

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: P130077

Luminaire Tested: **HL618TAT - HLM6935 - HL6NFL - 456W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130077
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33471)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6935 - HL6NFL - 456W
Description: HALO ALLSLOPE 6" 30W, White Coilex Baffle, White Metal Trim Ring 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: 2175.7 lumens
Efficiency: N/A
Efficacy: 78.8 lumens/watt
Spacing Criteria (0/90/45): 1.91 / 0.72 / 1.18
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

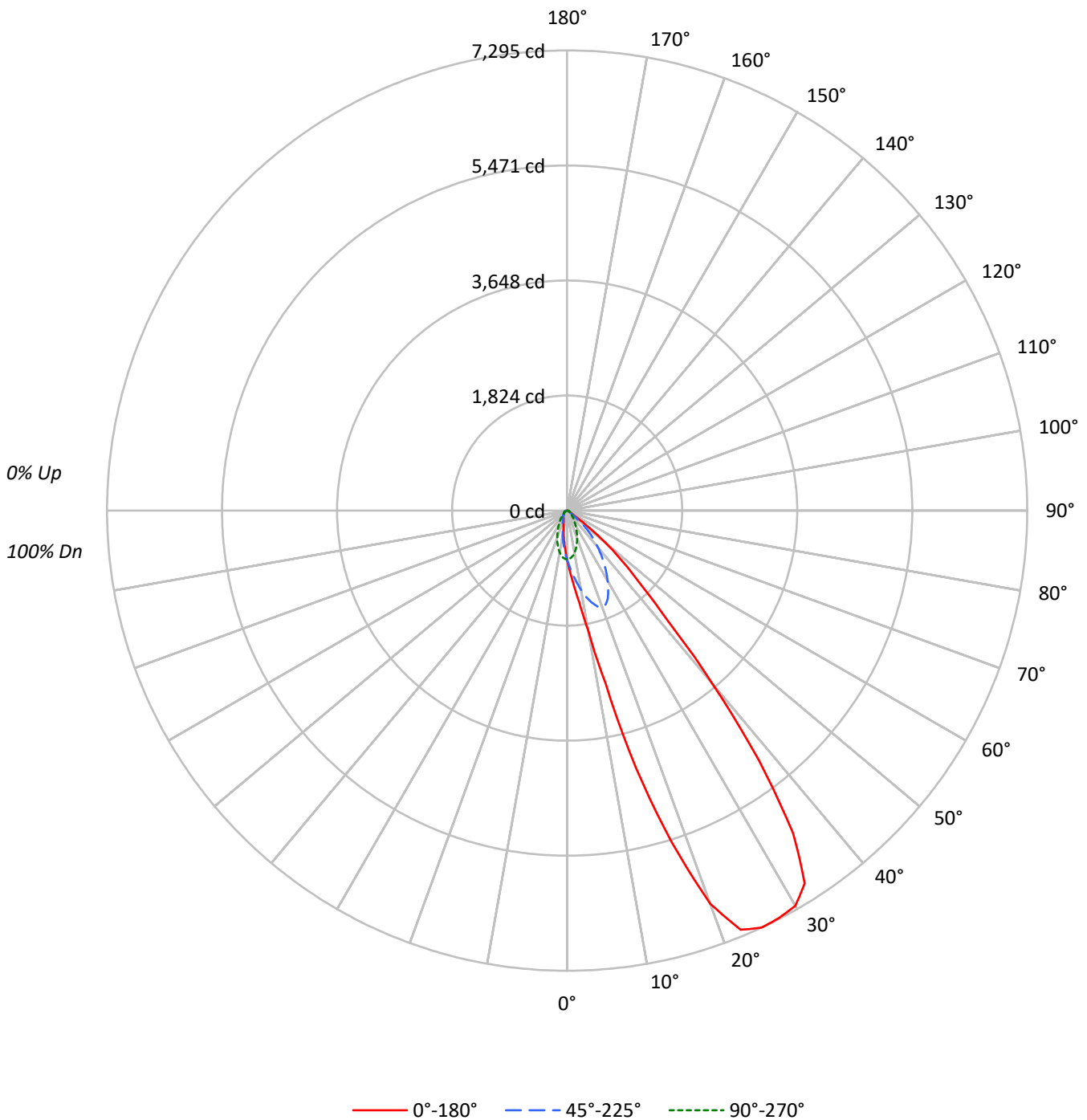
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P130077

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 456W

Luminous Intensity Polar Plot





TEST NUMBER: P130077

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 456W

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	112	109	106	103	110	107	104	101	103	100	98	99	97	95	95	94	93	91					91			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	84	82					82			
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74					74			
4	92	83	76	71	90	82	76	71	79	74	70	77	73	69	75	71	68	66					66			
5	86	76	69	64	84	75	69	64	73	67	63	71	66	62	70	65	62	60					60			
6	81	70	63	58	79	69	62	57	67	61	57	66	61	57	65	60	56	54					54			
7	76	65	57	52	74	64	57	52	62	56	52	61	56	51	60	55	51	50					50			
8	71	60	52	48	70	59	52	47	58	52	47	57	51	47	56	51	47	45					45			
9	67	55	48	43	65	55	48	43	54	48	43	53	47	43	52	47	43	41					41			
10	63	51	44	40	62	51	44	40	50	44	40	49	43	40	48	43	39	38					38			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	46248	46248	46248
5°	68319	43742	29788
10°	111959	39255	19014
15°	244036	33010	12715
20°	384287	26759	9476
25°	427484	20616	7765
30°	432398	15698	6920
35°	383550	11968	6224
40°	228034	9149	5460
45°	108024	6309	4829
50°	55590	4944	4479
55°	11256	4202	4368
60°	5093	3548	4644
65°	3608	3005	4705
70°	2139	2582	4489
75°	1158	2455	4122
80°	919	1988	3510
85°	560	1323	2273



TEST NUMBER: P130077

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 456W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.5	3.6
10°-20°	326.4	15.0
20°-30°	677.9	31.2
30°-40°	644.5	29.6
40°-50°	297.5	13.7
50°-60°	80.4	3.7
60°-70°	39.4	1.8
70°-80°	23.5	1.1
80°-90°	8.7	0.4
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°	1081.8	49.7
0°-40°	1726.3	79.3
0°-60°	2104.1	96.7
0°-90°	2175.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2175.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	775	775	775	775	775	
5°	1167	1013	747	576	509	135
15°	4230	1510	572	276	220	1265
25°	7295	1527	352	157	132	3327
35°	6243	1011	195	112	101	3668
45°	1620	512	95	74	72	1388
55°	149	70	56	54	58	229
65°	40	34	33	46	52	40
75°	10	13	21	31	36	12
85°	3	4	8	12	13	3
90°	0	0	0	0	0	



TEST NUMBER: P130077

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 456W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	774.8	774.8	774.8	774.8	774.8	774.8	774.8	774.8	774.8	774.8	774.8
2.5°	952.9	920.6	930.7	931.8	915.1	922.9	910.6	903.9	885.0	887.2	869.4
5°	1166.7	1127.7	1138.8	1131.0	1104.3	1102.1	1073.1	1057.6	1027.5	1013.0	973.0
7.5°	1470.6	1418.2	1426.0	1408.2	1353.7	1328.1	1268.0	1237.9	1171.1	1142.2	1080.9
10°	1933.7	1853.5	1855.7	1803.4	1706.6	1634.2	1529.6	1452.8	1341.4	1278.0	1181.1
12.5°	2805.3	2617.2	2532.6	2399.0	2214.2	2033.9	1854.6	1702.1	1526.2	1404.9	1268.0
15°	4230.2	3891.8	3773.8	3437.6	3031.3	2613.8	2232.0	1954.8	1701.0	1509.5	1333.6
17.5°	5511.5	5222.1	5081.8	4695.6	4095.5	3435.4	2727.4	2237.6	1844.6	1593.0	1368.1
20°	6634.8	6411.0	6148.3	5654.0	4936.0	4199.1	3193.8	2459.1	1940.3	1627.5	1365.9
22.5°	7192.5	7066.7	6867.4	6354.3	5523.8	4648.8	3503.3	2562.6	1954.8	1605.3	1322.5
25°	7294.9	7238.2	7129.1	6659.3	5785.4	4790.2	3538.9	2571.5	1886.9	1527.3	1247.9
27.5°	7279.3	7235.9	7144.6	6651.5	5706.4	4626.5	3341.9	2343.3	1764.5	1411.6	1155.5
30°	7235.9	7185.8	7008.8	6378.7	5335.7	4208.0	2908.8	2087.3	1596.4	1281.3	1055.3
32.5°	7007.7	6935.4	6593.6	5768.7	4696.7	3530.0	2401.2	1799.0	1399.3	1151.1	950.7
35°	6242.9	6309.7	5650.7	4822.5	3788.3	2751.9	1949.2	1530.7	1207.8	1010.8	841.6
37.5°	4991.7	4910.4	4498.5	3728.2	2779.7	2102.9	1616.4	1298.0	1053.1	883.9	730.3
40°	3579.0	3590.1	3172.7	2562.6	2009.4	1646.5	1318.1	1086.5	898.4	750.3	614.5
42.5°	2315.5	2289.9	2077.3	1799.0	1546.3	1294.7	1066.5	909.5	748.1	627.9	515.4
45°	1619.7	1598.6	1510.6	1340.3	1177.8	1034.2	872.8	752.5	615.6	512.1	411.9
47.5°	1193.4	1188.9	1126.6	1028.6	915.1	800.4	686.9	585.6	465.3	370.7	287.2
50°	788.2	784.8	748.1	676.8	598.9	519.9	434.2	348.4	270.5	212.6	160.3
52.5°	393.0	378.5	372.9	328.4	293.9	247.1	204.8	155.9	126.9	104.6	87.9
55°	149.2	154.7	145.8	130.2	118.0	103.5	93.5	82.4	74.6	70.1	66.8
57.5°	79.0	81.3	79.0	75.7	72.4	70.1	66.8	64.6	61.2	60.1	57.9
60°	62.3	62.3	62.3	60.1	60.1	57.9	55.7	54.5	52.3	51.2	49.0
62.5°	49.0	49.0	50.1	49.0	47.9	47.9	45.6	45.6	43.4	42.3	41.2
65°	40.1	39.0	40.1	39.0	39.0	37.8	36.7	36.7	34.5	34.5	33.4
67.5°	30.1	28.9	30.1	30.1	28.9	30.1	27.8	27.8	26.7	27.8	26.7
70°	21.2	22.3	22.3	22.3	22.3	22.3	21.2	21.2	21.2	21.2	21.2
72.5°	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6
75°	10.0	10.0	10.0	11.1	11.1	11.1	11.1	12.2	12.2	13.4	13.4
77.5°	7.8	7.8	7.8	8.9	8.9	8.9	10.0	10.0	10.0	11.1	11.1
80°	6.7	6.7	6.7	6.7	6.7	7.8	7.8	7.8	8.9	8.9	10.0
82.5°	4.5	4.5	4.5	5.6	5.6	5.6	5.6	6.7	6.7	6.7	6.7
85°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	4.5	4.5	4.5	4.5
87.5°	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2	2.2	2.2	2.2
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: P130077

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 456W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	774.8	774.8	774.8	774.8	774.8	774.8	774.8	774.8	774.8	774.8	774.8
2.5°	848.3	843.8	833.8	828.2	808.2	804.9	780.4	767.0	753.6	741.4	730.3
5°	935.1	917.3	891.7	868.3	836.0	813.8	775.9	747.0	720.3	699.1	675.7
7.5°	1021.9	965.2	936.2	896.1	846.0	809.3	758.1	719.1	680.2	649.0	615.6
10°	1088.7	1026.4	942.9	906.2	841.6	791.5	728.0	678.0	629.0	592.2	553.3
12.5°	1144.4	1053.1	975.2	901.7	822.7	757.0	686.9	630.1	574.4	534.3	489.8
15°	1176.7	1060.9	964.0	878.3	788.2	715.8	634.5	572.2	517.6	472.0	429.7
17.5°	1181.1	1046.4	936.2	838.3	741.4	662.4	582.2	518.8	459.8	411.9	371.8
20°	1156.6	1011.9	892.8	788.2	684.6	604.5	524.3	462.0	403.0	357.3	319.5
22.5°	1105.4	959.6	836.0	728.0	629.0	543.3	467.6	405.2	350.7	310.6	275.0
25°	1039.7	892.8	770.3	662.4	565.5	484.3	409.7	351.8	302.8	268.3	238.2
27.5°	960.7	818.2	696.9	594.5	494.3	424.1	354.0	305.0	268.3	232.7	207.1
30°	876.1	737.0	622.3	522.1	433.0	367.4	306.1	262.7	228.2	201.5	184.8
32.5°	783.7	652.3	548.8	457.5	375.2	312.8	262.7	226.0	199.3	178.1	164.8
35°	693.5	566.6	472.0	389.6	319.5	266.1	224.9	194.8	172.5	157.0	144.7
37.5°	596.7	485.4	403.0	327.3	268.3	228.2	191.5	168.1	151.4	138.0	129.1
40°	500.9	406.3	331.7	271.6	226.0	191.5	164.8	143.6	130.2	120.2	111.3
42.5°	409.7	336.2	271.6	221.5	184.8	157.0	134.7	118.0	108.0	100.2	94.6
45°	328.4	260.5	207.1	168.1	141.4	120.2	104.6	94.6	89.1	85.7	83.5
47.5°	221.5	173.7	142.5	114.7	100.2	90.2	83.5	80.2	77.9	75.7	73.5
50°	126.9	103.5	91.3	82.4	77.9	75.7	72.4	70.1	69.0	66.8	65.7
52.5°	77.9	74.6	72.4	70.1	67.9	65.7	63.5	61.2	60.1	59.0	59.0
55°	65.7	63.5	62.3	60.1	59.0	56.8	55.7	55.7	54.5	53.4	53.4
57.5°	55.7	54.5	53.4	52.3	51.2	50.1	49.0	49.0	47.9	47.9	47.9
60°	47.9	46.8	45.6	44.5	44.5	44.5	43.4	43.4	43.4	43.4	43.4
62.5°	40.1	39.0	39.0	37.8	37.8	37.8	37.8	37.8	39.0	39.0	39.0
65°	33.4	32.3	32.3	32.3	32.3	33.4	33.4	33.4	33.4	34.5	35.6
67.5°	26.7	26.7	26.7	26.7	26.7	27.8	27.8	28.9	30.1	31.2	33.4
70°	21.2	21.2	22.3	22.3	23.4	24.5	24.5	25.6	27.8	28.9	30.1
72.5°	16.7	16.7	18.9	18.9	20.0	21.2	22.3	23.4	24.5	25.6	27.8
75°	14.5	14.5	15.6	16.7	17.8	18.9	20.0	21.2	22.3	23.4	24.5
77.5°	12.2	13.4	13.4	14.5	15.6	15.6	16.7	17.8	18.9	20.0	20.0
80°	10.0	10.0	11.1	12.2	12.2	13.4	13.4	14.5	15.6	15.6	16.7
82.5°	7.8	7.8	8.9	8.9	8.9	10.0	10.0	11.1	11.1	12.2	13.4
85°	5.6	5.6	5.6	6.7	6.7	6.7	6.7	7.8	7.8	8.9	8.9
87.5°	2.2	3.3	3.3	3.3	3.3	4.5	4.5	4.5	4.5	4.5	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: P130077

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 456W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	774.8	774.8	774.8	774.8	774.8	774.8	774.8	774.8	774.8	774.8	774.8
2.5°	723.6	701.3	709.1	685.7	689.1	679.1	671.3	666.8	657.9	642.3	644.6
5°	655.7	626.7	629.0	594.5	586.7	575.5	557.7	551.0	543.3	529.9	521.0
7.5°	593.3	553.3	547.7	515.4	498.7	486.5	463.1	453.1	436.4	428.6	418.6
10°	522.1	482.0	470.9	433.0	417.5	401.9	378.5	367.4	355.1	344.0	336.2
12.5°	457.5	416.3	398.5	365.1	349.6	332.9	309.5	302.8	290.6	281.6	273.9
15°	396.3	356.2	336.2	307.2	293.9	276.1	262.7	252.7	241.6	232.7	227.1
17.5°	340.6	303.9	289.4	261.6	248.2	232.7	221.5	211.5	203.7	197.0	191.5
20°	291.7	259.4	246.0	222.6	211.5	201.5	189.2	183.7	181.5	171.4	167.0
22.5°	250.5	223.8	212.6	193.7	184.8	177.0	167.0	161.4	157.0	151.4	148.1
25°	217.1	194.8	187.0	170.3	164.8	157.0	150.3	145.8	141.4	138.0	134.7
27.5°	191.5	172.5	165.9	152.5	148.1	142.5	136.9	133.6	130.2	126.9	124.7
30°	170.3	154.7	150.3	139.2	135.8	131.4	126.9	124.7	122.5	119.1	116.9
32.5°	152.5	139.2	135.8	128.0	125.8	122.5	119.1	116.9	113.5	111.3	109.1
35°	135.8	126.9	124.7	116.9	115.8	112.4	109.1	106.9	104.6	102.4	101.3
37.5°	121.3	113.5	112.4	105.8	103.5	101.3	98.0	96.9	95.7	94.6	93.5
40°	105.8	99.1	98.0	92.4	92.4	91.3	89.1	87.9	86.8	86.8	84.6
42.5°	89.1	86.8	86.8	83.5	83.5	82.4	80.2	80.2	77.9	77.9	76.8
45°	81.3	77.9	77.9	74.6	74.6	73.5	72.4	72.4	72.4	72.4	71.2
47.5°	72.4	69.0	70.1	67.9	67.9	67.9	67.9	67.9	66.8	66.8	66.8
50°	64.6	62.3	64.6	62.3	63.5	63.5	62.3	63.5	63.5	62.3	62.3
52.5°	59.0	57.9	59.0	57.9	59.0	59.0	57.9	59.0	59.0	59.0	59.0
55°	53.4	52.3	54.5	53.4	54.5	54.5	54.5	55.7	55.7	56.8	55.7
57.5°	49.0	47.9	50.1	49.0	50.1	51.2	51.2	52.3	53.4	54.5	54.5
60°	44.5	44.5	45.6	45.6	47.9	49.0	50.1	51.2	52.3	54.5	54.5
62.5°	40.1	41.2	43.4	42.3	45.6	47.9	49.0	50.1	51.2	52.3	52.3
65°	37.8	37.8	41.2	42.3	44.5	45.6	46.8	47.9	49.0	50.1	50.1
67.5°	35.6	35.6	39.0	39.0	42.3	42.3	43.4	45.6	45.6	46.8	46.8
70°	32.3	33.4	35.6	36.7	37.8	39.0	40.1	41.2	42.3	43.4	43.4
72.5°	28.9	30.1	32.3	32.3	34.5	35.6	36.7	37.8	37.8	39.0	39.0
75°	25.6	25.6	27.8	28.9	30.1	31.2	32.3	33.4	33.4	34.5	34.5
77.5°	21.2	22.3	23.4	24.5	25.6	26.7	27.8	28.9	28.9	30.1	30.1
80°	17.8	17.8	18.9	20.0	21.2	22.3	22.3	23.4	23.4	24.5	24.5
82.5°	13.4	14.5	14.5	15.6	16.7	16.7	17.8	17.8	18.9	18.9	18.9
85°	10.0	10.0	10.0	11.1	11.1	12.2	12.2	12.2	13.4	13.4	13.4
87.5°	5.6	5.6	5.6	6.7	6.7	6.7	6.7	6.7	7.8	7.8	7.8
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: P130077

CATALOG NUMBER: HL618TAT - HLM6935 - HL6NFL - 456W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	774.8	774.8	774.8	774.8
2.5°	645.7	637.9	646.8	637.9
5°	521.0	508.7	517.6	508.7
7.5°	419.7	410.8	409.7	406.3
10°	334.0	325.1	323.9	328.4
12.5°	272.7	264.9	264.9	266.1
15°	224.9	218.2	220.4	220.4
17.5°	190.4	189.2	187.0	187.0
20°	168.1	162.5	162.5	163.6
22.5°	149.2	144.7	144.7	145.8
25°	136.9	131.4	132.5	132.5
27.5°	124.7	122.5	123.6	123.6
30°	116.9	114.7	115.8	115.8
32.5°	110.2	106.9	108.0	109.1
35°	102.4	100.2	101.3	101.3
37.5°	94.6	92.4	93.5	94.6
40°	85.7	84.6	84.6	85.7
42.5°	76.8	75.7	76.8	77.9
45°	72.4	71.2	71.2	72.4
47.5°	67.9	66.8	66.8	67.9
50°	63.5	62.3	63.5	63.5
52.5°	59.0	59.0	59.0	60.1
55°	56.8	56.8	57.9	57.9
57.5°	56.8	56.8	56.8	57.9
60°	55.7	55.7	56.8	56.8
62.5°	53.4	54.5	54.5	54.5
65°	51.2	50.1	52.3	52.3
67.5°	47.9	47.9	47.9	49.0
70°	44.5	44.5	44.5	44.5
72.5°	40.1	40.1	40.1	40.1
75°	35.6	35.6	35.6	35.6
77.5°	30.1	30.1	30.1	31.2
80°	24.5	24.5	24.5	25.6
82.5°	18.9	18.9	18.9	18.9
85°	13.4	13.4	13.4	13.4
87.5°	7.8	7.8	7.8	7.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)