

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: P670465

Luminaire Tested: ALP90LSFSUNVDGY-28W-5000K

Issue Date: 3/29/2023

Test Information

Test Method: LM-79-2019
Report Number: P670465
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-28W-5000K
Description: ALP Premium Area Light
Light Source: 5000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4829 lumens
Efficiency: N/A
Efficacy: 168.3 lumens/watt
Luminous Opening: Circular (Dia: 0.66' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U3 - G2

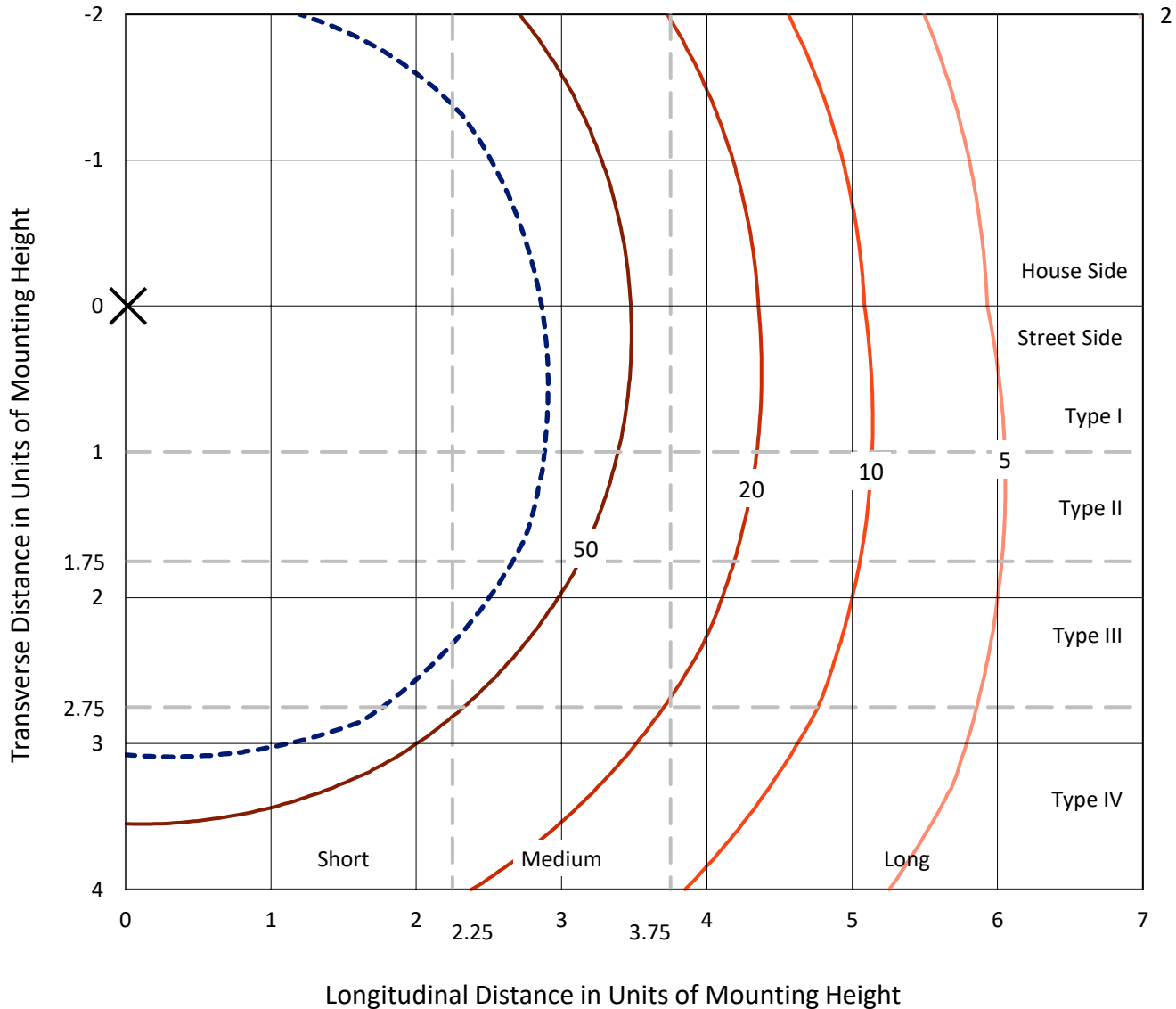
Input Watts (W): 28.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

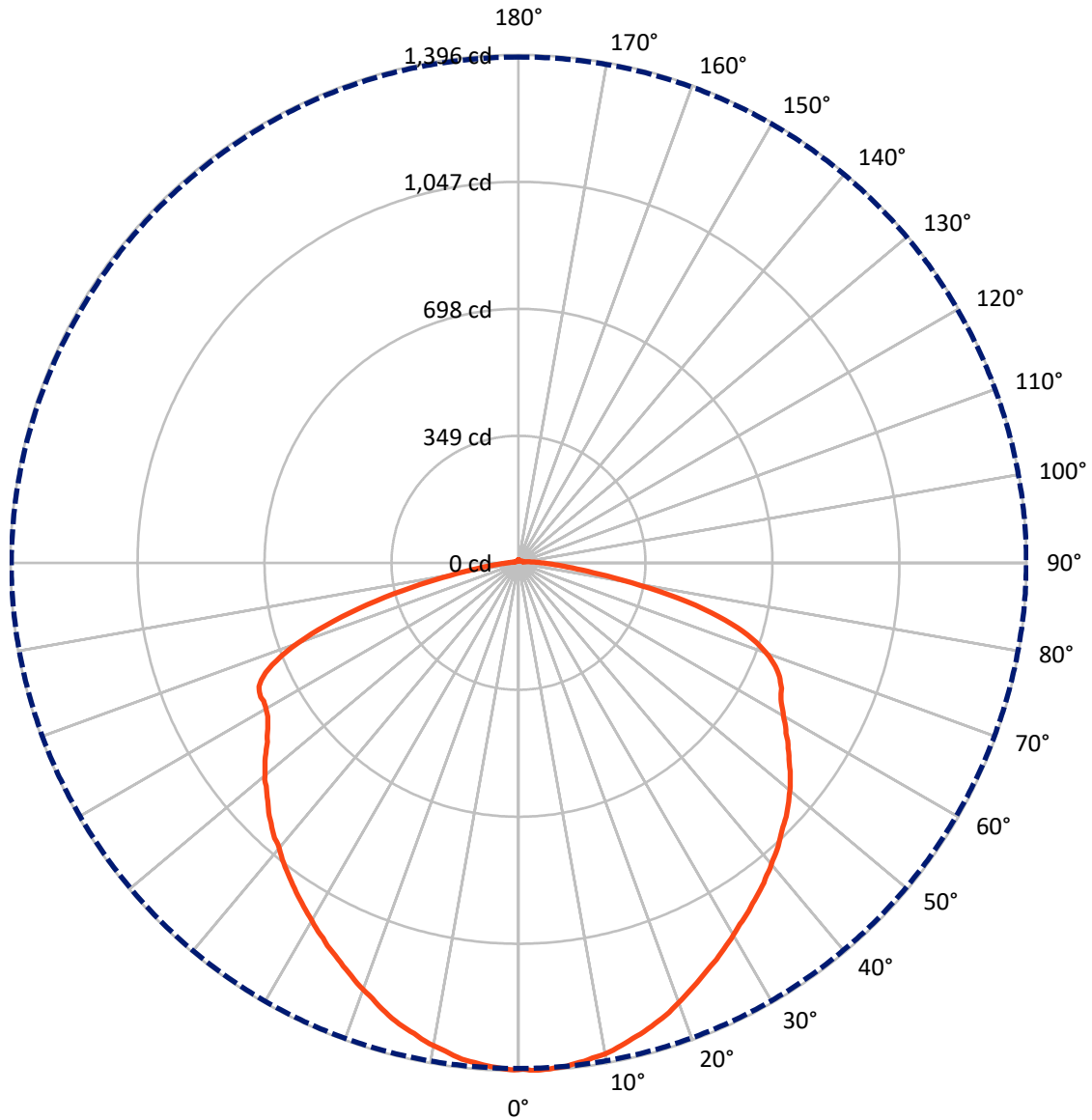
× Max cd
 - - - 1/2 Max cd



Based on 0.5 foot mounting height. Maximum calculated value = 5562.4 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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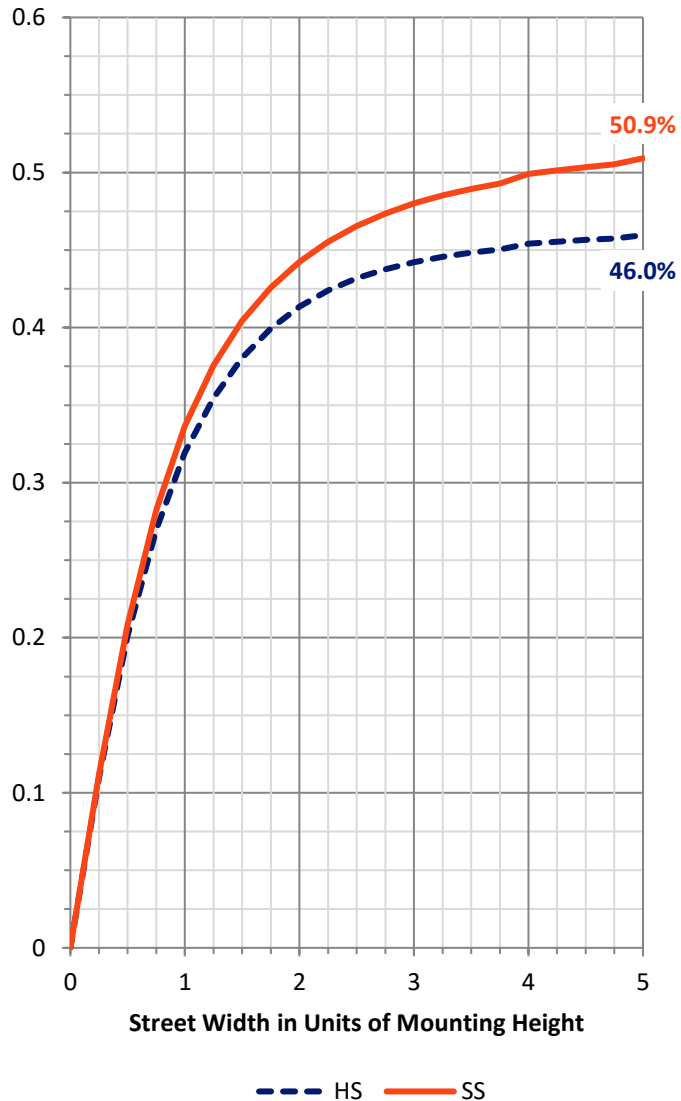
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2242.8	35.0	2277.7
	% Fixture	46.4	0.7	47.2
Street Side	Lumens	2502.3	49.0	2551.3
	% Fixture	51.8	1.0	52.8
Total	Lumens	4745.1	83.9	4829.0
	% Fixture	98.3	1.7	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.9	2.7
10°-20°	372.5	7.7
20°-30°	562.3	11.6
30°-40°	694.2	14.4
40°-50°	768.7	15.9
50°-60°	785.2	16.3
60°-70°	759.8	15.7
70°-80°	516.8	10.7
80°-90°	154.7	3.2
90°-100°	33.3	0.7
100°-110°	15.5	0.3
110°-120°	11.9	0.2
120°-130°	8.2	0.2
130°-140°	5.2	0.1
140°-150°	3.9	0.1
150°-160°	3.1	0.1
160°-170°	2.0	0.0
170°-180°	0.7	0.0
0°-90°	4745.1	98.3
0°-180°	4829.0	100.0

Coefficient of Utilization



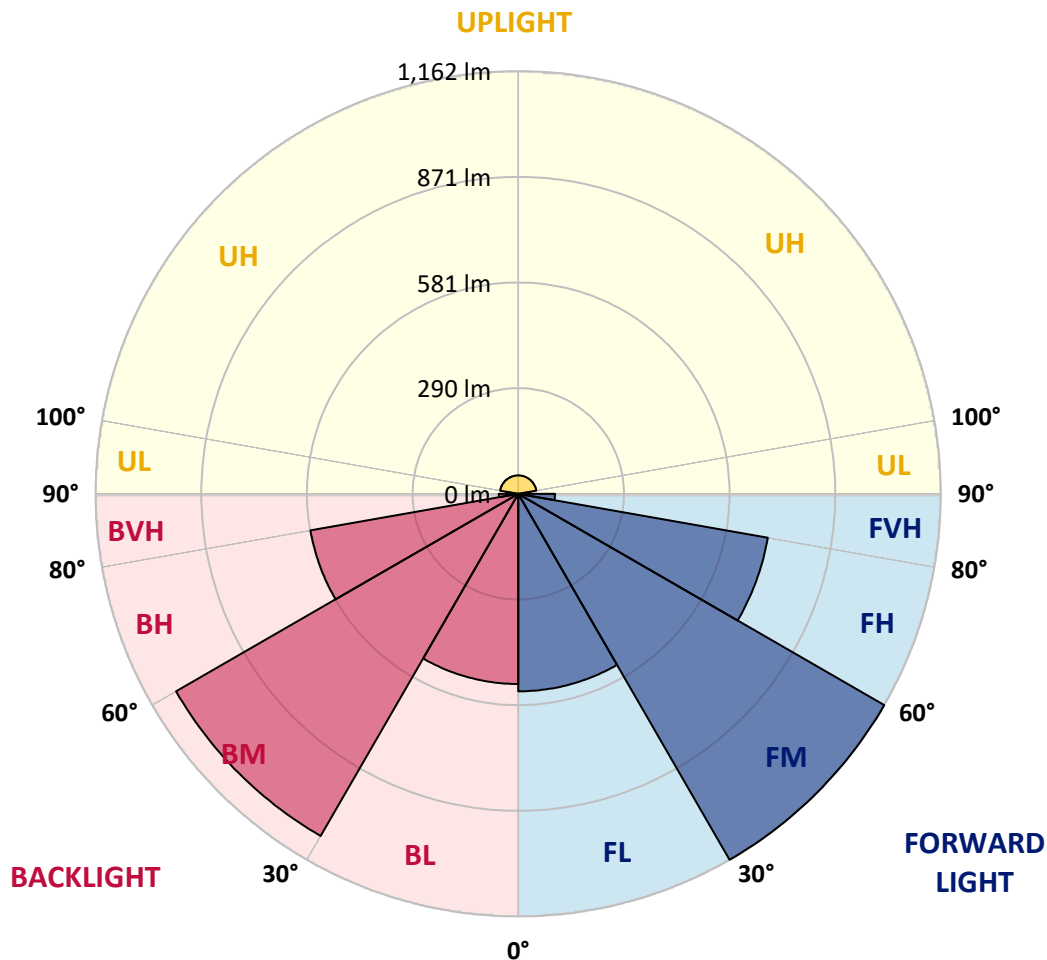
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	542.9	11.2			
FM (30°-60°)	1161.8	24.1			
FH (60°-80°)	696.6	14.4			G1/1800
FVH (80°-90°)	101.0	2.1			G2/225
BL (0°-30°)	522.8	10.8	B2/1000		
BM (30°-60°)	1086.3	22.5	B2/2500		
BH (60°-80°)	580.0	12.0	B2/1000		G2/1000
BVH (80°-90°)	53.7	1.1			G1/100
UL (90°-100°)	33.3	0.7		U2/50	
UH (100°-180°)	50.6	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°	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6
1°	1389.3	1389.4	1389.4	1395.6	1392.7	1392.1	1389.6	1389.6	1388.4	1393.7	1391.5
2°	1392.5	1391.7	1392.3	1394.7	1394.1	1389.0	1386.4	1386.9	1386.3	1391.7	1389.9
3°	1392.1	1391.6	1391.4	1393.2	1390.1	1385.8	1381.6	1378.1	1383.2	1388.0	1388.6
4°	1391.3	1390.3	1386.4	1391.0	1387.7	1380.5	1373.6	1374.9	1375.4	1385.2	1385.3
5°	1390.0	1392.0	1388.5	1389.3	1383.6	1372.7	1365.5	1366.4	1372.1	1380.8	1383.1
6°	1388.9	1389.2	1385.7	1384.6	1378.1	1365.6	1356.2	1354.5	1366.1	1376.5	1381.0
7°	1381.7	1384.0	1386.6	1381.2	1372.5	1356.7	1348.9	1350.4	1359.7	1372.4	1376.1
8°	1376.9	1381.2	1381.1	1375.8	1364.8	1350.4	1349.1	1342.0	1352.4	1365.6	1375.5
9°	1374.0	1373.6	1380.2	1372.4	1359.9	1342.7	1343.3	1338.2	1344.5	1356.2	1370.0
10°	1368.9	1370.9	1372.2	1367.5	1354.3	1340.1	1336.4	1337.0	1337.8	1349.8	1363.9
11°	1373.4	1366.1	1369.6	1360.0	1347.5	1334.1	1336.9	1327.7	1329.1	1343.4	1358.1
12°	1369.3	1367.3	1366.6	1352.8	1338.3	1332.2	1325.9	1323.0	1318.1	1335.1	1352.0
13°	1367.4	1368.2	1359.2	1343.8	1331.5	1325.8	1319.7	1314.7	1307.6	1324.7	1343.7
14°	1365.8	1360.6	1354.7	1337.4	1323.0	1317.8	1303.4	1309.3	1296.8	1316.8	1333.7
15°	1360.6	1354.0	1349.5	1329.1	1311.6	1307.8	1292.9	1291.7	1287.0	1308.9	1325.3
16°	1348.6	1350.7	1337.6	1320.3	1302.7	1294.7	1274.8	1281.6	1277.1	1299.3	1317.4
17°	1335.3	1342.7	1328.5	1312.3	1291.2	1282.4	1265.9	1267.5	1266.1	1288.0	1308.3
18°	1324.1	1332.8	1315.4	1303.1	1279.5	1266.8	1260.1	1253.2	1260.3	1276.2	1297.1
19°	1314.8	1323.1	1308.4	1291.4	1271.2	1255.1	1253.7	1244.4	1247.6	1262.7	1289.0
20°	1312.6	1315.3	1302.9	1280.6	1261.2	1247.0	1245.3	1230.5	1234.9	1252.7	1278.9
21°	1309.2	1302.9	1293.6	1269.8	1252.3	1238.7	1235.2	1224.4	1226.4	1243.0	1267.8
22°	1304.7	1298.4	1284.7	1259.3	1240.9	1225.9	1216.6	1207.7	1212.3	1231.0	1256.8
23°	1294.5	1292.7	1276.7	1248.4	1230.8	1215.8	1199.9	1202.7	1201.2	1218.4	1247.3
24°	1289.1	1285.9	1267.1	1237.3	1218.2	1201.9	1183.9	1189.0	1188.4	1208.1	1235.1
25°	1274.1	1278.1	1256.4	1226.7	1206.7	1188.0	1173.0	1175.2	1176.1	1196.0	1223.1
26°	1262.5	1265.6	1244.2	1218.2	1195.0	1179.3	1160.8	1157.9	1164.7	1185.3	1215.0
27°	1247.6	1253.3	1233.7	1207.0	1182.4	1161.5	1147.4	1146.1	1152.8	1175.8	1200.8
28°	1234.9	1239.2	1223.9	1196.6	1171.5	1148.1	1142.0	1131.7	1142.7	1162.5	1191.1
29°	1223.6	1228.3	1214.3	1186.3	1161.2	1135.1	1128.5	1121.5	1130.7	1153.0	1179.8
30°	1218.2	1218.5	1204.2	1175.5	1150.1	1126.1	1122.1	1108.9	1118.7	1141.2	1169.6
31°	1209.5	1207.9	1195.6	1164.7	1139.1	1115.1	1106.0	1102.7	1106.6	1129.3	1158.7
32°	1198.2	1195.9	1186.6	1155.6	1127.4	1104.9	1093.3	1090.6	1096.0	1119.0	1148.4
33°	1184.7	1187.3	1177.8	1146.9	1116.3	1094.0	1075.8	1080.8	1083.5	1107.9	1138.9
34°	1171.6	1175.5	1163.2	1136.0	1104.4	1080.4	1062.3	1068.7	1069.0	1097.9	1127.6
35°	1158.6	1166.4	1152.8	1126.5	1092.6	1070.8	1052.2	1057.2	1059.6	1086.4	1117.1
36°	1144.7	1148.6	1145.6	1117.5	1081.4	1062.7	1039.7	1045.9	1046.7	1074.7	1104.3
37°	1130.7	1141.8	1132.5	1107.4	1071.6	1050.1	1028.5	1033.7	1034.4	1063.9	1091.1
38°	1123.5	1130.9	1123.7	1096.0	1058.2	1039.8	1020.6	1024.2	1021.9	1053.3	1078.4
39°	1113.8	1120.9	1113.1	1087.0	1048.5	1030.4	1008.3	1015.8	1012.6	1042.3	1068.7
40°	1105.7	1109.7	1099.7	1075.8	1037.4	1017.6	998.1	1003.0	1000.9	1029.2	1058.9
41°	1095.2	1098.5	1091.2	1066.3	1026.5	1003.9	983.9	988.1	987.5	1017.5	1050.0
42°	1085.1	1086.2	1079.7	1056.0	1016.8	994.5	973.2	973.8	976.6	1010.8	1037.7
43°	1070.6	1068.6	1069.1	1044.5	1006.3	980.5	959.0	963.9	965.6	999.9	1027.8
44°	1052.2	1061.5	1059.2	1032.1	995.7	966.8	945.1	952.8	952.5	987.1	1015.2



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CATALOG NUMBER: ALP90LSFSUNVDGY-28W-5000K

CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	1038.8	1053.6	1045.4	1022.6	984.9	956.4	929.0	944.2	943.5	976.4	1002.1
46°	1030.0	1040.9	1035.7	1013.6	973.7	941.6	916.1	929.3	932.5	963.9	990.9
47°	1016.2	1030.7	1019.6	1002.2	961.3	931.1	904.9	917.1	925.0	950.0	979.9
48°	1004.6	1017.7	1010.5	990.8	949.8	921.1	895.6	904.6	912.7	937.9	967.9
49°	999.7	1004.2	997.2	978.8	938.2	909.3	885.6	891.9	900.9	925.8	956.9
50°	986.5	990.6	987.7	967.4	928.8	894.9	880.7	878.4	887.5	916.7	947.0
51°	974.1	983.4	975.8	953.9	917.1	883.8	867.4	867.4	876.7	902.6	935.6
52°	958.6	966.3	962.6	940.8	905.2	870.7	851.1	855.9	863.0	889.9	923.6
53°	942.3	954.1	950.8	925.8	893.9	857.0	836.4	850.3	851.8	876.9	911.1
54°	928.5	936.3	935.0	912.7	881.2	847.6	824.1	839.5	843.2	861.8	898.4
55°	916.7	922.6	923.6	899.2	869.6	836.3	816.7	829.1	831.6	847.7	883.0
56°	903.5	912.9	914.9	886.9	858.6	827.7	811.2	819.7	823.1	838.3	872.4
57°	895.1	903.2	897.3	871.5	847.8	817.6	804.3	813.3	814.2	825.8	861.0
58°	879.7	893.4	886.0	861.1	837.2	807.5	794.5	805.7	804.9	816.7	852.5
59°	866.5	882.3	875.7	847.1	825.9	797.9	783.6	798.3	795.9	808.3	842.9
60°	853.5	869.1	863.2	835.0	817.7	789.3	776.4	793.1	790.0	803.3	834.8
61°	844.5	857.0	851.6	823.8	808.8	778.6	767.4	782.2	783.1	798.8	824.2
62°	838.3	844.8	840.8	812.6	800.0	765.3	750.6	776.1	775.7	796.8	814.1
63°	831.5	835.3	829.8	806.0	793.2	754.5	731.4	764.6	767.1	798.6	805.7
64°	831.1	827.3	817.3	800.5	783.6	738.2	715.5	747.5	758.5	795.1	800.5
65°	830.9	819.9	806.4	790.9	772.7	724.9	700.1	725.9	743.8	789.9	794.0
66°	822.4	810.9	799.5	781.7	762.0	709.4	679.2	707.5	724.2	776.6	789.5
67°	795.9	802.1	786.1	768.5	746.9	689.0	653.7	679.1	697.4	757.4	779.4
68°	768.1	792.8	773.3	753.4	728.0	666.6	627.5	650.3	667.6	732.5	767.0
69°	753.3	781.4	763.7	735.1	705.2	642.0	595.7	620.4	632.2	700.8	747.8
70°	744.3	764.0	748.7	712.8	679.3	614.2	564.3	580.3	591.4	665.3	725.0
71°	724.5	743.2	729.7	689.3	647.9	584.7	530.0	540.9	546.4	623.7	694.5
72°	695.0	719.4	710.4	660.1	612.2	549.9	492.9	499.7	498.2	579.6	658.1
73°	665.0	696.7	681.8	627.8	573.3	511.2	451.9	454.7	450.4	532.2	616.9
74°	635.0	670.9	654.8	588.9	530.9	471.6	406.0	409.1	401.6	482.2	572.1
75°	599.5	642.8	624.1	547.0	486.1	429.2	363.8	362.7	352.9	430.9	525.4
76°	557.1	607.9	589.1	500.3	438.9	385.7	323.4	315.0	306.2	378.8	474.9
77°	510.7	570.6	551.1	449.4	392.7	344.0	284.7	271.8	262.8	328.1	426.4
78°	464.5	535.8	510.7	394.8	345.9	303.6	247.5	231.3	222.9	278.0	375.7
79°	418.4	496.1	465.7	340.4	302.9	266.6	210.2	195.7	188.2	232.1	328.1
80°	369.2	452.9	424.5	290.8	263.0	232.3	173.2	164.5	158.0	191.2	282.7
81°	320.6	410.6	380.9	245.6	227.3	200.6	141.8	136.4	132.0	157.1	241.5
82°	271.3	369.8	341.0	207.9	195.4	173.1	116.1	113.6	110.0	129.0	205.1
83°	225.7	327.1	302.1	176.9	167.3	146.7	94.6	94.0	91.7	105.6	174.5
84°	184.4	287.0	266.4	148.9	143.7	124.9	78.0	78.3	76.4	86.9	145.7
85°	146.2	248.5	233.7	126.8	122.5	105.9	62.7	65.3	63.3	72.0	122.4
86°	117.5	213.9	203.3	108.1	104.1	89.7	51.4	54.8	53.3	58.6	102.0
87°	95.4	182.8	177.5	92.4	88.4	76.4	43.4	46.3	45.2	49.0	84.6
88°	78.0	155.2	153.0	79.0	75.4	65.5	36.8	39.9	38.9	41.3	69.8
89°	64.8	131.4	130.2	68.0	63.8	56.5	31.0	34.9	34.1	35.4	57.5



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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
90°	54.2	110.1	110.7	58.8	55.1	49.7	25.8	31.0	30.3	30.9	47.6
91°	45.7	92.1	93.8	51.1	48.1	44.2	20.6	27.6	27.4	27.3	40.3
92°	38.1	76.8	79.2	44.2	42.7	39.6	16.3	24.9	25.0	24.5	34.8
93°	32.4	63.5	66.9	38.4	38.2	36.0	12.8	22.6	23.1	22.1	30.6
94°	27.8	53.3	57.3	33.3	34.5	32.9	10.1	20.7	21.6	20.2	27.5
95°	23.6	45.4	49.6	28.6	31.4	30.2	7.8	18.9	20.4	18.5	25.1
96°	20.0	39.4	43.9	24.3	28.8	28.1	6.3	17.5	19.5	16.9	23.2
97°	17.0	34.8	39.2	20.5	26.7	26.2	5.8	16.4	18.7	15.4	21.7
98°	14.3	31.3	35.5	17.2	24.9	24.6	5.4	15.4	18.2	14.1	20.5
99°	12.8	28.4	32.4	15.1	23.3	23.3	5.2	14.4	17.8	12.7	19.6
100°	12.2	26.1	29.9	14.0	22.0	22.0	5.2	13.5	17.5	11.4	19.0
101°	11.8	24.2	27.8	13.2	21.0	20.9	5.1	12.5	17.3	10.3	18.5
102°	11.4	22.8	26.0	12.6	20.1	19.7	4.9	11.6	17.1	9.6	18.1
103°	11.0	21.5	24.6	12.0	19.3	18.6	4.7	10.6	17.0	9.3	17.8
104°	10.7	20.6	23.4	11.7	18.7	17.5	4.4	9.7	16.9	9.1	17.6
105°	10.1	19.8	22.5	11.6	18.2	16.3	4.2	8.8	16.7	8.9	17.5
106°	9.4	19.3	21.6	11.5	17.7	15.2	4.2	8.0	16.5	8.9	17.5
107°	8.8	18.8	21.0	11.4	17.3	14.2	4.2	7.4	16.3	8.8	17.5
108°	8.2	18.5	20.5	11.2	16.8	13.1	4.2	7.4	16.0	8.8	17.5
109°	7.7	18.2	20.1	11.2	16.4	12.2	4.3	7.5	15.7	9.0	17.6
110°	7.8	18.0	19.8	11.1	16.0	11.5	4.4	7.5	15.4	9.1	17.6
111°	8.3	17.9	19.4	11.1	15.6	10.8	4.5	7.5	14.9	9.2	17.5
112°	8.7	17.8	19.2	11.1	15.1	10.4	4.5	7.5	14.4	9.2	17.4
113°	8.9	17.6	18.9	11.2	14.7	9.9	4.6	7.4	13.6	9.1	17.2
114°	9.1	17.5	18.7	11.1	14.2	9.5	4.7	7.2	12.8	9.1	17.0
115°	9.0	17.2	18.4	11.0	13.7	9.1	4.8	7.0	12.1	8.9	16.7
116°	9.0	17.1	18.1	10.8	13.2	8.8	4.8	6.8	11.4	8.8	16.4
117°	9.0	16.8	17.8	10.7	12.7	8.5	4.9	6.7	11.0	8.6	16.0
118°	9.0	16.5	17.5	10.5	12.2	8.2	5.0	6.5	10.6	8.4	15.6
119°	9.0	16.3	17.0	10.3	11.6	7.9	5.1	6.4	10.2	8.2	15.1
120°	8.9	15.9	16.7	10.0	11.1	7.6	5.1	6.3	9.9	8.0	14.6
121°	8.8	15.5	16.2	9.8	10.6	7.4	5.2	6.1	9.5	7.8	14.0
122°	8.7	15.0	15.7	9.6	10.1	7.1	5.3	6.0	9.0	7.6	13.5
123°	8.5	14.5	15.2	9.3	9.6	6.9	5.3	5.9	8.6	7.4	12.9
124°	8.4	14.0	14.6	9.1	9.2	6.7	5.4	5.9	8.2	7.2	12.3
125°	8.2	13.5	14.1	8.8	8.8	6.6	5.5	5.8	7.8	7.1	11.7
126°	7.9	12.9	13.4	8.6	8.4	6.4	5.5	5.8	7.5	6.9	11.1
127°	7.6	12.3	12.8	8.3	8.1	6.3	5.6	5.7	7.1	6.8	10.5
128°	7.2	11.7	12.2	8.1	7.7	6.2	5.7	5.7	6.4	6.6	10.0
129°	6.8	11.2	11.6	7.8	7.5	6.1	5.7	5.7	6.3	6.5	9.5
130°	6.5	10.6	11.0	7.5	7.2	6.0	5.8	5.7	6.4	6.4	9.0
131°	6.3	10.1	10.5	7.2	7.0	5.9	5.8	5.7	6.5	6.3	8.5
132°	6.2	9.6	9.9	6.9	6.8	5.9	5.9	5.8	6.3	6.1	8.1
133°	6.3	9.1	9.4	6.7	6.7	5.8	5.9	5.8	6.2	6.1	7.8
134°	6.3	8.7	8.9	6.6	6.5	5.8	6.0	5.9	6.1	6.0	7.4



REPORT NUMBER: P670465
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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
135°	6.4	8.3	8.5	6.5	6.4	5.8	6.0	5.9	6.1	5.9	7.1
136°	6.3	7.9	8.0	6.3	6.3	5.9	6.1	6.0	6.0	5.9	6.8
137°	6.2	7.5	7.6	6.1	6.2	5.9	6.1	6.0	6.0	5.9	6.6
138°	6.1	7.2	7.3	6.1	6.1	6.0	6.2	6.1	6.0	5.9	6.4
139°	6.0	6.9	6.9	6.0	6.1	6.0	6.2	6.1	6.0	5.9	6.2
140°	5.9	6.7	6.6	6.0	6.0	6.1	6.2	6.2	6.1	6.0	6.1
141°	5.9	6.5	6.4	6.0	6.0	6.1	6.3	6.2	6.2	6.0	6.0
142°	5.9	6.3	6.1	6.0	6.1	6.2	6.3	6.3	6.2	6.1	6.0
143°	5.9	6.1	6.0	6.0	6.1	6.2	6.4	6.3	6.2	6.1	6.0
144°	5.9	6.0	5.8	6.1	6.2	6.3	6.4	6.4	6.3	6.2	6.1
145°	5.9	5.9	5.8	6.1	6.2	6.3	6.4	6.4	6.3	6.2	6.1
146°	6.0	5.9	5.8	6.2	6.3	6.4	6.5	6.5	6.4	6.3	6.2
147°	6.0	6.0	5.9	6.2	6.3	6.4	6.5	6.5	6.5	6.3	6.2
148°	6.1	6.0	5.9	6.3	6.4	6.5	6.6	6.6	6.5	6.4	6.3
149°	6.2	6.1	6.0	6.3	6.4	6.5	6.6	6.6	6.6	6.4	6.3
150°	6.2	6.1	6.0	6.4	6.5	6.6	6.7	6.6	6.6	6.5	6.4
151°	6.3	6.2	6.1	6.4	6.5	6.6	6.7	6.7	6.6	6.5	6.4
152°	6.3	6.2	6.1	6.5	6.6	6.7	6.8	6.7	6.7	6.6	6.5
153°	6.4	6.3	6.2	6.5	6.6	6.8	6.8	6.8	6.7	6.6	6.6
154°	6.4	6.4	6.2	6.6	6.6	6.8	6.9	6.8	6.8	6.7	6.6
155°	6.5	6.4	6.3	6.7	6.7	6.9	6.9	6.8	6.8	6.7	6.7
156°	6.5	6.5	6.3	6.7	6.7	6.9	7.0	6.9	6.9	6.8	6.7
157°	6.6	6.5	6.4	6.8	6.8	7.0	7.0	6.9	6.9	6.8	6.8
158°	6.6	6.6	6.5	6.8	6.8	7.0	7.0	6.9	7.0	6.9	6.8
159°	6.7	6.6	6.5	6.9	6.9	7.0	7.1	7.0	7.0	6.9	6.9
160°	6.8	6.7	6.6	6.9	6.9	7.1	7.1	7.0	7.0	7.0	6.9
161°	6.8	6.7	6.6	7.0	7.0	7.1	7.2	7.1	7.1	7.0	7.0
162°	6.9	6.8	6.7	7.1	7.0	7.1	7.2	7.1	7.1	7.1	7.0
163°	6.9	6.8	6.7	7.1	7.1	7.2	7.2	7.1	7.1	7.1	7.1
164°	7.0	6.9	6.8	7.2	7.1	7.2	7.3	7.2	7.2	7.2	7.1
165°	7.0	6.9	6.8	7.2	7.1	7.3	7.3	7.2	7.2	7.2	7.2
166°	7.1	7.0	6.9	7.3	7.2	7.3	7.4	7.2	7.2	7.3	7.2
167°	7.2	7.0	6.9	7.3	7.2	7.3	7.4	7.3	7.2	7.3	7.2
168°	7.2	7.1	7.0	7.4	7.3	7.4	7.5	7.3	7.3	7.4	7.3
169°	7.3	7.1	7.0	7.4	7.3	7.4	7.5	7.3	7.3	7.4	7.3
170°	7.3	7.2	7.1	7.5	7.3	7.4	7.5	7.3	7.3	7.5	7.4
171°	7.4	7.2	7.1	7.5	7.4	7.5	7.6	7.4	7.4	7.5	7.4
172°	7.4	7.2	7.2	7.6	7.4	7.5	7.6	7.4	7.4	7.6	7.5
173°	7.5	7.3	7.2	7.6	7.4	7.5	7.6	7.4	7.4	7.6	7.5
174°	7.5	7.3	7.2	7.7	7.5	7.5	7.6	7.4	7.4	7.6	7.5
175°	7.6	7.4	7.3	7.7	7.5	7.5	7.7	7.5	7.4	7.7	7.5
176°	7.6	7.4	7.3	7.7	7.5	7.6	7.7	7.5	7.5	7.7	7.6
177°	7.6	7.4	7.4	7.8	7.6	7.6	7.7	7.5	7.5	7.7	7.6
178°	7.6	7.5	7.4	7.8	7.6	7.6	7.7	7.5	7.5	7.8	7.6
179°	7.7	7.5	7.4	7.8	7.6	7.6	7.7	7.5	7.5	7.8	7.6



REPORT NUMBER: P670465
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CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
180°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7



REPORT NUMBER: P670465
CATALOG NUMBER: ALP90LSFSUNVDGY-28W-5000K

CANDELA DISTRIBUTION (continued):

	330°	360°
0°	1390.6	1390.6
1°	1391.2	1389.3
2°	1390.5	1392.5
3°	1389.6	1392.1
4°	1390.9	1391.3
5°	1389.8	1390.0
6°	1384.2	1388.9
7°	1378.4	1381.7
8°	1375.4	1376.9
9°	1373.6	1374.0
10°	1368.1	1368.9
11°	1367.0	1373.4
12°	1359.0	1369.3
13°	1354.5	1367.4
14°	1351.0	1365.8
15°	1347.1	1360.6
16°	1339.2	1348.6
17°	1330.2	1335.3
18°	1320.0	1324.1
19°	1309.7	1314.8
20°	1299.8	1312.6
21°	1291.8	1309.2
22°	1283.7	1304.7
23°	1274.9	1294.5
24°	1266.6	1289.1
25°	1256.1	1274.1
26°	1246.5	1262.5
27°	1233.5	1247.6
28°	1221.3	1234.9
29°	1212.1	1223.6
30°	1198.4	1218.2
31°	1186.6	1209.5
32°	1178.3	1198.2
33°	1167.7	1184.7
34°	1160.4	1171.6
35°	1151.0	1158.6
36°	1138.3	1144.7
37°	1125.4	1130.7
38°	1111.6	1123.5
39°	1100.3	1113.8
40°	1088.3	1105.7
41°	1077.6	1095.2
42°	1067.3	1085.1
43°	1056.5	1070.6
44°	1045.8	1052.2



REPORT NUMBER: P670465
CATALOG NUMBER: ALP90LSFSUNVDGY-28W-5000K

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	1034.9	1038.8
46°	1021.8	1030.0
47°	1012.2	1016.2
48°	997.7	1004.6
49°	981.2	999.7
50°	969.4	986.5
51°	956.2	974.1
52°	944.5	958.6
53°	932.2	942.3
54°	921.3	928.5
55°	908.6	916.7
56°	891.2	903.5
57°	878.4	895.1
58°	868.1	879.7
59°	859.2	866.5
60°	851.7	853.5
61°	840.6	844.5
62°	831.7	838.3
63°	823.2	831.5
64°	815.2	831.1
65°	810.8	830.9
66°	802.5	822.4
67°	793.0	795.9
68°	782.9	768.1
69°	766.4	753.3
70°	744.6	744.3
71°	719.2	724.5
72°	692.6	695.0
73°	658.3	665.0
74°	628.6	635.0
75°	593.1	599.5
76°	554.9	557.1
77°	514.6	510.7
78°	469.3	464.5
79°	420.9	418.4
80°	371.4	369.2
81°	321.7	320.6
82°	275.7	271.3
83°	233.5	225.7
84°	197.2	184.4
85°	166.0	146.2
86°	140.1	117.5
87°	117.6	95.4
88°	98.1	78.0
89°	81.2	64.8



REPORT NUMBER: P670465
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CANDELA DISTRIBUTION (continued):

	330°	360°
90°	66.7	54.2
91°	55.1	45.7
92°	45.6	38.1
93°	38.3	32.4
94°	32.9	27.8
95°	28.9	23.6
96°	25.9	20.0
97°	23.6	17.0
98°	21.9	14.3
99°	20.6	12.8
100°	19.5	12.2
101°	18.7	11.8
102°	18.1	11.4
103°	17.7	11.0
104°	17.4	10.7
105°	17.2	10.1
106°	17.0	9.4
107°	17.0	8.8
108°	16.9	8.2
109°	16.9	7.7
110°	16.8	7.8
111°	16.8	8.3
112°	16.8	8.7
113°	16.7	8.9
114°	16.6	9.1
115°	16.4	9.0
116°	16.2	9.0
117°	15.9	9.0
118°	15.6	9.0
119°	15.3	9.0
120°	14.9	8.9
121°	14.4	8.8
122°	13.9	8.7
123°	13.4	8.5
124°	12.8	8.4
125°	12.2	8.2
126°	11.7	7.9
127°	11.1	7.6
128°	10.6	7.2
129°	10.0	6.8
130°	9.5	6.5
131°	9.0	6.3
132°	8.6	6.2
133°	8.2	6.3
134°	7.8	6.3



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CANDELA DISTRIBUTION (continued):

	330°	360°
135°	7.5	6.4
136°	7.2	6.3
137°	6.9	6.2
138°	6.7	6.1
139°	6.5	6.0
140°	6.3	5.9
141°	6.2	5.9
142°	6.1	5.9
143°	6.0	5.9
144°	6.0	5.9
145°	6.0	5.9
146°	6.0	6.0
147°	6.1	6.0
148°	6.1	6.1
149°	6.2	6.2
150°	6.2	6.2
151°	6.3	6.3
152°	6.3	6.3
153°	6.4	6.4
154°	6.4	6.4
155°	6.5	6.5
156°	6.5	6.5
157°	6.6	6.6
158°	6.6	6.6
159°	6.7	6.7
160°	6.7	6.8
161°	6.8	6.8
162°	6.8	6.9
163°	6.9	6.9
164°	6.9	7.0
165°	7.0	7.0
166°	7.0	7.1
167°	7.1	7.2
168°	7.1	7.2
169°	7.2	7.3
170°	7.2	7.3
171°	7.3	7.4
172°	7.3	7.4
173°	7.4	7.5
174°	7.4	7.5
175°	7.4	7.6
176°	7.5	7.6
177°	7.5	7.6
178°	7.5	7.6
179°	7.5	7.7



REPORT NUMBER: P670465
CATALOG NUMBER: ALP90LSFSUNVDGY-28W-5000K

CANDELA DISTRIBUTION (continued):

	330°	360°
180°	7.7	7.7

(END OF REPORT)