

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: HALO

Report Number: P670469

Luminaire Tested: ALP90LSFSUNVDGY-60W-3000K

Issue Date: 3/29/2023

Test Information

Test Method: LM-79-2019
Report Number: P670469
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (2022-07-22)
Test Lab: INNOVATION CENTER
Issue Date: 3/29/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ALP90LSFSUNVDGY-60W-3000K
Description: ALP Premium Area Light
Light Source:
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8212 lumens
Efficiency: N/A
Efficacy: 133.7 lumens/watt
Luminous Opening: Circular (Dia: 0.66' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U3 - G2

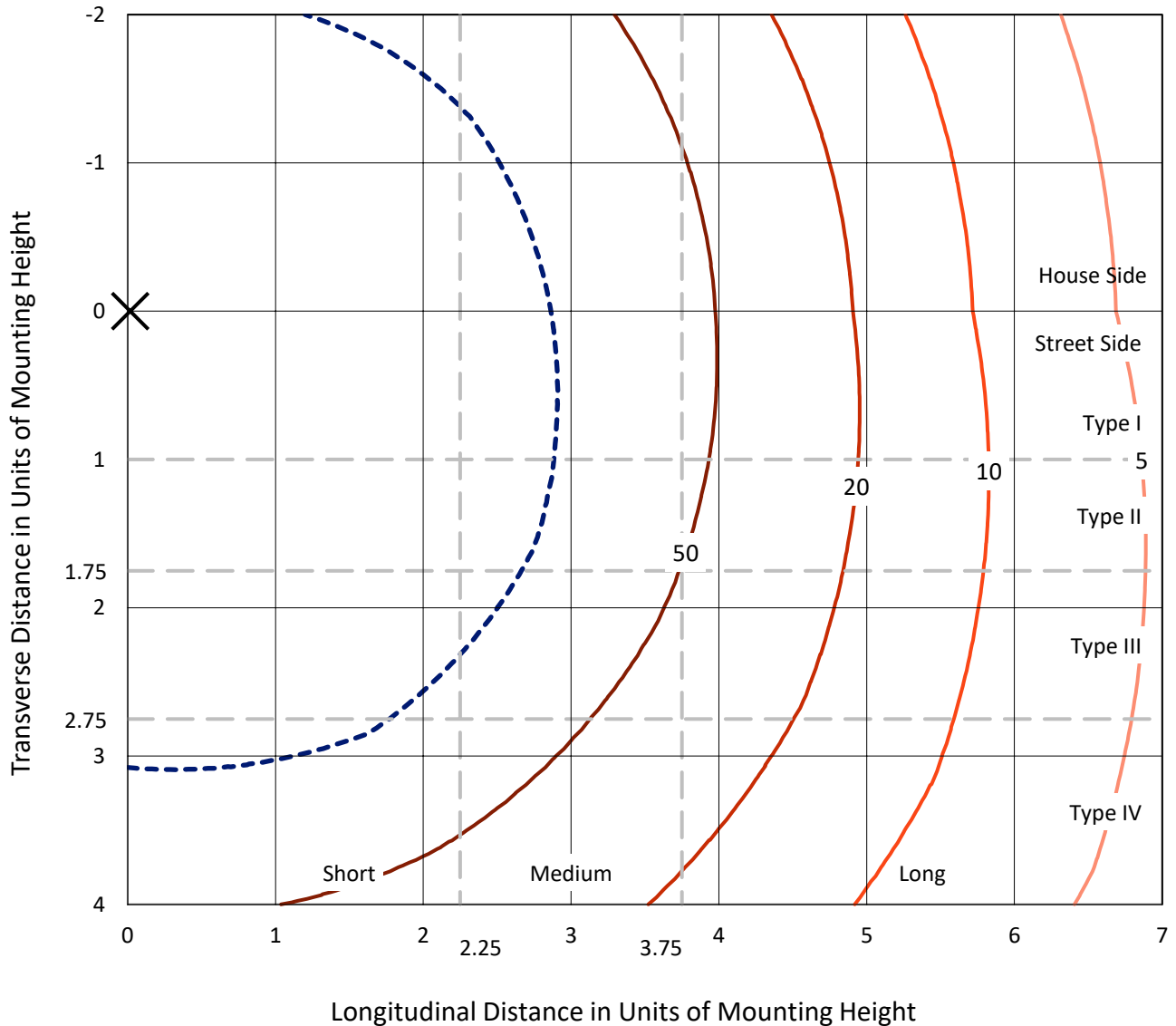
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

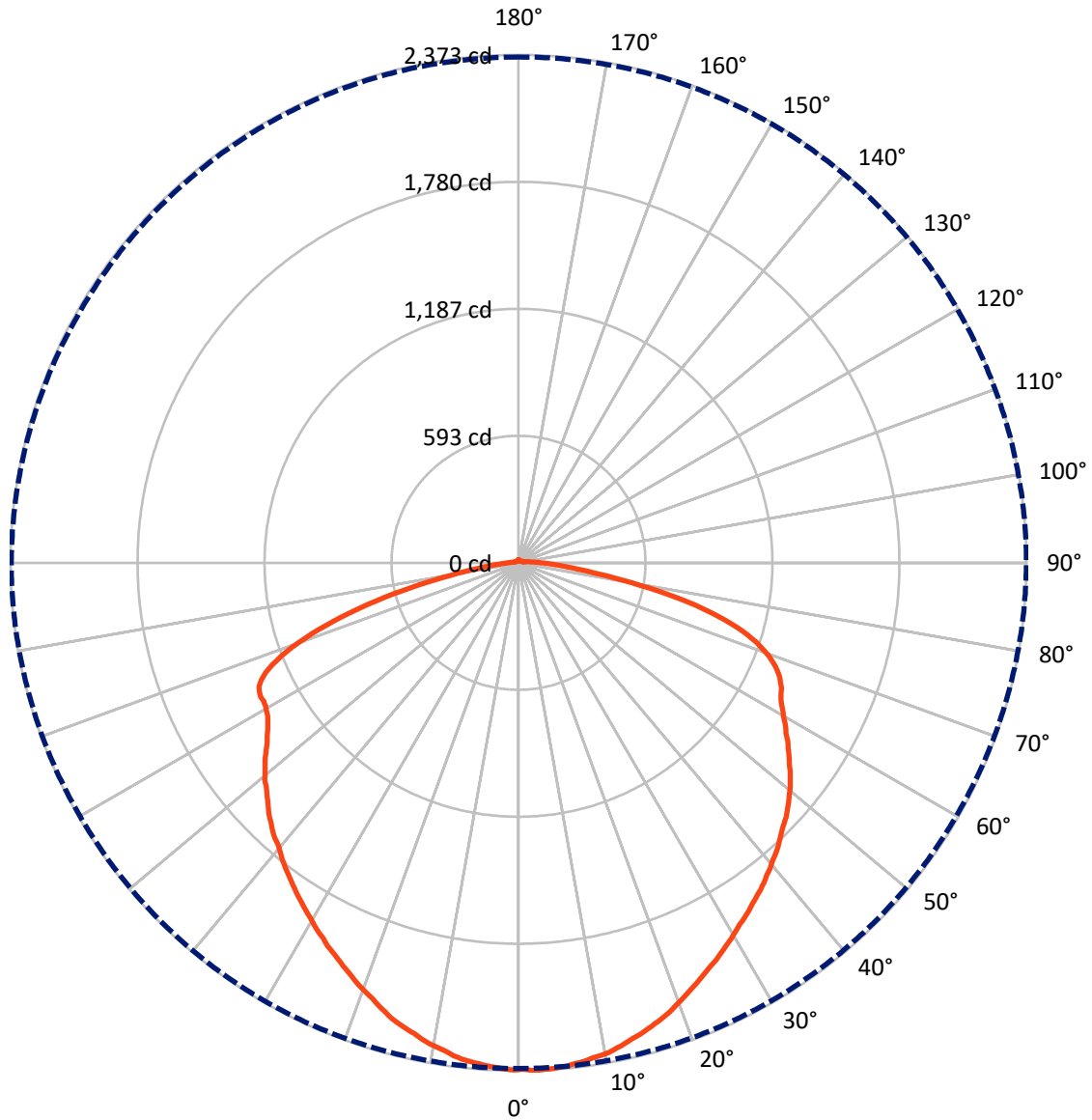
× Max cd
 - - - 1/2 Max cd



Based on 0.5 foot mounting height. Maximum calculated value = 9458.8 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 1-Deg Vertical

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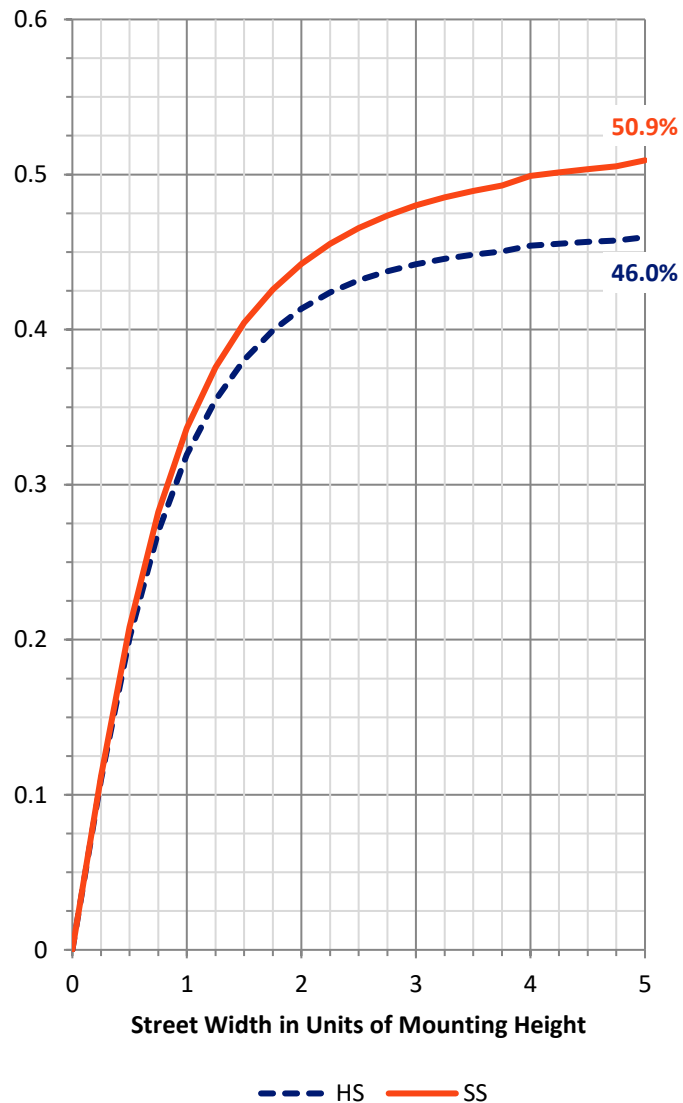
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3813.9	59.4	3873.4
	% Fixture	46.4	0.7	47.2
Street Side	Lumens	4255.4	83.3	4338.6
	% Fixture	51.8	1.0	52.8
Total	Lumens	8069.3	142.7	8212.0
	% Fixture	98.3	1.7	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.7	2.7
10°-20°	633.4	7.7
20°-30°	956.3	11.6
30°-40°	1180.5	14.4
40°-50°	1307.1	15.9
50°-60°	1335.2	16.3
60°-70°	1292.1	15.7
70°-80°	878.9	10.7
80°-90°	263.2	3.2
90°-100°	56.7	0.7
100°-110°	26.3	0.3
110°-120°	20.2	0.2
120°-130°	14.0	0.2
130°-140°	8.9	0.1
140°-150°	6.6	0.1
150°-160°	5.2	0.1
160°-170°	3.4	0.0
170°-180°	1.2	0.0
0°-90°	8069.3	98.3
0°-180°	8212.0	100.0

Coefficient of Utilization



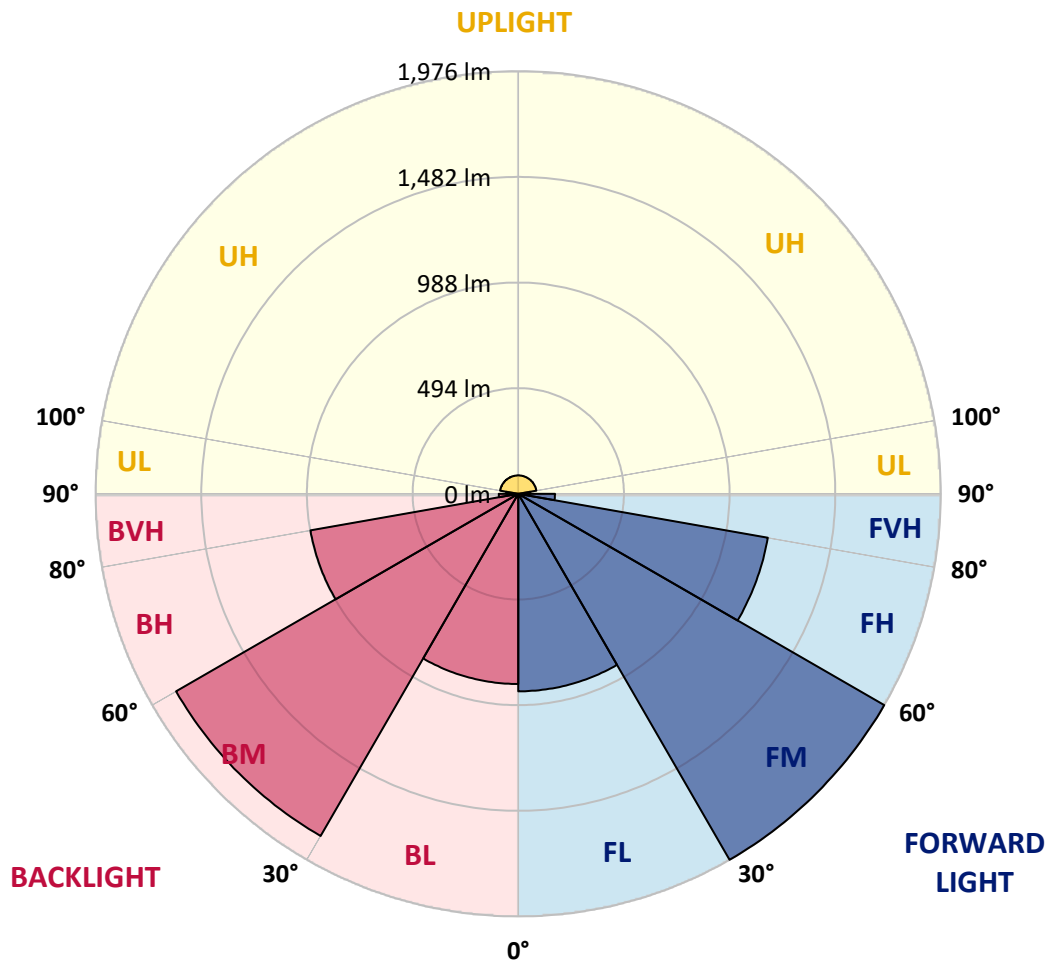
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	923.3	11.2			
FM	(30°-60°)	1975.6	24.1			
FH	(60°-80°)	1184.6	14.4			G1/1800
FVH	(80°-90°)	171.8	2.1			G2/225
BL	(0°-30°)	889.0	10.8	B2/1000		
BM	(30°-60°)	1847.2	22.5	B2/2500		
BH	(60°-80°)	986.3	12.0	B2/1000		G2/1000
BVH	(80°-90°)	91.3	1.1			G1/100
UL	(90°-100°)	56.7	0.7		U3/500	
UH	(100°-180°)	86.0	1.0		U3/500	

BUG Rating: B2-U3-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	2364.7	2364.7	2364.7	2364.7	2364.7	2364.7	2364.7	2364.7	2364.7	2364.7	2364.7
1°	2362.6	2362.7	2362.7	2373.2	2368.4	2367.4	2363.1	2363.1	2361.0	2370.1	2366.3
2°	2368.0	2366.7	2367.7	2371.8	2370.7	2362.1	2357.6	2358.4	2357.5	2366.6	2363.7
3°	2367.3	2366.4	2366.1	2369.2	2364.0	2356.6	2349.6	2343.6	2352.2	2360.5	2361.5
4°	2366.0	2364.4	2357.6	2365.5	2359.8	2347.6	2335.8	2338.2	2338.9	2355.7	2355.7
5°	2363.7	2367.1	2361.2	2362.6	2352.9	2334.3	2322.1	2323.6	2333.3	2348.2	2352.0
6°	2362.0	2362.5	2356.5	2354.5	2343.5	2322.2	2306.4	2303.4	2323.1	2340.8	2348.5
7°	2349.7	2353.6	2358.0	2348.8	2334.0	2307.1	2293.8	2296.4	2312.3	2333.8	2340.2
8°	2341.4	2348.8	2348.7	2339.6	2320.9	2296.5	2294.2	2282.2	2299.9	2322.3	2339.1
9°	2336.6	2335.8	2347.1	2333.9	2312.5	2283.4	2284.3	2275.7	2286.4	2306.3	2329.8
10°	2327.8	2331.3	2333.6	2325.6	2303.1	2278.9	2272.7	2273.7	2274.9	2295.5	2319.4
11°	2335.6	2323.2	2329.1	2312.7	2291.4	2268.7	2273.4	2257.8	2260.2	2284.5	2309.6
12°	2328.5	2325.2	2324.0	2300.5	2275.9	2265.5	2254.8	2249.9	2241.5	2270.3	2299.1
13°	2325.3	2326.8	2311.3	2285.2	2264.3	2254.5	2244.2	2235.6	2223.6	2252.8	2285.0
14°	2322.6	2313.7	2303.7	2274.4	2249.9	2241.0	2216.6	2226.5	2205.3	2239.3	2268.0
15°	2313.8	2302.6	2294.9	2260.2	2230.5	2223.9	2198.7	2196.7	2188.5	2225.9	2253.7
16°	2293.3	2297.0	2274.7	2245.3	2215.4	2201.7	2167.8	2179.4	2171.7	2209.5	2240.4
17°	2270.7	2283.4	2259.3	2231.7	2195.7	2180.9	2152.7	2155.5	2153.0	2190.4	2224.8
18°	2251.8	2266.5	2236.9	2216.0	2175.9	2154.3	2142.8	2131.1	2143.3	2170.2	2205.8
19°	2235.9	2250.0	2225.0	2196.2	2161.8	2134.4	2131.9	2116.1	2121.6	2147.4	2192.0
20°	2232.1	2236.7	2215.6	2177.8	2144.8	2120.6	2117.7	2092.5	2100.1	2130.3	2174.9
21°	2226.4	2215.7	2199.9	2159.4	2129.6	2106.4	2100.6	2082.2	2085.5	2113.8	2156.0
22°	2218.8	2208.0	2184.8	2141.5	2110.2	2084.7	2068.9	2053.7	2061.6	2093.4	2137.3
23°	2201.3	2198.3	2171.1	2123.1	2093.0	2067.6	2040.5	2045.2	2042.7	2072.0	2121.2
24°	2192.1	2186.7	2154.7	2104.2	2071.6	2044.0	2013.3	2022.0	2021.0	2054.4	2100.4
25°	2166.7	2173.5	2136.5	2086.0	2052.0	2020.3	1994.8	1998.5	2000.0	2033.8	2079.9
26°	2147.0	2152.3	2115.9	2071.6	2032.2	2005.5	1973.9	1969.1	1980.6	2015.6	2066.1
27°	2121.6	2131.3	2097.9	2052.5	2010.7	1975.2	1951.2	1948.9	1960.4	1999.5	2042.1
28°	2100.0	2107.3	2081.3	2035.0	1992.2	1952.4	1942.1	1924.5	1943.2	1976.8	2025.6
29°	2080.8	2088.8	2065.0	2017.4	1974.8	1930.3	1919.1	1907.1	1922.9	1960.8	2006.4
30°	2071.7	2072.1	2047.7	1999.0	1955.8	1915.1	1908.2	1885.7	1902.4	1940.8	1988.9
31°	2056.8	2054.0	2033.2	1980.7	1937.1	1896.3	1880.8	1875.2	1881.8	1920.4	1970.4
32°	2037.6	2033.6	2017.9	1965.2	1917.2	1878.9	1859.2	1854.7	1863.8	1902.9	1952.9
33°	2014.7	2019.1	2003.0	1950.5	1898.4	1860.5	1829.5	1838.0	1842.6	1884.1	1936.8
34°	1992.4	1999.1	1978.1	1931.8	1878.1	1837.2	1806.5	1817.3	1817.9	1867.1	1917.5
35°	1970.2	1983.6	1960.4	1915.6	1858.1	1821.0	1789.3	1797.8	1802.0	1847.5	1899.8
36°	1946.6	1953.3	1948.2	1900.4	1838.9	1807.1	1768.2	1778.6	1779.9	1827.5	1877.9
37°	1922.8	1941.7	1925.8	1883.3	1822.4	1785.8	1749.0	1757.9	1759.0	1809.3	1855.6
38°	1910.5	1923.2	1910.9	1863.9	1799.5	1768.2	1735.6	1741.7	1737.7	1791.2	1833.9
39°	1894.1	1906.1	1892.8	1848.4	1783.1	1752.3	1714.7	1727.4	1722.1	1772.5	1817.4
40°	1880.2	1887.1	1870.2	1829.4	1764.1	1730.4	1697.3	1705.6	1702.1	1750.3	1800.7
41°	1862.4	1868.0	1855.6	1813.3	1745.7	1707.3	1673.2	1680.2	1679.3	1730.4	1785.5
42°	1845.3	1847.2	1836.0	1795.9	1729.2	1691.1	1655.0	1656.0	1660.8	1718.8	1764.6
43°	1820.5	1817.2	1818.1	1776.3	1711.3	1667.4	1630.8	1639.2	1642.0	1700.3	1747.8
44°	1789.3	1805.1	1801.2	1755.1	1693.2	1644.0	1607.2	1620.4	1619.7	1678.5	1726.4



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	1766.5	1791.7	1777.8	1739.0	1674.9	1626.4	1579.7	1605.7	1604.4	1660.4	1704.1
46°	1751.5	1770.1	1761.2	1723.7	1655.8	1601.2	1557.8	1580.3	1585.8	1639.2	1685.1
47°	1728.1	1752.7	1733.8	1704.3	1634.7	1583.3	1538.8	1559.6	1572.9	1615.6	1666.5
48°	1708.4	1730.7	1718.5	1684.8	1615.2	1566.4	1523.1	1538.3	1552.1	1594.9	1645.9
49°	1700.0	1707.7	1695.8	1664.5	1595.5	1546.3	1506.1	1516.8	1532.0	1574.3	1627.2
50°	1677.7	1684.6	1679.7	1645.2	1579.4	1521.8	1497.7	1493.7	1509.3	1558.8	1610.5
51°	1656.5	1672.3	1659.4	1622.1	1559.6	1502.9	1475.1	1475.0	1490.8	1535.0	1591.0
52°	1630.2	1643.2	1637.0	1599.9	1539.4	1480.7	1447.4	1455.6	1467.6	1513.3	1570.7
53°	1602.4	1622.6	1616.8	1574.3	1520.1	1457.4	1422.3	1446.0	1448.5	1491.2	1549.3
54°	1578.9	1592.2	1590.0	1552.1	1498.5	1441.4	1401.4	1427.6	1434.0	1465.5	1527.9
55°	1558.9	1569.0	1570.6	1529.1	1478.8	1422.2	1388.9	1409.9	1414.1	1441.6	1501.6
56°	1536.4	1552.4	1555.8	1508.3	1460.1	1407.6	1379.4	1394.0	1399.8	1425.6	1483.5
57°	1522.1	1535.9	1525.9	1482.0	1441.7	1390.4	1367.8	1383.0	1384.5	1404.4	1464.2
58°	1496.0	1519.2	1506.8	1464.3	1423.8	1373.2	1351.1	1370.1	1368.7	1388.8	1449.7
59°	1473.5	1500.4	1489.2	1440.5	1404.4	1356.8	1332.6	1357.6	1353.5	1374.5	1433.4
60°	1451.4	1478.0	1468.0	1420.0	1390.5	1342.3	1320.3	1348.7	1343.4	1366.1	1419.7
61°	1436.1	1457.5	1448.2	1400.9	1375.4	1324.0	1305.1	1330.1	1331.7	1358.3	1401.7
62°	1425.6	1436.6	1429.8	1381.9	1360.5	1301.4	1276.4	1319.8	1319.2	1355.0	1384.4
63°	1414.0	1420.4	1411.1	1370.6	1348.8	1283.1	1243.9	1300.3	1304.6	1358.1	1370.2
64°	1413.4	1406.9	1389.8	1361.4	1332.5	1255.4	1216.7	1271.1	1289.9	1352.2	1361.3
65°	1413.1	1394.4	1371.3	1344.9	1314.0	1232.7	1190.5	1234.4	1264.9	1343.2	1350.3
66°	1398.6	1379.0	1359.7	1329.3	1295.8	1206.4	1155.0	1203.2	1231.5	1320.7	1342.5
67°	1353.5	1364.0	1336.7	1306.9	1270.2	1171.8	1111.6	1154.8	1186.0	1288.0	1325.4
68°	1306.2	1348.2	1315.0	1281.2	1238.1	1133.6	1067.1	1105.8	1135.3	1245.7	1304.4
69°	1281.0	1328.8	1298.6	1250.1	1199.2	1091.7	1013.0	1055.0	1075.1	1191.7	1271.7
70°	1265.8	1299.2	1273.2	1212.1	1155.2	1044.4	959.6	986.8	1005.7	1131.4	1232.8
71°	1232.0	1263.9	1241.0	1172.3	1101.7	994.4	901.3	919.9	929.2	1060.6	1181.1
72°	1181.9	1223.4	1208.2	1122.6	1041.1	935.2	838.1	849.8	847.1	985.6	1119.2
73°	1130.9	1184.8	1159.5	1067.6	975.0	869.3	768.5	773.2	765.9	905.0	1049.0
74°	1079.9	1141.0	1113.6	1001.5	902.9	801.9	690.5	695.7	683.0	820.0	972.9
75°	1019.4	1093.1	1061.3	930.3	826.6	729.8	618.7	616.8	600.1	732.8	893.5
76°	947.3	1033.8	1001.8	850.8	746.3	655.9	550.0	535.8	520.7	644.2	807.6
77°	868.5	970.3	937.1	764.2	667.9	585.0	484.2	462.2	446.9	557.9	725.2
78°	789.9	911.1	868.5	671.4	588.2	516.4	420.8	393.3	379.1	472.8	638.9
79°	711.6	843.6	791.9	578.9	515.2	453.3	357.4	332.8	320.0	394.7	558.0
80°	627.9	770.2	722.0	494.4	447.3	395.1	294.5	279.8	268.7	325.2	480.7
81°	545.2	698.3	647.7	417.7	386.6	341.1	241.2	231.9	224.5	267.1	410.7
82°	461.3	628.8	579.8	353.6	332.3	294.3	197.5	193.2	187.1	219.4	348.8
83°	383.9	556.3	513.8	300.8	284.6	249.4	160.9	159.9	155.9	179.6	296.8
84°	313.5	488.0	453.0	253.2	244.4	212.4	132.7	133.1	129.9	147.8	247.8
85°	248.7	422.6	397.4	215.6	208.4	180.1	106.7	111.0	107.7	122.4	208.1
86°	199.9	363.7	345.7	183.9	177.0	152.6	87.5	93.2	90.6	99.6	173.5
87°	162.2	310.9	301.9	157.1	150.2	130.0	73.9	78.8	76.8	83.3	143.8
88°	132.6	264.0	260.2	134.4	128.3	111.3	62.5	67.9	66.2	70.3	118.7
89°	110.1	223.5	221.4	115.7	108.6	96.1	52.8	59.4	57.9	60.2	97.7



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	92.2	187.2	188.2	100.0	93.7	84.5	43.9	52.7	51.6	52.5	80.9
91°	77.7	156.7	159.5	86.9	81.8	75.1	35.0	47.0	46.5	46.5	68.5
92°	64.8	130.6	134.6	75.1	72.6	67.4	27.7	42.4	42.5	41.6	59.1
93°	55.0	108.1	113.8	65.3	65.0	61.2	21.8	38.4	39.3	37.6	52.0
94°	47.2	90.6	97.5	56.7	58.7	55.9	17.2	35.2	36.8	34.3	46.8
95°	40.1	77.2	84.4	48.7	53.4	51.4	13.3	32.1	34.7	31.4	42.6
96°	34.1	66.9	74.7	41.4	49.0	47.7	10.7	29.7	33.1	28.7	39.5
97°	28.9	59.2	66.7	34.8	45.3	44.6	9.8	27.8	31.9	26.2	36.9
98°	24.3	53.2	60.4	29.2	42.3	41.9	9.2	26.1	30.9	23.9	34.9
99°	21.8	48.3	55.1	25.7	39.7	39.6	8.9	24.5	30.2	21.7	33.4
100°	20.8	44.4	50.9	23.8	37.5	37.5	8.8	22.9	29.7	19.4	32.2
101°	20.0	41.2	47.2	22.5	35.6	35.5	8.6	21.2	29.4	17.5	31.4
102°	19.3	38.7	44.2	21.4	34.1	33.5	8.3	19.7	29.1	16.4	30.7
103°	18.8	36.6	41.8	20.5	32.9	31.6	7.9	18.0	28.9	15.9	30.2
104°	18.2	35.0	39.8	19.9	31.8	29.7	7.4	16.5	28.7	15.5	29.9
105°	17.2	33.7	38.2	19.7	30.9	27.7	7.2	14.9	28.4	15.2	29.8
106°	16.0	32.8	36.8	19.5	30.2	25.9	7.1	13.6	28.1	15.1	29.7
107°	15.0	32.0	35.7	19.3	29.4	24.1	7.1	12.6	27.6	15.0	29.7
108°	13.9	31.5	34.8	19.1	28.7	22.3	7.2	12.6	27.2	15.0	29.8
109°	13.1	31.0	34.2	19.0	27.9	20.8	7.3	12.7	26.7	15.2	29.9
110°	13.2	30.7	33.6	18.9	27.2	19.5	7.5	12.8	26.1	15.5	29.8
111°	14.1	30.4	33.1	18.9	26.5	18.4	7.6	12.8	25.4	15.6	29.7
112°	14.9	30.2	32.6	19.0	25.7	17.6	7.7	12.8	24.4	15.6	29.5
113°	15.2	29.9	32.2	19.0	24.9	16.8	7.8	12.5	23.2	15.5	29.2
114°	15.4	29.7	31.8	18.9	24.1	16.2	8.0	12.2	21.8	15.4	28.9
115°	15.3	29.3	31.3	18.7	23.3	15.5	8.1	11.9	20.6	15.2	28.4
116°	15.3	29.1	30.8	18.4	22.4	15.0	8.2	11.6	19.5	14.9	27.8
117°	15.3	28.6	30.3	18.1	21.6	14.4	8.4	11.3	18.6	14.6	27.2
118°	15.3	28.1	29.7	17.8	20.7	13.9	8.5	11.1	18.0	14.3	26.5
119°	15.3	27.6	29.0	17.4	19.8	13.4	8.6	10.9	17.4	13.9	25.7
120°	15.1	27.0	28.3	17.1	18.9	13.0	8.7	10.6	16.8	13.5	24.8
121°	15.0	26.3	27.5	16.7	18.0	12.5	8.8	10.4	16.1	13.2	23.9
122°	14.8	25.6	26.8	16.3	17.2	12.1	9.0	10.3	15.3	12.9	22.9
123°	14.5	24.7	25.8	15.9	16.4	11.8	9.1	10.1	14.6	12.6	21.9
124°	14.2	23.8	24.9	15.5	15.6	11.5	9.2	10.0	14.0	12.3	20.9
125°	13.9	22.9	23.9	15.0	14.9	11.2	9.3	9.9	13.3	12.0	19.9
126°	13.5	21.9	22.9	14.6	14.3	10.9	9.4	9.8	12.8	11.8	18.9
127°	12.9	21.0	21.8	14.1	13.7	10.7	9.5	9.7	12.0	11.5	17.9
128°	12.3	20.0	20.8	13.7	13.2	10.5	9.6	9.7	10.9	11.3	17.0
129°	11.6	19.0	19.8	13.3	12.7	10.3	9.7	9.6	10.7	11.1	16.1
130°	11.1	18.1	18.8	12.8	12.3	10.2	9.8	9.7	10.9	10.9	15.3
131°	10.7	17.2	17.8	12.2	11.9	10.1	9.9	9.7	11.0	10.7	14.5
132°	10.6	16.3	16.9	11.7	11.6	10.0	10.0	9.8	10.8	10.5	13.8
133°	10.7	15.5	16.0	11.5	11.3	9.9	10.1	9.9	10.6	10.3	13.2
134°	10.8	14.8	15.2	11.3	11.1	9.9	10.2	10.0	10.4	10.2	12.6



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
135°	10.8	14.1	14.4	11.0	10.9	9.9	10.2	10.1	10.3	10.1	12.1
136°	10.7	13.4	13.7	10.7	10.7	10.0	10.3	10.2	10.3	10.0	11.6
137°	10.5	12.8	13.0	10.5	10.5	10.1	10.4	10.2	10.2	10.0	11.2
138°	10.3	12.3	12.4	10.3	10.4	10.2	10.5	10.3	10.2	10.0	10.8
139°	10.2	11.8	11.8	10.2	10.3	10.2	10.5	10.4	10.3	10.1	10.5
140°	10.1	11.4	11.3	10.2	10.3	10.3	10.6	10.5	10.4	10.2	10.3
141°	10.0	11.0	10.8	10.1	10.3	10.4	10.7	10.6	10.5	10.3	10.2
142°	10.0	10.7	10.4	10.2	10.3	10.5	10.7	10.7	10.5	10.3	10.1
143°	10.0	10.4	10.1	10.2	10.4	10.6	10.8	10.8	10.6	10.4	10.2
144°	10.0	10.2	9.9	10.3	10.5	10.7	10.9	10.9	10.7	10.5	10.3
145°	10.1	10.1	9.9	10.4	10.6	10.8	11.0	10.9	10.8	10.6	10.4
146°	10.2	10.1	9.9	10.5	10.7	10.9	11.0	11.0	10.9	10.7	10.5
147°	10.3	10.1	10.0	10.6	10.8	11.0	11.1	11.1	11.0	10.7	10.6
148°	10.4	10.2	10.1	10.7	10.8	11.0	11.2	11.2	11.0	10.8	10.7
149°	10.5	10.3	10.2	10.8	10.9	11.1	11.3	11.3	11.1	10.9	10.8
150°	10.6	10.4	10.3	10.9	11.0	11.2	11.3	11.3	11.2	11.0	10.9
151°	10.7	10.5	10.3	10.9	11.1	11.3	11.4	11.4	11.3	11.1	11.0
152°	10.7	10.6	10.4	11.0	11.1	11.4	11.5	11.4	11.4	11.2	11.1
153°	10.8	10.7	10.5	11.1	11.2	11.5	11.6	11.5	11.5	11.3	11.2
154°	10.9	10.8	10.6	11.2	11.3	11.6	11.6	11.6	11.5	11.4	11.3
155°	11.0	10.9	10.7	11.3	11.4	11.7	11.7	11.6	11.6	11.4	11.3
156°	11.1	11.0	10.8	11.4	11.5	11.7	11.8	11.7	11.7	11.5	11.4
157°	11.2	11.1	10.9	11.5	11.5	11.8	11.9	11.8	11.8	11.6	11.5
158°	11.3	11.2	11.0	11.6	11.6	11.9	12.0	11.8	11.8	11.7	11.6
159°	11.4	11.3	11.1	11.7	11.7	12.0	12.0	11.9	11.9	11.8	11.7
160°	11.5	11.4	11.2	11.8	11.8	12.0	12.1	11.9	11.9	11.9	11.8
161°	11.6	11.4	11.3	11.9	11.8	12.1	12.2	12.0	12.0	12.0	11.9
162°	11.7	11.5	11.3	12.0	11.9	12.2	12.3	12.1	12.1	12.0	11.9
163°	11.8	11.6	11.4	12.1	12.0	12.2	12.3	12.1	12.1	12.1	12.0
164°	11.9	11.7	11.5	12.2	12.1	12.3	12.4	12.2	12.2	12.2	12.1
165°	12.0	11.8	11.6	12.3	12.1	12.3	12.5	12.2	12.2	12.3	12.2
166°	12.1	11.9	11.7	12.4	12.2	12.4	12.5	12.3	12.3	12.4	12.3
167°	12.2	11.9	11.8	12.4	12.3	12.5	12.6	12.3	12.3	12.5	12.3
168°	12.3	12.0	11.8	12.5	12.4	12.5	12.7	12.4	12.4	12.5	12.4
169°	12.4	12.1	11.9	12.6	12.4	12.6	12.7	12.4	12.4	12.6	12.5
170°	12.5	12.2	12.0	12.7	12.5	12.6	12.8	12.5	12.5	12.7	12.5
171°	12.5	12.2	12.1	12.8	12.5	12.7	12.9	12.5	12.5	12.8	12.6
172°	12.6	12.3	12.2	12.9	12.6	12.7	12.9	12.6	12.6	12.9	12.7
173°	12.7	12.4	12.3	12.9	12.7	12.8	12.9	12.6	12.6	12.9	12.7
174°	12.8	12.5	12.3	13.0	12.7	12.8	13.0	12.6	12.6	13.0	12.8
175°	12.8	12.5	12.4	13.1	12.8	12.8	13.0	12.7	12.7	13.1	12.8
176°	12.9	12.6	12.5	13.1	12.8	12.8	13.1	12.7	12.7	13.1	12.9
177°	12.9	12.6	12.5	13.2	12.9	12.9	13.1	12.7	12.7	13.2	12.9
178°	13.0	12.7	12.6	13.2	12.9	12.9	13.1	12.8	12.7	13.2	12.9
179°	13.0	12.7	12.6	13.2	12.9	12.9	13.1	12.8	12.7	13.2	12.9



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
180°	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1



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CATALOG NUMBER: ALP90LSFSUNVDGY-60W-3000K

CANDELA DISTRIBUTION (continued):

	330°	360°
0°	2364.7	2364.7
1°	2365.8	2362.6
2°	2364.7	2368.0
3°	2363.0	2367.3
4°	2365.3	2366.0
5°	2363.4	2363.7
6°	2353.9	2362.0
7°	2344.0	2349.7
8°	2338.9	2341.4
9°	2335.9	2336.6
10°	2326.5	2327.8
11°	2324.7	2335.6
12°	2311.0	2328.5
13°	2303.4	2325.3
14°	2297.4	2322.6
15°	2290.7	2313.8
16°	2277.4	2293.3
17°	2262.0	2270.7
18°	2244.7	2251.8
19°	2227.2	2235.9
20°	2210.4	2232.1
21°	2196.7	2226.4
22°	2183.0	2218.8
23°	2168.1	2201.3
24°	2153.9	2192.1
25°	2136.1	2166.7
26°	2119.8	2147.0
27°	2097.6	2121.6
28°	2076.9	2100.0
29°	2061.3	2080.8
30°	2038.0	2071.7
31°	2017.9	2056.8
32°	2003.7	2037.6
33°	1985.8	2014.7
34°	1973.3	1992.4
35°	1957.3	1970.2
36°	1935.8	1946.6
37°	1913.9	1922.8
38°	1890.3	1910.5
39°	1871.0	1894.1
40°	1850.7	1880.2
41°	1832.5	1862.4
42°	1815.0	1845.3
43°	1796.7	1820.5
44°	1778.5	1789.3



REPORT NUMBER: P670469
CATALOG NUMBER: ALP90LSFSUNVDGY-60W-3000K

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	1759.9	1766.5
46°	1737.6	1751.5
47°	1721.2	1728.1
48°	1696.7	1708.4
49°	1668.5	1700.0
50°	1648.5	1677.7
51°	1626.1	1656.5
52°	1606.1	1630.2
53°	1585.3	1602.4
54°	1566.7	1578.9
55°	1545.1	1558.9
56°	1515.5	1536.4
57°	1493.8	1522.1
58°	1476.2	1496.0
59°	1461.1	1473.5
60°	1448.4	1451.4
61°	1429.5	1436.1
62°	1414.3	1425.6
63°	1400.0	1414.0
64°	1386.3	1413.4
65°	1378.8	1413.1
66°	1364.7	1398.6
67°	1348.6	1353.5
68°	1331.3	1306.2
69°	1303.3	1281.0
70°	1266.3	1265.8
71°	1223.0	1232.0
72°	1177.7	1181.9
73°	1119.4	1130.9
74°	1069.0	1079.9
75°	1008.6	1019.4
76°	943.7	947.3
77°	875.2	868.5
78°	798.1	789.9
79°	715.8	711.6
80°	631.6	627.9
81°	547.1	545.2
82°	468.9	461.3
83°	397.1	383.9
84°	335.4	313.5
85°	282.2	248.7
86°	238.2	199.9
87°	199.9	162.2
88°	166.9	132.6
89°	138.1	110.1



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CANDELA DISTRIBUTION (continued):

	330°	360°
90°	113.4	92.2
91°	93.6	77.7
92°	77.5	64.8
93°	65.1	55.0
94°	55.9	47.2
95°	49.2	40.1
96°	44.0	34.1
97°	40.2	28.9
98°	37.2	24.3
99°	35.0	21.8
100°	33.2	20.8
101°	31.9	20.0
102°	30.8	19.3
103°	30.1	18.8
104°	29.5	18.2
105°	29.2	17.2
106°	29.0	16.0
107°	28.8	15.0
108°	28.8	13.9
109°	28.7	13.1
110°	28.7	13.2
111°	28.6	14.1
112°	28.5	14.9
113°	28.4	15.2
114°	28.2	15.4
115°	27.9	15.3
116°	27.5	15.3
117°	27.1	15.3
118°	26.6	15.3
119°	25.9	15.3
120°	25.3	15.1
121°	24.4	15.0
122°	23.6	14.8
123°	22.7	14.5
124°	21.8	14.2
125°	20.8	13.9
126°	19.9	13.5
127°	18.9	12.9
128°	17.9	12.3
129°	17.1	11.6
130°	16.2	11.1
131°	15.4	10.7
132°	14.6	10.6
133°	14.0	10.7
134°	13.3	10.8



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CANDELA DISTRIBUTION (continued):

	330°	360°
135°	12.8	10.8
136°	12.3	10.7
137°	11.8	10.5
138°	11.4	10.3
139°	11.1	10.2
140°	10.8	10.1
141°	10.5	10.0
142°	10.3	10.0
143°	10.2	10.0
144°	10.1	10.0
145°	10.2	10.1
146°	10.3	10.2
147°	10.3	10.3
148°	10.4	10.4
149°	10.5	10.5
150°	10.6	10.6
151°	10.6	10.7
152°	10.7	10.7
153°	10.8	10.8
154°	10.9	10.9
155°	11.0	11.0
156°	11.1	11.1
157°	11.2	11.2
158°	11.3	11.3
159°	11.4	11.4
160°	11.4	11.5
161°	11.5	11.6
162°	11.6	11.7
163°	11.7	11.8
164°	11.8	11.9
165°	11.9	12.0
166°	12.0	12.1
167°	12.0	12.2
168°	12.1	12.3
169°	12.2	12.4
170°	12.3	12.5
171°	12.3	12.5
172°	12.4	12.6
173°	12.5	12.7
174°	12.6	12.8
175°	12.6	12.8
176°	12.7	12.9
177°	12.7	12.9
178°	12.8	13.0
179°	12.8	13.0



REPORT NUMBER: P670469
CATALOG NUMBER: ALP90LSFSUNVDGY-60W-3000K

CANDELA DISTRIBUTION (continued):

	330°	360°
180°	13.1	13.1

(END OF REPORT)