6	281.7	267.3	256.1	251.7	245.0	241.7	235.0
20°	304.0	290.6	271.7	257.2	248.3	235.0	224.9	221.6	213.8	212.7	207.1
22.5°	272.8	258.4	240.5	230.5	220.5	208.2	199.3	196.0	189.3	187.1	181.5
25°	242.8	230.5	214.9	207.1	197.1	187.1	178.2	174.8	168.2	165.9	161.5
27.5°	216.0	204.9	192.7	183.7	177.1	164.8	157.0	154.8	148.1	144.8	140.3
30°	192.7	182.6	170.4	161.5	154.8	142.5	137.0	134.7	129.2	127.0	123.6
32.5°	170.4	160.4	149.2	141.4	133.6	125.8	119.2	116.9	113.6	112.5	109.1
35°	149.2	140.3	130.3	123.6	116.9	110.2	105.8	104.7	101.3	100.2	96.9
37.5°	130.3	122.5	114.7	109.1	104.7	99.1	95.8	93.5	91.3	90.2	88.0
40°	115.8	109.1	103.6	99.1	95.8	90.2	86.9	86.9	84.6	83.5	81.3
42.5°	103.6	99.1	94.7	91.3	88.0	84.6	81.3	81.3	79.1	79.1	75.7
45°	95.8	92.4	88.0	84.6	82.4	80.2	78.0	78.0	76.8	75.7	74.6
47.5°	86.9	84.6	81.3	79.1	76.8	75.7	73.5	75.7	74.6	74.6	74.6
50°	79.1	78.0	75.7	74.6	73.5	72.4	72.4	73.5	73.5	73.5	73.5
52.5°	73.5	72.4	71.3	70.2	71.3	70.2	69.0	70.2	70.2	71.3	72.4
55°	69.0	67.9	67.9	67.9	69.0	66.8	66.8	69.0	69.0	70.2	70.2
57.5°	64.6	64.6	64.6	64.6	64.6	64.6	64.6	65.7	66.8	69.0	69.0
60°	60.1	60.1	60.1	61.2	61.2	61.2	61.2	63.5	63.5	64.6	65.7
62.5°	54.6	55.7	55.7	56.8	57.9	59.0	60.1	62.4	62.4	63.5	64.6
65°	50.1	51.2	52.3	53.5	54.6	55.7	55.7	57.9	57.9	59.0	60.1
67.5°	45.7	46.8	46.8	47.9	49.0	49.0	49.0	52.3	52.3	53.5	54.6
70°	40.1	41.2	41.2	42.3	43.4	43.4	44.5	45.7	44.5	45.7	46.8
72.5°	34.5	36.7	37.9	37.9	39.0	39.0	39.0	40.1	40.1	40.1	41.2
75°	30.1	31.2	31.2	32.3	33.4	33.4	33.4	34.5	35.6	35.6	35.6
77.5°	26.7	26.7	27.8	27.8	27.8	29.0	29.0	30.1	30.1	30.1	30.1
80°	21.2	22.3	22.3	23.4	23.4	24.5	24.5	26.7	25.6	25.6	25.6
82.5°	16.7	16.7	17.8	17.8	17.8	18.9	18.9	20.0	18.9	18.9	18.9
85°	12.2	12.2	12.2	12.2	12.2	12.2	12.2	13.4	12.2	13.4	12.2
87.5°	6.7	6.7	6.7	5.6	5.6	5.6	5.6	6.7	5.6	5.6	5.6
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: P130093

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 73PS

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	658.1	658.1	658.1	658.1
2.5°	547.9	543.4	546.8	541.2
5°	456.6	451.0	453.2	449.9
7.5°	388.6	385.3	384.2	382.0
10°	343.0	340.8	340.8	338.5
12.5°	301.8	296.2	297.3	297.3
15°	262.8	259.5	259.5	257.2
17.5°	230.5	226.1	227.2	223.8
20°	202.7	198.2	199.3	198.2
22.5°	179.3	174.8	174.8	172.6
25°	158.1	155.9	154.8	153.7
27.5°	138.1	135.9	135.9	134.7
30°	122.5	119.2	120.3	119.2
32.5°	109.1	106.9	106.9	105.8
35°	96.9	94.7	94.7	94.7
37.5°	88.0	85.7	85.7	85.7
40°	80.2	79.1	80.2	80.2
42.5°	76.8	74.6	75.7	75.7
45°	73.5	72.4	72.4	72.4
47.5°	73.5	71.3	71.3	70.2
50°	74.6	73.5	73.5	72.4
52.5°	73.5	74.6	76.8	75.7
55°	72.4	72.4	73.5	73.5
57.5°	69.0	69.0	69.0	69.0
60°	66.8	66.8	66.8	66.8
62.5°	65.7	65.7	66.8	65.7
65°	62.4	63.5	64.6	64.6
67.5°	55.7	55.7	56.8	55.7
70°	49.0	49.0	49.0	49.0
72.5°	41.2	41.2	42.3	43.4
75°	36.7	35.6	36.7	36.7
77.5°	31.2	30.1	30.1	30.1
80°	26.7	25.6	26.7	27.8
82.5°	18.9	17.8	18.9	17.8
85°	13.4	12.2	12.2	12.2
87.5°	5.6	5.6	5.6	5.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)