

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: P130119

Luminaire Tested: **HL618TAT - HLM6927 - HL6WFL - 456P**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P130119  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33490)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL618TAT - HLM6927 - HL6WFL - 456P  
Description: HALO ALLSLOPE 6" 30W, Black Coilex Baffle, White Metal Trim Ring  
using 55 Degree Optic at a 6-12 Pitch  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1900.0 lumens  
Efficiency: N/A  
Efficacy: 68.8 lumens/watt  
Spacing Criteria (0/90/45): 1.36 / 0.77 / 1.12  
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')  
CIE Type: Direct

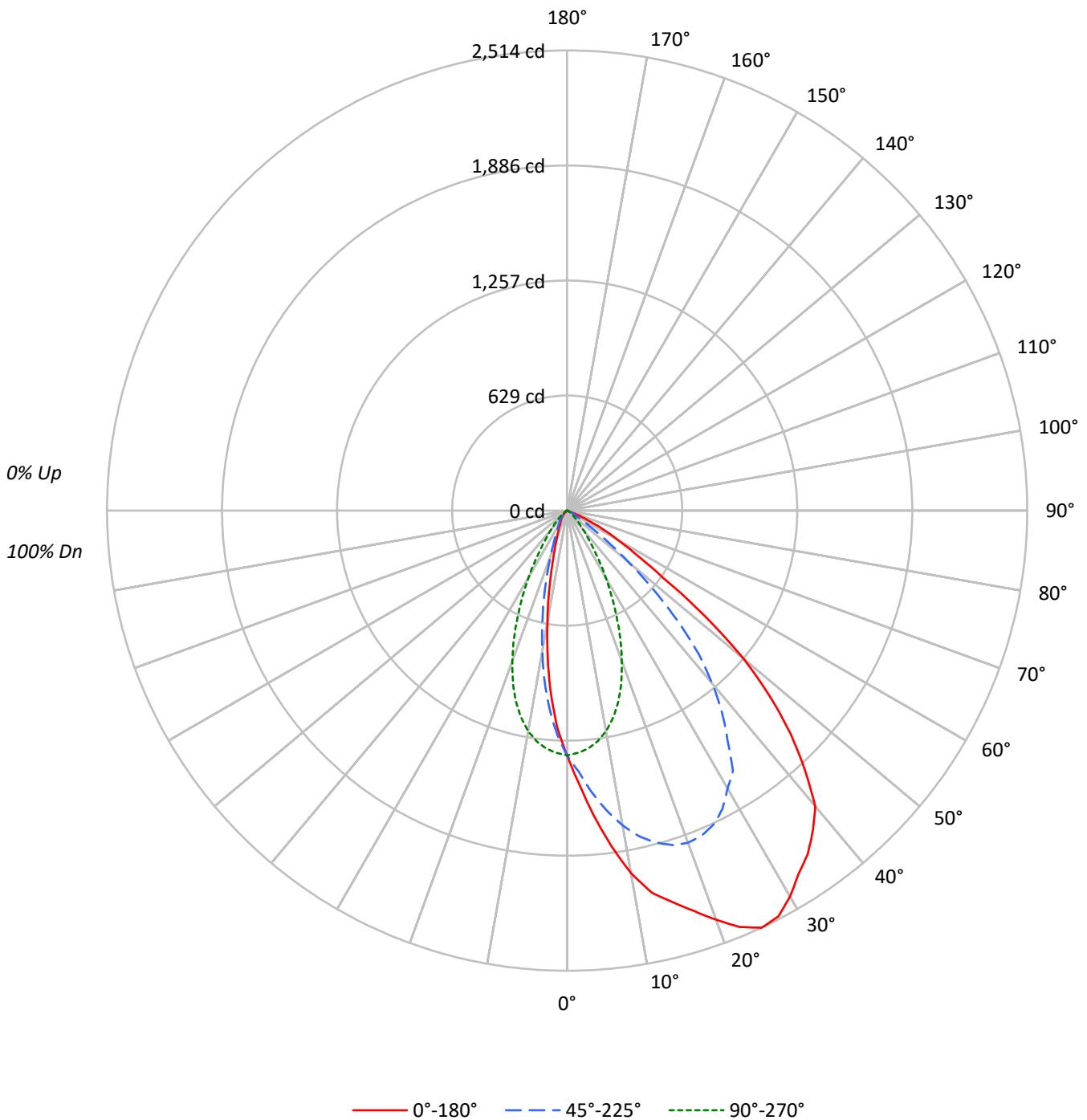
Input Watts (W): 27.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	112	109	106	104	110	107	104	102	103	101	99	99	97	96	96	94	93	91					91			
2	105	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	82					82			
3	99	91	85	80	97	90	84	80	87	82	78	84	80	77	82	79	76	74					74			
4	92	83	77	72	90	82	76	71	80	74	70	78	73	69	76	72	69	67					67			
5	86	76	69	64	85	75	69	64	73	68	63	72	67	63	70	66	62	60					60			
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	57	55					55			
7	76	65	58	53	74	64	57	53	63	57	52	61	56	52	60	55	52	50					50			
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	47	46					46			
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	42					42			
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39					39			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	79824	79824	79824
5°	97902	76447	59090
10°	116481	70851	35915
15°	127700	62321	18628
20°	137751	50634	9904
25°	147339	37410	6036
30°	145485	25074	4255
35°	140766	14942	3391
40°	134342	8729	2504
45°	115193	5169	1414
50°	88548	3223	677
55°	48319	2007	158
60°	25875	1038	172
65°	11561	378	189
70°	1826	212	111
75°	127	243	127
80°	0	288	0
85°	0	356	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.9	6.6
10°-20°	332.3	17.5
20°-30°	456.1	24.0
30°-40°	475.4	25.0
40°-50°	351.0	18.5
50°-60°	131.5	6.9
60°-70°	25.7	1.4
70°-80°	2.0	0.1
80°-90°	1.0	0.1
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°	913.4	48.1
0°-40°	1388.8	73.1
0°-60°	1871.4	98.5
0°-90°	1900.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1900.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1337	1337	1337	1337	1337	
5°	1672	1544	1306	1092	1009	170
15°	2214	1878	1080	484	323	631
25°	2514	1893	638	151	103	1144
35°	2291	1526	243	71	55	1429
45°	1727	856	78	33	21	1315
55°	640	152	27	6	2	625
65°	128	23	4	2	2	141
75°	1	1	2	1	1	4
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°	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3
2.5°	1494.5	1471.2	1461.6	1479.7	1479.7	1483.9	1475.4	1458.4	1464.8	1426.5	1441.4
5°	1671.9	1652.8	1652.8	1651.7	1642.2	1645.4	1630.5	1598.6	1591.2	1544.5	1547.6
7.5°	1847.2	1827.0	1824.9	1825.9	1800.4	1801.5	1777.1	1730.3	1714.4	1651.7	1640.1
10°	2011.8	1988.5	1987.4	1976.8	1954.5	1943.8	1908.8	1850.4	1828.1	1746.3	1715.5
12.5°	2138.2	2120.2	2106.4	2111.7	2076.6	2068.1	2018.2	1953.4	1917.3	1822.8	1777.1
15°	2213.6	2189.2	2194.5	2188.2	2174.3	2163.7	2115.9	2036.3	1987.4	1878.0	1819.6
17.5°	2292.3	2269.9	2256.1	2246.6	2223.2	2217.9	2180.7	2096.8	2037.3	1916.2	1842.9
20°	2378.3	2353.9	2340.0	2308.2	2274.2	2256.1	2217.9	2136.1	2064.9	1931.1	1840.8
22.5°	2462.2	2428.2	2400.6	2354.9	2311.4	2282.7	2240.2	2154.2	2068.1	1921.5	1817.4
25°	2514.3	2478.1	2431.4	2376.2	2327.3	2295.4	2251.9	2152.0	2054.3	1892.9	1771.8
27.5°	2499.4	2463.3	2420.8	2365.5	2322.0	2293.3	2240.2	2171.2	2015.0	1837.6	1699.5
30°	2434.6	2405.9	2374.0	2330.5	2294.4	2278.4	2197.7	2068.1	1938.5	1752.6	1577.4
32.5°	2352.8	2333.7	2314.6	2282.7	2258.3	2234.9	2125.5	1984.2	1837.6	1685.7	1497.7
35°	2291.2	2251.9	2247.6	2232.8	2202.0	2137.2	2022.4	1878.0	1720.8	1526.4	1374.5
37.5°	2205.1	2187.1	2178.6	2155.2	2090.4	2018.2	1890.7	1734.6	1584.8	1390.4	1231.1
40°	2108.5	2086.2	2067.1	2021.4	1949.2	1869.5	1727.2	1571.0	1422.3	1233.2	1073.9
42.5°	1922.6	1914.1	1873.7	1838.7	1768.6	1680.4	1540.2	1386.2	1236.4	1064.3	889.1
45°	1727.2	1709.1	1668.7	1635.8	1554.0	1470.1	1343.7	1187.6	1032.5	856.1	687.3
47.5°	1504.1	1493.5	1469.0	1415.9	1333.1	1248.1	1112.1	958.1	802.0	638.4	505.6
50°	1255.5	1248.1	1215.2	1162.1	1081.3	998.5	855.1	710.6	571.5	439.8	334.6
52.5°	952.8	929.4	906.1	849.8	782.8	702.1	577.8	465.2	366.5	275.1	193.3
55°	640.5	623.5	595.9	564.0	512.0	444.0	358.0	288.9	226.3	151.9	106.2
57.5°	445.1	431.3	413.2	380.3	339.9	295.3	243.2	184.8	137.0	90.3	66.9
60°	316.5	312.3	299.5	274.1	241.1	202.9	153.0	112.6	78.6	56.3	45.7
62.5°	220.9	215.6	201.8	180.6	150.8	117.9	86.0	60.5	46.7	37.2	30.8
65°	128.5	123.2	113.7	96.7	76.5	58.4	44.6	34.0	28.7	23.4	20.2
67.5°	59.5	54.2	51.0	41.4	35.1	29.7	23.4	18.1	15.9	12.7	10.6
70°	18.1	17.0	17.0	14.9	13.8	11.7	9.6	7.4	7.4	6.4	5.3
72.5°	4.2	4.2	4.2	4.2	4.2	4.2	3.2	3.2	3.2	2.1	2.1
75°	1.1	1.1	1.1	1.1	1.1	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°	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3
2.5°	1405.3	1419.1	1402.1	1379.8	1381.9	1359.6	1341.6	1325.6	1321.4	1302.3	1291.6
5°	1511.5	1490.3	1459.5	1422.3	1406.4	1369.2	1337.3	1305.5	1286.3	1253.4	1230.0
7.5°	1590.1	1553.0	1503.0	1448.9	1417.0	1366.0	1319.3	1271.5	1239.6	1191.8	1156.7
10°	1650.7	1596.5	1530.6	1459.5	1412.7	1346.9	1303.3	1223.7	1175.9	1114.3	1066.5
12.5°	1695.3	1624.1	1541.3	1455.2	1393.6	1312.9	1237.5	1158.9	1098.3	1026.1	957.1
15°	1720.8	1633.7	1532.8	1431.9	1353.3	1264.0	1171.6	1080.3	1001.7	915.6	841.3
17.5°	1726.1	1619.9	1503.0	1392.6	1301.2	1196.0	1105.8	984.7	890.1	795.6	708.5
20°	1709.1	1600.8	1459.5	1338.4	1233.2	1113.2	1013.3	874.2	772.2	673.4	590.6
22.5°	1671.9	1536.0	1401.1	1267.2	1144.0	1009.1	879.5	760.5	655.4	555.5	472.7
25°	1607.1	1468.0	1322.5	1178.0	1045.2	893.3	757.4	638.4	535.4	445.1	364.3
27.5°	1529.6	1378.7	1226.9	1101.5	919.9	773.3	637.3	525.8	428.1	338.8	276.2
30°	1434.0	1280.0	1117.4	942.2	788.2	652.2	529.0	419.6	331.4	262.4	211.4
32.5°	1322.5	1152.5	986.8	813.7	666.0	539.6	419.6	325.0	250.7	200.8	167.8
35°	1193.9	1018.7	843.4	680.9	547.0	422.8	322.9	243.2	195.4	160.4	136.0
37.5°	1051.6	868.9	697.9	552.3	431.3	322.9	236.9	183.8	148.7	123.2	104.1
40°	884.8	711.7	560.8	425.9	308.0	226.3	171.0	137.0	113.7	97.7	85.0
42.5°	702.1	553.4	421.7	300.6	209.3	159.3	126.4	104.1	89.2	76.5	68.0
45°	526.9	399.4	286.8	201.8	147.6	114.7	92.4	77.5	66.9	58.4	53.1
47.5°	376.0	264.5	180.6	126.4	97.7	77.5	65.9	56.3	49.9	46.7	42.5
50°	234.7	158.3	105.2	79.7	65.9	55.2	49.9	45.7	40.4	36.1	32.9
52.5°	125.3	87.1	65.9	56.3	49.9	44.6	39.3	35.1	30.8	28.7	24.4
55°	72.2	60.5	49.9	44.6	39.3	34.0	29.7	26.6	24.4	21.2	18.1
57.5°	53.1	45.7	38.2	32.9	29.7	25.5	22.3	20.2	17.0	13.8	11.7
60°	37.2	31.9	28.7	25.5	21.2	18.1	15.9	12.7	10.6	8.5	7.4
62.5°	26.6	22.3	19.1	15.9	13.8	11.7	9.6	7.4	6.4	5.3	4.2
65°	15.9	13.8	11.7	9.6	8.5	6.4	5.3	4.2	3.2	3.2	2.1
67.5°	8.5	7.4	6.4	5.3	4.2	3.2	2.1	2.1	2.1	2.1	2.1
70°	4.2	3.2	3.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
72.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
75°	1.1	1.1	1.1	1.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
77.5°	1.1	1.1	1.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
80°	1.1	1.1	1.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
82.5°	1.1	1.1	1.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
85°	1.1	1.1	1.1	1.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
87.5°	1.1	1.1	1.1	1.1	2.1	2.1	2.1	2.1	2.1	2.1	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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3	1337.3
2.5°	1287.4	1272.5	1269.3	1255.5	1257.7	1225.8	1221.5	1207.7	1210.9	1208.8	1209.9
5°	1190.7	1187.6	1166.3	1141.9	1131.3	1092.0	1078.1	1059.0	1049.5	1039.9	1037.8
7.5°	1120.6	1085.6	1046.3	1014.4	992.1	943.2	913.5	886.9	873.1	860.4	850.8
10°	1015.5	966.6	915.6	877.4	850.8	782.8	748.9	710.6	694.7	670.3	661.8
12.5°	896.5	834.9	781.8	726.6	673.4	625.6	595.9	564.0	533.2	514.1	495.0
15°	762.7	696.8	638.4	583.2	540.7	484.4	451.4	415.3	386.6	365.4	347.3
17.5°	634.1	565.1	509.9	456.8	401.5	360.1	325.0	291.0	274.1	254.9	245.4
20°	510.9	446.1	382.4	327.2	294.2	259.2	228.4	209.3	199.7	188.0	181.6
22.5°	401.5	335.7	286.8	242.2	213.5	191.2	177.4	162.5	155.1	146.6	141.3
25°	301.7	249.6	212.4	189.1	171.0	150.8	139.1	127.5	120.0	114.7	110.5
27.5°	227.3	193.3	166.8	148.7	134.9	120.0	110.5	102.0	96.7	92.4	88.2
30°	180.6	155.1	133.8	121.1	109.4	97.7	90.3	82.9	79.7	77.5	75.4
32.5°	144.5	125.3	108.3	98.8	89.2	80.7	76.5	72.2	70.1	68.0	66.9
35°	115.8	100.9	88.2	80.7	76.5	71.2	66.9	63.7	61.6	60.5	58.4
37.5°	92.4	81.8	75.4	70.1	66.9	61.6	58.4	55.2	53.1	52.0	51.0
40°	75.4	69.0	63.7	59.5	55.2	52.0	47.8	45.7	44.6	42.5	41.4
42.5°	60.5	55.2	51.0	47.8	45.7	42.5	39.3	37.2	35.1	34.0	31.9
45°	48.9	44.6	40.4	38.2	36.1	32.9	29.7	26.6	26.6	24.4	23.4
47.5°	39.3	35.1	31.9	29.7	26.6	24.4	22.3	20.2	19.1	18.1	17.0
50°	28.7	26.6	23.4	22.3	20.2	17.0	15.9	13.8	12.7	11.7	10.6
52.5°	22.3	20.2	17.0	14.9	13.8	11.7	10.6	8.5	7.4	6.4	6.4
55°	15.9	13.8	11.7	9.6	8.5	6.4	5.3	4.2	4.2	3.2	3.2
57.5°	10.6	8.5	7.4	5.3	4.2	4.2	3.2	2.1	2.1	2.1	1.1
60°	6.4	5.3	4.2	3.2	2.1	2.1	2.1	2.1	1.1	1.1	2.1
62.5°	3.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
65°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
67.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.1	1.1	2.1	1.1
70°	2.1	2.1	2.1	2.1	2.1	1.1	1.1	1.1	1.1	1.1	1.1
72.5°	2.1	2.1	2.1	2.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
75°	2.1	2.1	2.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
77.5°	2.1	2.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
80°	2.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	2.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0
85°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0
87.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	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: P130119

CATALOG NUMBER: HL618TAT - HLM6927 - HL6WFL - 456P

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1337.3	1337.3	1337.3	1337.3
2.5°	1178.0	1173.7	1187.6	1191.8
5°	1029.3	997.4	1011.2	1009.1
7.5°	819.0	799.8	816.8	812.6
10°	629.9	611.8	623.5	620.3
12.5°	469.5	455.7	456.8	454.6
15°	329.3	321.8	317.6	322.9
17.5°	228.4	223.1	222.0	226.3
20°	172.1	166.8	166.8	171.0
22.5°	134.9	129.6	129.6	130.7
25°	104.1	103.0	100.9	103.0
27.5°	85.0	81.8	82.9	81.8
30°	72.2	70.1	71.2	71.2
32.5°	63.7	62.7	62.7	62.7
35°	56.3	55.2	55.2	55.2
37.5°	48.9	47.8	47.8	47.8
40°	39.3	38.2	38.2	39.3
42.5°	29.7	29.7	29.7	29.7
45°	22.3	21.2	21.2	21.2
47.5°	15.9	14.9	14.9	14.9
50°	9.6	8.5	8.5	9.6
52.5°	5.3	4.2	4.2	5.3
55°	2.1	2.1	2.1	2.1
57.5°	1.1	1.1	1.1	1.1
60°	1.1	1.1	1.1	2.1
62.5°	1.1	1.1	2.1	2.1
65°	1.1	1.1	2.1	2.1
67.5°	2.1	1.1	1.1	1.1
70°	1.1	1.1	1.1	1.1
72.5°	1.1	1.1	1.1	1.1
75°	1.1	1.1	1.1	1.1
77.5°	0.0	0.0	0.0	1.1
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)