

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 COMMERCIAL

Report Number: P776048

Luminaire Tested: HCDJBS1525CSD-HCD61TRMW-2500lm-4000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776048
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B037)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS1525CSD-HCD61TRMW-2500lm-4000K
Description: 6 INCH ROUND SHALLOW-WIDE MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

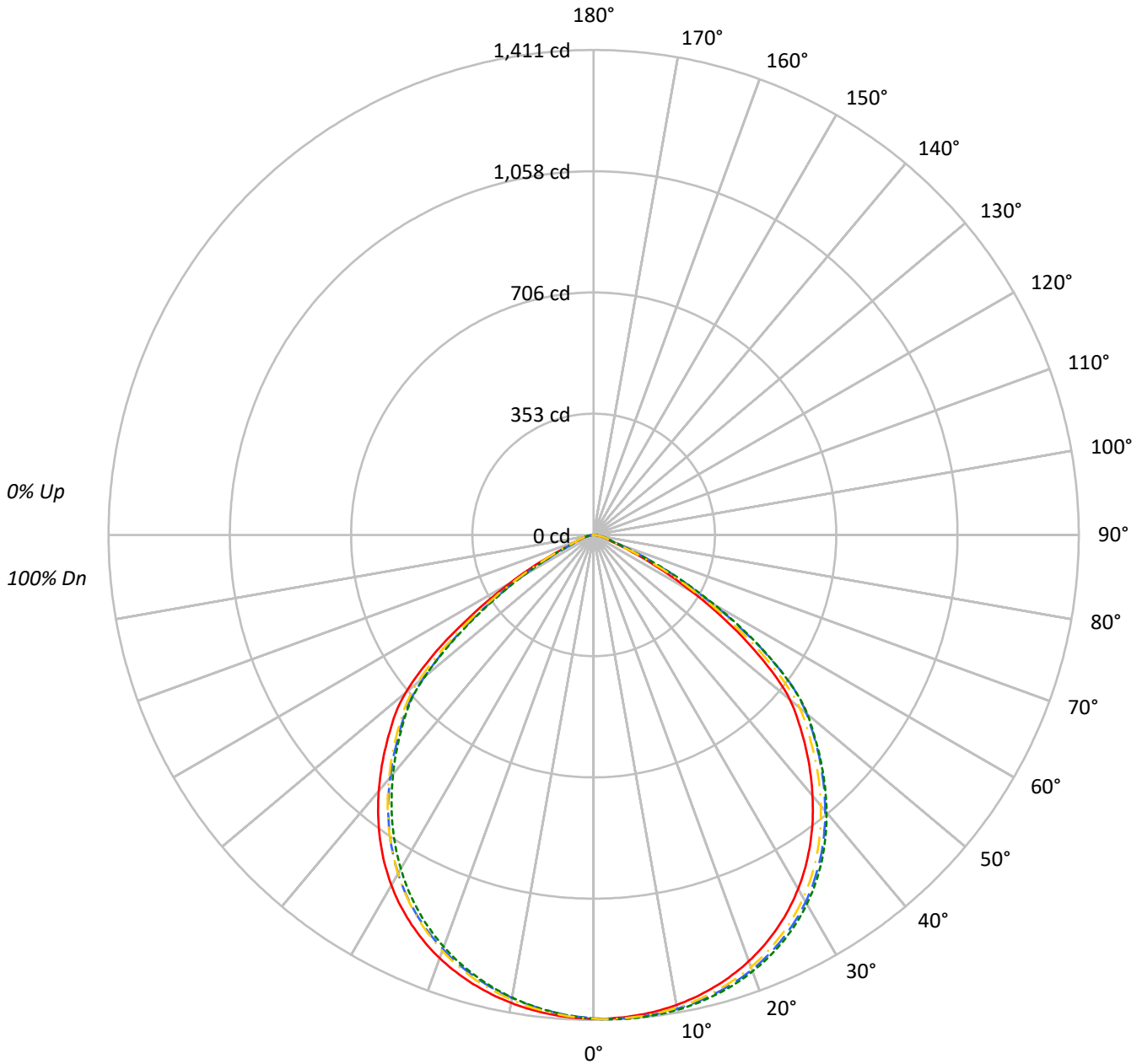
Lumens per Lamp: N/A
Luminaire Lumens: 3105.3 lumens
Efficiency: N/A
Efficacy: 124.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.24 / 1.32
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 25
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: 24 FT



TEST NUMBER: P776048
CATALOG NUMBER: HCDJBL51525CSD-HCD61TRMW-2500lm-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P776048

CATALOG NUMBER: HCDJBLS1525CSD-HCD61TRMW-2500lm-4000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89								
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77								
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67								
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59								
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52								
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46								
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41								
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37								
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34								
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	77137	77137	77137	77137
5°	77251	77641	77085	76651
10°	77309	78116	76969	76079
15°	77248	78531	76788	75369
20°	76983	78839	76423	74393
25°	76389	78900	75730	72996
30°	75277	78499	74492	71011
35°	73475	77410	72491	68322
40°	70890	75406	69580	64957
45°	67534	72504	65898	61030
50°	63537	69217	60766	54693
55°	52395	60289	47731	40849
60°	36357	44350	31171	25733
65°	19691	26190	14878	13166
70°	9377	11124	8190	8158
75°	7540	8515	6248	6566
80°	5714	6977	4262	4988
85°	3522	5598	1761	2893

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 74535 cd/sqm



TEST NUMBER: P776048

CATALOG NUMBER: HCDJBL1525CSD-HCD61TRMW-2500lm-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.3	4.3
10°-20°	382.6	12.3
20°-30°	578.2	18.6
30°-40°	680.0	21.9
40°-50°	662.2	21.3
50°-60°	467.1	15.0
60°-70°	156.5	5.0
70°-80°	37.8	1.2
80°-90°	7.5	0.2
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°	1094.1	35.2
0°-40°	1774.1	57.1
0°-60°	2903.5	93.5
0°-90°	3105.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3105.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1407	1407	1407	1407	1407	
5°	1404	1411	1401	1393	1404	134
15°	1361	1384	1353	1328	1361	384
25°	1263	1304	1252	1207	1263	581
35°	1098	1157	1083	1021	1098	685
45°	871	935	850	787	871	671
55°	548	631	499	427	548	486
65°	152	202	115	102	152	163
75°	36	40	30	31	36	38
85°	6	9	3	5	6	7
90°	0	0	0	0	0	



TEST NUMBER: P776048

CATALOG NUMBER: HCDJBL5125CSD-HCD61TRMW-2500lm-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1407.1	1407.1	1407.1	1407.1	1407.1	1407.1	1407.1	1407.1	1407.1	1407.1	1407.1
0.5°	1407.9	1407.6	1406.9	1405.6	1408.4	1408.6	1408.4	1408.4	1407.6	1406.6	1405.3
1°	1407.9	1407.9	1407.6	1406.6	1409.2	1409.2	1408.9	1408.4	1407.4	1406.1	1404.3
1.5°	1407.9	1408.1	1407.9	1407.4	1409.7	1409.7	1409.2	1408.1	1406.6	1405.1	1403.3
2°	1407.6	1408.1	1408.4	1408.1	1410.2	1409.9	1409.2	1407.9	1406.1	1404.3	1402.0
2.5°	1407.1	1408.1	1408.6	1408.6	1410.7	1409.9	1409.2	1407.6	1405.6	1403.3	1401.0
3°	1406.9	1408.1	1408.9	1409.2	1410.7	1410.2	1409.2	1407.1	1404.6	1402.3	1399.5
3.5°	1406.1	1408.1	1409.2	1409.7	1410.9	1410.2	1408.9	1406.6	1403.8	1401.0	1398.0
4°	1405.6	1407.6	1408.9	1409.9	1410.9	1410.2	1408.6	1406.1	1403.0	1399.7	1396.4
4.5°	1404.6	1407.1	1408.9	1410.2	1411.2	1409.9	1408.4	1405.1	1401.8	1398.2	1394.4
5°	1403.8	1406.6	1408.6	1410.2	1410.9	1409.7	1407.6	1404.3	1400.8	1396.7	1392.9
5.5°	1402.8	1406.1	1408.1	1409.9	1410.7	1409.2	1407.1	1403.3	1399.5	1395.2	1390.8
6°	1401.8	1405.1	1407.9	1409.9	1410.2	1408.6	1406.6	1402.3	1398.0	1393.4	1388.8
6.5°	1400.5	1404.3	1407.1	1409.7	1409.7	1408.1	1405.6	1401.0	1396.4	1391.4	1386.5
7°	1399.2	1403.3	1406.4	1409.2	1409.2	1407.1	1404.8	1399.7	1394.9	1389.6	1384.2
7.5°	1397.7	1402.3	1405.6	1408.6	1408.4	1406.4	1403.8	1398.2	1393.1	1387.5	1381.7
8°	1396.2	1401.0	1404.6	1408.1	1407.6	1405.3	1402.5	1396.7	1391.4	1385.2	1379.4
8.5°	1394.4	1399.7	1403.8	1407.6	1406.6	1404.3	1401.0	1395.2	1389.3	1383.0	1376.6
9°	1392.6	1398.2	1402.5	1406.6	1405.6	1403.0	1399.7	1393.4	1387.3	1380.4	1374.1
9.5°	1390.6	1396.7	1401.3	1405.6	1404.6	1401.8	1398.5	1391.6	1385.0	1377.9	1371.0
10°	1388.8	1394.9	1400.0	1404.6	1403.3	1400.3	1396.7	1389.3	1382.7	1375.3	1368.2
10.5°	1386.5	1393.1	1398.5	1403.6	1401.8	1398.5	1394.9	1387.3	1380.2	1372.5	1364.9
11°	1384.2	1391.1	1396.7	1402.0	1400.3	1396.9	1393.1	1385.0	1377.6	1369.7	1361.9
11.5°	1381.7	1389.1	1395.2	1400.8	1398.5	1394.9	1391.1	1382.7	1375.1	1366.7	1358.6
12°	1379.1	1386.8	1393.1	1399.2	1396.7	1393.1	1389.1	1380.2	1372.3	1363.6	1355.2
12.5°	1376.4	1384.5	1391.1	1397.5	1394.9	1391.1	1386.8	1377.6	1369.2	1360.3	1351.7
13°	1373.6	1381.9	1389.1	1395.7	1392.9	1389.1	1384.5	1374.8	1366.2	1357.0	1347.9
13.5°	1370.5	1379.7	1386.8	1393.9	1390.8	1386.5	1381.9	1372.0	1363.1	1353.5	1344.1
14°	1367.5	1376.9	1384.5	1391.9	1388.6	1384.2	1379.4	1369.0	1359.8	1349.9	1340.2
14.5°	1364.4	1374.1	1381.9	1389.8	1386.0	1381.7	1376.6	1365.9	1356.3	1346.1	1335.9
15°	1361.1	1371.0	1379.4	1387.3	1383.7	1379.1	1373.8	1362.6	1353.0	1342.5	1331.9
15.5°	1357.5	1368.0	1376.6	1385.0	1381.2	1376.1	1370.8	1359.3	1349.1	1338.5	1327.5
16°	1354.0	1364.7	1373.8	1382.5	1378.4	1373.3	1367.5	1355.8	1345.6	1334.4	1323.2
16.5°	1350.2	1361.3	1370.5	1380.2	1375.3	1370.2	1364.4	1352.2	1341.5	1330.1	1318.6
17°	1346.1	1357.8	1367.7	1377.1	1372.5	1366.9	1361.1	1348.4	1337.4	1325.8	1313.8
17.5°	1342.0	1354.2	1364.4	1374.3	1369.2	1363.6	1357.5	1344.3	1333.1	1321.2	1309.0
18°	1338.0	1350.4	1361.1	1371.3	1365.9	1360.3	1353.7	1340.2	1328.8	1316.6	1304.1
18.5°	1333.6	1346.6	1357.5	1368.0	1362.4	1356.5	1349.9	1336.2	1324.5	1311.8	1298.8
19°	1329.1	1342.5	1353.7	1364.7	1359.1	1353.0	1346.1	1331.9	1319.6	1306.9	1293.7
19.5°	1324.5	1338.2	1349.9	1361.3	1355.2	1348.9	1342.0	1327.3	1314.8	1301.8	1288.4
20°	1319.6	1333.9	1345.8	1357.8	1351.4	1344.8	1338.0	1322.7	1310.0	1296.5	1282.8
20.5°	1314.8	1329.6	1342.0	1354.0	1347.4	1340.5	1333.4	1317.9	1304.9	1291.2	1276.9
21°	1309.7	1324.7	1337.7	1350.2	1343.3	1336.2	1328.8	1312.8	1299.8	1285.8	1271.3



TEST NUMBER: P776048

CATALOG NUMBER: HCDJBL51525CSD-HCD61TRMW-2500lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1293.2	1310.0	1324.0	1338.0	1329.8	1322.2	1314.3	1297.3	1283.0	1268.3	1253.0
23°	1287.6	1304.9	1319.1	1333.4	1325.0	1317.4	1309.2	1291.7	1276.9	1262.2	1246.2
23.5°	1281.8	1299.3	1314.1	1328.8	1320.2	1312.3	1303.9	1285.8	1271.1	1255.8	1239.8
24°	1275.7	1293.7	1308.7	1324.2	1315.1	1306.9	1298.3	1280.0	1264.7	1249.5	1232.9
24.5°	1269.6	1287.9	1303.4	1319.1	1309.7	1301.3	1292.7	1273.9	1258.4	1242.6	1226.1
25°	1262.9	1281.8	1297.8	1314.1	1304.4	1295.7	1287.1	1267.8	1252.0	1236.0	1219.0
25.5°	1256.3	1275.7	1292.2	1308.7	1298.8	1289.9	1281.0	1261.2	1245.1	1229.1	1211.3
26°	1249.5	1269.3	1286.1	1303.4	1293.0	1284.1	1274.9	1254.6	1238.3	1222.0	1204.0
26.5°	1242.9	1262.9	1280.2	1297.8	1287.1	1277.7	1268.8	1247.9	1231.2	1214.4	1196.3
27°	1235.5	1256.1	1273.9	1291.9	1281.0	1271.6	1262.2	1240.8	1224.0	1207.3	1188.4
27.5°	1228.4	1249.5	1267.5	1286.1	1274.6	1265.0	1255.3	1233.7	1216.7	1199.6	1180.6
28°	1220.7	1242.6	1261.2	1280.0	1268.0	1258.1	1248.7	1226.6	1209.0	1191.5	1172.2
28.5°	1213.4	1235.2	1254.3	1273.9	1261.4	1251.3	1241.6	1219.2	1201.2	1183.6	1164.0
29°	1205.5	1227.9	1247.4	1267.3	1254.6	1244.1	1234.2	1211.6	1193.3	1175.2	1155.4
29.5°	1197.3	1220.5	1240.1	1260.7	1247.4	1236.8	1226.8	1203.7	1184.9	1166.8	1146.7
30°	1189.2	1212.6	1232.9	1253.8	1240.1	1229.6	1219.5	1195.6	1176.8	1158.2	1137.6
30.5°	1181.1	1204.7	1225.6	1246.7	1232.7	1221.8	1211.3	1187.4	1168.1	1149.3	1128.4
31°	1172.4	1196.8	1217.7	1239.8	1225.1	1213.9	1203.4	1179.0	1159.5	1140.4	1119.3
31.5°	1163.8	1188.4	1209.8	1232.2	1217.2	1205.7	1195.6	1170.4	1150.6	1131.2	1109.6
32°	1154.9	1179.8	1201.7	1224.6	1209.3	1197.6	1186.9	1161.5	1141.4	1121.8	1100.0
32.5°	1145.7	1171.4	1193.5	1216.7	1200.9	1189.2	1178.3	1152.6	1132.3	1112.2	1089.8
33°	1136.6	1162.5	1184.9	1208.8	1192.5	1180.3	1169.6	1143.7	1122.8	1102.5	1079.9
33.5°	1127.2	1153.4	1176.2	1200.4	1183.9	1171.4	1160.7	1134.3	1112.9	1092.3	1070.0
34°	1117.5	1144.5	1167.6	1192.3	1175.2	1162.5	1151.6	1124.6	1103.0	1082.2	1059.3
34.5°	1108.1	1135.1	1158.4	1183.6	1166.1	1153.4	1142.2	1115.0	1093.1	1072.0	1048.9
35°	1097.9	1125.6	1149.3	1174.7	1156.7	1143.9	1132.8	1105.3	1083.2	1061.6	1037.9
35.5°	1088.0	1115.7	1139.9	1165.8	1147.3	1134.5	1122.8	1095.1	1072.8	1050.6	1027.0
36°	1077.3	1105.8	1130.2	1156.7	1137.8	1124.4	1113.2	1085.0	1062.1	1040.0	1015.5
36.5°	1067.2	1095.9	1120.6	1147.3	1127.9	1114.2	1103.0	1074.5	1051.1	1028.8	1004.4
37°	1057.0	1085.7	1110.4	1137.8	1117.8	1104.0	1092.6	1064.1	1040.5	1017.6	992.9
37.5°	1046.1	1075.6	1100.7	1127.9	1107.3	1093.6	1082.2	1053.2	1029.5	1006.4	981.5
38°	1035.1	1064.9	1090.3	1118.0	1097.2	1083.2	1071.7	1042.2	1018.6	994.9	969.5
38.5°	1024.2	1054.2	1079.9	1107.8	1086.2	1072.5	1060.8	1031.3	1006.9	983.3	957.3
39°	1013.0	1043.3	1069.2	1097.7	1075.8	1061.3	1049.9	1019.9	995.5	971.3	945.4
39.5°	1002.1	1032.3	1058.5	1087.0	1064.6	1050.4	1038.7	1008.4	984.0	959.1	933.2
40°	990.6	1021.4	1047.6	1076.3	1053.7	1039.2	1027.5	997.2	972.3	947.1	920.7
40.5°	978.9	1010.0	1036.6	1065.4	1042.2	1027.7	1016.1	985.5	960.6	934.9	908.8
41°	967.5	998.5	1025.2	1054.4	1031.1	1016.1	1004.6	973.8	948.4	922.5	895.8
41.5°	955.8	987.1	1013.8	1043.0	1019.6	1004.6	992.7	961.6	936.5	910.3	883.3
42°	943.8	975.6	1002.3	1031.8	1007.9	992.9	981.0	949.7	924.3	897.8	870.6
42.5°	931.9	963.9	990.9	1020.4	996.0	981.0	969.5	937.7	912.1	885.4	857.9
43°	919.9	952.0	978.9	1008.9	984.0	969.0	957.3	925.5	899.9	872.4	844.7
43.5°	908.0	940.0	967.2	997.0	972.1	957.1	944.9	913.3	887.4	859.7	832.0



TEST NUMBER: P776048

CATALOG NUMBER: HCDJBL51525CSD-HCD61TRMW-2500lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	871.1	903.7	931.1	961.4	935.2	919.9	908.0	875.7	850.0	821.8	794.3
45.5°	858.7	891.2	919.2	949.2	922.7	907.5	895.5	863.2	837.6	809.6	782.1
46°	846.2	878.7	906.7	937.0	910.5	894.8	882.8	850.8	824.8	797.1	770.2
46.5°	833.5	866.3	894.3	924.5	897.8	882.3	870.1	838.1	812.4	784.7	758.0
47°	821.3	854.1	881.8	912.1	885.1	870.1	857.9	825.9	800.4	772.7	745.0
47.5°	809.1	841.6	869.6	899.6	872.9	857.9	845.7	813.7	788.2	759.8	731.3
48°	796.9	829.2	856.9	886.9	860.9	845.4	833.5	801.5	775.0	745.8	716.3
48.5°	784.2	817.0	844.7	874.7	848.5	833.7	821.0	788.5	761.0	730.5	699.2
49°	772.2	804.8	832.2	862.2	836.3	821.0	808.8	774.0	746.3	713.7	681.2
49.5°	758.7	792.0	820.3	849.5	824.1	808.8	795.9	759.2	730.0	695.7	661.6
50°	745.0	779.3	807.8	837.3	811.6	795.1	781.6	743.5	712.5	676.6	642.0
50.5°	730.0	765.3	794.8	825.1	797.9	780.9	766.9	726.7	694.2	657.8	622.4
51°	713.0	750.3	780.9	812.6	783.4	765.1	750.9	708.6	675.3	637.7	601.9
51.5°	693.9	733.6	765.9	799.4	768.1	747.0	733.1	689.1	654.7	617.4	581.3
52°	674.6	715.8	750.1	785.2	750.9	728.7	714.0	668.2	633.6	596.5	560.2
52.5°	654.5	696.7	732.5	770.2	732.0	710.2	695.2	646.9	612.3	575.4	539.3
53°	633.9	676.6	714.2	754.2	713.2	690.3	674.6	625.0	590.4	553.3	518.2
53.5°	612.5	655.8	694.4	736.9	693.1	670.2	654.0	602.4	568.3	531.4	497.1
54°	591.4	635.2	673.6	718.1	672.8	649.9	632.6	580.0	545.4	509.8	476.2
54.5°	569.8	613.5	651.4	698.0	651.7	629.6	611.0	557.9	522.8	487.9	454.9
55°	548.2	591.7	629.3	676.6	630.8	608.5	588.6	534.5	499.4	465.3	433.3
55.5°	526.3	568.8	606.7	654.7	609.2	586.8	566.5	512.1	476.5	443.4	412.4
56°	505.0	546.2	583.5	632.1	587.4	564.7	544.1	489.2	453.4	421.6	391.3
56.5°	482.6	523.3	559.9	609.2	565.0	542.4	521.5	467.3	430.7	399.7	370.5
57°	461.0	499.9	536.0	586.1	542.4	520.0	498.6	445.2	408.6	378.4	350.1
57.5°	439.1	477.0	512.9	562.7	519.2	497.6	476.2	423.6	386.7	357.0	330.3
58°	417.0	453.6	489.7	539.8	496.6	474.7	453.9	401.7	365.1	335.9	310.5
58.5°	395.4	430.2	466.1	516.7	473.4	451.3	431.7	380.1	343.8	315.5	290.9
59°	374.0	407.8	442.9	493.8	450.3	428.2	409.4	358.5	323.4	295.0	272.1
59.5°	352.9	385.5	420.6	471.4	427.4	405.0	387.5	338.2	303.6	275.4	254.0
60°	331.6	363.3	398.7	448.8	404.5	382.4	365.9	317.3	284.3	256.0	236.7
60.5°	310.7	342.0	376.8	426.7	382.2	359.8	344.5	297.5	265.5	239.0	219.4
61°	291.1	320.9	354.4	404.3	360.3	337.7	323.7	277.4	246.9	222.0	202.1
61.5°	271.0	300.3	333.6	383.4	338.9	316.1	303.1	258.6	229.6	205.2	184.9
62°	252.2	280.2	313.3	361.3	317.6	294.7	282.5	241.0	212.3	188.2	167.6
62.5°	233.9	260.9	293.4	340.5	296.5	273.6	262.4	223.2	194.8	171.1	152.8
63°	216.4	242.3	273.8	319.9	276.1	253.8	244.4	205.7	177.5	156.6	138.8
63.5°	199.1	224.0	254.5	299.5	256.3	235.2	226.0	188.2	159.9	143.2	125.9
64°	182.8	206.7	236.2	279.4	238.0	216.9	207.7	170.6	143.9	130.2	113.9
64.5°	167.1	189.9	218.4	259.6	219.9	198.3	189.7	154.8	128.7	118.0	103.0
65°	151.8	174.2	201.4	240.8	201.9	180.0	171.4	140.1	114.7	106.8	93.3
65.5°	137.3	158.9	185.1	222.5	183.6	163.7	154.8	126.1	101.5	96.4	84.7
66°	123.6	145.2	169.3	204.4	165.5	148.0	139.6	113.1	90.3	87.5	77.6



TEST NUMBER: P776048

CATALOG NUMBER: HCDJBL1525CSD-HCD61TRMW-2500lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	89.2	107.8	126.1	154.3	121.3	107.6	100.2	81.1	65.6	66.1	61.8
68°	82.4	97.1	113.4	139.6	108.1	96.1	89.8	73.2	61.0	61.3	58.2
68.5°	75.8	88.5	101.7	125.4	96.9	85.7	80.6	66.6	58.2	57.2	55.7
69°	68.9	81.6	91.5	112.4	86.2	76.8	73.0	61.3	55.9	54.4	53.4
69.5°	62.0	75.0	84.7	100.2	77.3	69.2	66.4	57.5	53.7	52.1	51.4
70°	58.5	68.1	77.8	89.0	69.4	63.3	61.3	54.7	51.1	49.8	49.1
70.5°	55.9	61.5	71.2	81.9	63.6	58.5	57.5	52.4	48.8	47.5	47.0
71°	53.7	57.2	64.6	74.5	58.7	55.7	54.9	50.1	46.3	45.5	45.0
71.5°	51.4	54.2	57.7	67.4	55.4	53.4	52.6	47.8	44.0	43.2	42.7
72°	49.1	51.9	54.9	60.3	53.1	51.1	50.6	45.5	41.7	40.9	40.7
72.5°	46.5	49.6	52.9	56.4	50.9	48.8	48.3	43.2	39.4	38.9	38.6
73°	44.2	47.3	50.6	54.2	48.8	46.8	46.0	40.9	37.4	36.9	36.6
73.5°	42.0	45.0	48.3	51.9	46.5	44.5	44.0	38.9	35.3	34.8	34.8
74°	39.9	42.7	46.0	49.8	44.2	42.5	41.7	36.6	33.3	32.8	32.8
74.5°	37.6	40.7	44.0	47.5	42.2	40.2	39.7	34.6	31.3	30.8	31.0
75°	35.6	38.4	41.7	45.3	40.2	38.1	37.6	32.5	29.5	29.0	29.2
75.5°	33.6	36.4	39.7	43.2	38.1	36.1	35.6	30.8	27.7	27.2	27.5
76°	31.5	34.3	37.4	40.9	36.1	34.3	33.6	28.7	25.9	25.4	25.9
76.5°	29.7	32.3	35.6	38.9	34.1	32.3	31.8	27.0	24.2	23.6	24.2
77°	27.7	30.5	33.6	36.9	32.3	30.5	30.0	25.2	22.4	22.1	22.6
77.5°	25.9	28.5	31.5	34.8	30.5	28.7	28.2	23.4	20.8	20.6	21.1
78°	24.4	26.7	29.7	33.1	28.7	27.0	26.4	21.9	19.3	19.1	19.6
78.5°	22.6	24.9	28.0	31.0	27.0	25.4	24.7	20.3	17.8	17.3	18.1
79°	21.1	23.4	26.2	29.2	25.2	23.6	23.1	18.8	16.3	15.8	16.8
79.5°	19.6	21.6	24.4	27.7	23.6	22.4	21.6	17.3	14.7	14.5	15.3
80°	18.1	20.1	22.9	25.9	22.1	20.8	20.1	15.8	13.5	13.0	13.7
80.5°	16.5	18.6	21.4	24.2	20.6	19.3	18.6	14.2	12.2	11.7	12.5
81°	15.3	17.0	19.8	22.6	19.1	17.8	17.0	13.0	10.9	10.4	11.4
81.5°	14.0	15.8	18.3	21.1	17.5	16.5	15.5	11.4	9.7	9.2	10.2
82°	12.5	14.2	16.8	19.6	16.0	15.0	14.2	10.4	8.6	7.9	8.9
82.5°	11.2	13.0	15.5	18.3	14.7	13.7	13.0	9.2	7.4	6.9	7.9
83°	10.2	11.7	14.2	16.8	13.5	12.5	11.7	7.9	6.4	5.8	6.9
83.5°	8.9	10.7	13.0	15.5	12.5	11.2	10.4	6.9	5.3	4.8	5.8
84°	7.9	9.4	11.7	14.2	11.2	10.2	9.4	5.8	4.3	3.8	4.8
84.5°	6.9	8.4	10.4	13.0	9.9	8.9	8.1	4.8	3.6	3.1	4.1
85°	5.6	7.1	9.4	11.7	8.9	7.9	7.1	4.1	2.8	2.5	3.3
85.5°	4.6	6.1	8.1	10.4	7.9	6.9	6.1	3.3	2.0	2.0	2.5
86°	3.8	5.1	7.1	9.4	6.9	5.8	5.3	2.8	1.8	1.5	1.8
86.5°	2.8	4.1	6.4	8.4	5.8	4.8	4.3	2.0	1.3	1.0	1.0
87°	2.3	3.3	5.3	7.4	4.8	4.1	3.6	1.5	0.8	0.5	0.5
87.5°	1.8	2.8	4.6	6.4	3.8	3.1	2.8	1.0	0.5	0.3	0.0
88°	1.3	2.3	3.6	5.3	3.1	2.3	2.0	0.5	0.3	0.0	0.0
88.5°	0.8	1.5	2.8	4.3	2.3	1.5	1.3	0.3	0.0	0.0	0.0



TEST NUMBER: P776048
CATALOG NUMBER: HCDJBL51525CSD-HCD61TRMW-2500lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.3	0.8	1.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776048

CATALOG NUMBER: HCDJBL5125CSD-HCD61TRMW-2500lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1407.1	1407.1	1407.1	1407.1	1407.1	1407.1
0.5°	1403.6	1406.6	1407.1	1407.1	1407.9	1407.9
1°	1402.3	1405.6	1406.1	1406.4	1407.6	1407.9
1.5°	1400.8	1404.3	1405.1	1405.6	1407.1	1407.9
2°	1399.2	1403.0	1404.1	1404.6	1406.6	1407.6
2.5°	1397.7	1401.5	1402.8	1403.6	1405.8	1407.1
3°	1395.9	1400.0	1401.5	1402.5	1405.1	1406.9
3.5°	1394.1	1398.5	1400.0	1401.0	1404.3	1406.1
4°	1392.4	1396.7	1398.5	1399.7	1403.0	1405.6
4.5°	1390.3	1394.9	1396.7	1398.2	1402.0	1404.6
5°	1388.0	1392.9	1394.7	1396.4	1400.8	1403.8
5.5°	1385.8	1390.8	1392.9	1394.7	1399.5	1402.8
6°	1383.2	1388.6	1390.8	1392.9	1398.0	1401.8
6.5°	1380.7	1386.3	1388.8	1390.8	1396.4	1400.5
7°	1378.1	1383.7	1386.5	1388.8	1394.7	1399.2
7.5°	1375.3	1381.2	1384.0	1386.5	1392.9	1397.7
8°	1372.5	1378.6	1381.4	1384.2	1391.1	1396.2
8.5°	1369.5	1375.8	1378.9	1381.7	1389.1	1394.4
9°	1366.4	1373.0	1376.1	1379.1	1386.8	1392.6
9.5°	1363.4	1370.0	1373.3	1376.4	1384.5	1390.6
10°	1359.8	1366.7	1370.2	1373.6	1381.9	1388.8
10.5°	1356.5	1363.6	1367.2	1370.5	1379.4	1386.5
11°	1352.7	1360.1	1363.9	1367.5	1376.6	1384.2
11.5°	1349.1	1356.5	1360.3	1364.1	1374.1	1381.7
12°	1345.3	1353.0	1356.8	1360.8	1371.3	1379.1
12.5°	1341.3	1349.1	1353.2	1357.3	1368.0	1376.4
13°	1336.9	1345.1	1349.4	1353.7	1364.9	1373.6
13.5°	1332.9	1341.0	1345.3	1349.9	1361.3	1370.5
14°	1328.5	1336.9	1341.3	1346.1	1357.8	1367.5
14.5°	1324.0	1332.6	1336.9	1341.8	1354.2	1364.4
15°	1319.4	1328.0	1332.9	1338.0	1350.7	1361.1
15.5°	1314.6	1323.5	1328.3	1333.4	1346.6	1357.5
16°	1309.7	1318.6	1323.7	1328.8	1342.5	1354.0
16.5°	1304.6	1313.8	1318.6	1324.2	1338.2	1350.2
17°	1299.3	1308.7	1313.8	1319.4	1333.9	1346.1
17.5°	1294.2	1303.4	1308.7	1314.6	1329.6	1342.0
18°	1288.6	1298.3	1303.4	1309.5	1325.0	1338.0
18.5°	1283.0	1292.4	1298.0	1304.1	1320.2	1333.6
19°	1277.2	1287.1	1292.4	1298.8	1315.1	1329.1
19.5°	1271.1	1281.3	1286.8	1293.2	1310.0	1324.5
20°	1265.0	1275.2	1281.0	1287.6	1304.9	1319.6
20.5°	1258.9	1269.3	1274.6	1281.8	1299.6	1314.8
21°	1252.5	1262.7	1268.5	1275.7	1294.0	1309.7

TEST NUMBER: P776048

CATALOG NUMBER: HCDJBL51525CSD-HCD61TRMW-2500lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1232.2	1242.9	1249.2	1256.6	1276.4	1293.2
23°	1225.3	1236.2	1242.1	1249.7	1270.3	1287.6
23.5°	1217.9	1229.1	1235.2	1242.9	1264.0	1281.8
24°	1210.6	1221.8	1228.1	1235.7	1257.6	1275.7
24.5°	1203.2	1214.4	1220.7	1228.6	1251.0	1269.6
25°	1195.3	1206.8	1213.1	1221.5	1243.9	1262.9
25.5°	1187.4	1199.1	1205.2	1213.9	1236.8	1256.3
26°	1179.5	1191.0	1197.6	1206.2	1229.6	1249.5
26.5°	1171.2	1183.1	1189.5	1198.1	1222.3	1242.9
27°	1162.8	1174.7	1181.3	1190.0	1214.6	1235.5
27.5°	1154.4	1166.3	1172.7	1182.1	1207.0	1228.4
28°	1145.7	1157.7	1164.3	1173.7	1199.1	1220.7
28.5°	1136.6	1148.8	1155.6	1165.1	1191.0	1213.4
29°	1127.4	1139.9	1146.5	1156.2	1182.9	1205.5
29.5°	1118.3	1130.7	1137.6	1147.5	1174.2	1197.3
30°	1108.6	1121.8	1128.2	1138.1	1165.6	1189.2
30.5°	1099.2	1112.2	1118.8	1129.2	1156.9	1181.1
31°	1089.3	1102.5	1109.4	1119.5	1148.0	1172.4
31.5°	1079.1	1093.1	1100.0	1110.1	1138.9	1163.8
32°	1068.9	1083.2	1090.0	1100.2	1129.5	1154.9
32.5°	1058.8	1073.0	1079.9	1090.6	1120.0	1145.7
33°	1048.1	1063.1	1070.2	1080.6	1110.4	1136.6
33.5°	1037.4	1052.9	1060.0	1070.5	1100.5	1127.2
34°	1026.7	1042.2	1049.6	1060.0	1090.6	1117.5
34.5°	1015.5	1031.6	1038.9	1049.9	1080.4	1108.1
35°	1004.6	1020.9	1028.5	1038.9	1070.2	1097.9
35.5°	993.2	1010.0	1017.8	1028.3	1059.8	1088.0
36°	982.0	999.0	1006.9	1017.3	1049.1	1077.3
36.5°	970.3	988.1	996.2	1006.4	1038.4	1067.2
37°	958.8	976.9	985.0	995.5	1027.2	1057.0
37.5°	946.9	965.5	973.8	984.3	1016.6	1046.1
38°	935.2	954.0	962.7	972.8	1005.4	1035.1
38.5°	922.7	942.8	951.2	961.1	994.2	1024.2
39°	911.0	930.9	940.0	949.9	982.5	1013.0
39.5°	898.6	919.2	928.6	938.5	971.0	1002.1
40°	886.4	907.7	916.9	926.8	959.6	990.6
40.5°	874.2	896.0	905.2	914.9	947.9	978.9
41°	861.7	883.8	893.2	903.2	936.2	967.5
41.5°	849.0	871.9	881.5	891.2	924.0	955.8
42°	836.5	859.9	869.6	879.3	912.3	943.8
42.5°	823.8	848.0	857.6	867.3	900.1	931.9
43°	811.6	836.0	845.7	855.4	888.2	919.9
43.5°	798.9	823.6	833.7	842.9	876.0	908.0



TEST NUMBER: P776048

CATALOG NUMBER: HCDJBLS1525CSD-HCD61TRMW-2500lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	763.1	787.2	797.4	806.3	839.1	871.1
45.5°	751.1	775.3	785.2	794.1	826.4	858.7
46°	738.4	763.1	773.2	782.1	814.2	846.2
46.5°	725.2	751.1	761.0	769.7	801.7	833.5
47°	710.9	738.9	749.3	757.7	789.8	821.3
47.5°	694.7	725.4	736.9	745.5	777.6	809.1
48°	676.9	711.9	723.4	732.3	765.3	796.9
48.5°	657.5	696.7	709.4	718.6	752.9	784.2
49°	637.7	679.7	695.2	704.6	739.7	772.2
49.5°	617.6	661.1	677.6	688.3	726.2	758.7
50°	597.5	641.3	659.3	670.2	711.4	745.0
50.5°	576.4	620.7	638.7	650.4	694.7	730.0
51°	555.3	600.1	618.4	630.1	675.8	713.0
51.5°	534.2	578.7	596.8	609.2	655.8	693.9
52°	512.9	557.6	575.9	587.9	635.4	674.6
52.5°	492.0	535.7	554.6	566.3	614.8	654.5
53°	470.6	513.4	532.4	544.6	594.2	633.9
53.5°	450.1	491.8	509.6	522.3	572.9	612.5
54°	429.2	469.9	487.9	500.4	551.5	591.4
54.5°	408.4	449.0	465.8	478.5	529.9	569.8
55°	388.0	427.4	443.4	457.7	508.0	548.2
55.5°	367.7	406.3	422.1	436.1	486.4	526.3
56°	348.1	385.7	400.7	415.0	464.8	505.0
56.5°	329.3	365.1	379.6	394.4	443.4	482.6
57°	309.7	345.0	359.0	374.3	422.1	461.0
57.5°	290.9	325.5	338.7	353.4	401.2	439.1
58°	272.1	305.9	318.9	333.6	380.4	417.0
58.5°	254.8	287.3	300.3	314.8	359.8	395.4
59°	237.7	269.3	282.0	295.7	340.2	374.0
59.5°	221.0	251.5	264.4	277.4	320.6	352.9
60°	203.9	234.7	247.1	259.6	301.6	331.6
60.5°	187.1	217.7	230.6	242.1	283.0	310.7
61°	170.1	201.6	214.6	225.3	264.2	291.1
61.5°	155.4	186.6	199.6	208.8	246.1	271.0
62°	141.1	172.4	184.9	193.5	228.6	252.2
62.5°	128.2	158.4	170.9	178.5	211.6	233.9
63°	115.9	145.4	157.6	164.0	195.0	216.4
63.5°	105.3	133.2	145.2	150.8	179.5	199.1
64°	95.1	121.8	133.5	138.1	164.3	182.8
64.5°	86.5	111.1	122.0	126.4	149.5	167.1
65°	79.3	101.5	111.9	115.2	135.8	151.8
65.5°	73.0	92.3	102.2	105.0	123.1	137.3
66°	67.6	85.9	93.3	95.6	111.6	123.6



TEST NUMBER: P776048

CATALOG NUMBER: HCDJBL51525CSD-HCD61TRMW-2500lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	56.2	67.1	74.0	74.0	85.4	89.2
68°	54.2	60.8	67.6	69.7	79.6	82.4
68.5°	51.9	57.2	61.3	65.1	73.5	75.8
69°	49.8	54.9	57.5	60.5	67.6	68.9
69.5°	47.8	52.9	54.9	55.9	61.5	62.0
70°	45.8	50.9	52.9	53.9	57.7	58.5
70.5°	43.7	48.6	50.9	51.6	54.9	55.9
71°	41.7	46.5	48.8	49.6	52.6	53.7
71.5°	39.7	44.5	46.8	47.5	50.3	51.4
72°	37.6	42.5	44.5	45.5	48.1	49.1
72.5°	35.9	40.4	42.5	43.5	46.0	46.5
73°	34.1	38.4	40.4	41.4	43.7	44.2
73.5°	32.0	36.6	38.6	39.4	41.7	42.0
74°	30.3	34.6	36.6	37.4	39.4	39.9
74.5°	28.7	32.8	34.8	35.3	37.4	37.6
75°	27.0	31.0	33.1	33.6	35.3	35.6
75.5°	25.4	29.2	31.3	31.8	33.3	33.6
76°	23.6	27.7	29.5	30.0	31.5	31.5
76.5°	22.1	25.9	27.7	28.2	29.5	29.7
77°	20.8	24.4	26.2	26.4	27.7	27.7
77.5°	19.3	22.9	24.4	24.7	25.9	25.9
78°	18.1	21.4	22.9	23.1	24.2	24.4
78.5°	16.5	19.8	21.4	21.6	22.6	22.6
79°	15.3	18.6	19.8	20.1	21.1	21.1
79.5°	14.0	17.0	18.6	18.6	19.3	19.6
80°	12.7	15.8	17.0	17.3	18.1	18.1
80.5°	11.4	14.5	15.8	15.8	16.5	16.5
81°	10.4	13.2	14.5	14.5	15.0	15.3
81.5°	9.2	12.0	13.2	13.2	13.7	14.0
82°	8.1	10.9	12.0	12.0	12.5	12.5
82.5°	7.1	9.7	10.9	10.9	11.2	11.2
83°	6.1	8.6	9.7	9.7	9.9	10.2
83.5°	5.1	7.6	8.6	8.6	8.6	8.9
84°	4.1	6.6	7.6	7.6	7.6	7.9
84.5°	3.1	5.6	6.6	6.6	6.6	6.9
85°	2.3	4.6	5.6	5.6	5.3	5.6
85.5°	1.5	3.6	4.6	4.6	4.6	4.6
86°	0.8	2.5	3.6	3.8	3.8	3.8
86.5°	0.3	1.8	2.8	2.8	3.1	2.8
87°	0.0	1.0	1.8	2.0	2.3	2.3
87.5°	0.0	0.5	1.0	1.3	1.8	1.8
88°	0.0	0.0	0.5	0.5	1.3	1.3
88.5°	0.0	0.0	0.0	0.3	0.8	0.8



TEST NUMBER: P776048

CATALOG NUMBER: HCDJBL1525CSD-HCD61TRMW-2500lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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21.5°	1304.4	1319.9	1333.1	1346.3	1339.0	1331.6	1324.2	1308.0	1294.2	1280.0	1265.2
22°	1298.8	1315.1	1328.5	1342.3	1334.7	1327.3	1319.4	1302.6	1288.6	1274.4	1259.1



44°	896.0	928.1	955.5	985.5	959.9	944.6	932.7	900.9	874.9	847.0	819.3
44.5°	883.3	915.6	943.1	973.6	947.4	932.7	920.2	888.4	862.2	834.5	806.8



66.5°	111.1	131.7	154.3	187.6	149.8	133.7	125.1	101.5	80.3	79.3	71.4
67°	99.9	119.3	139.8	170.4	134.8	120.0	112.1	90.5	72.2	72.2	66.1



89°	0.5	1.0	2.0	3.6	1.5	0.8	0.5	0.0	0.0	0.0	0.0
89.5°	0.3	0.5	1.3	2.5	0.8	0.3	0.3	0.0	0.0	0.0	0.0

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21.5°	1245.9	1256.3	1262.2	1269.3	1288.4	1304.4
22°	1239.0	1250.0	1255.8	1262.9	1282.5	1298.8



44°	787.0	811.4	821.5	830.9	863.7	896.0
44.5°	775.0	799.2	809.3	818.5	851.3	883.3



66.5°	63.1	79.6	87.0	87.0	100.9	111.1
67°	59.2	73.2	80.3	79.6	91.5	99.9

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89°	0.0	0.0	0.0	0.0	0.3	0.5
89.5°	0.0	0.0	0.0	0.0	0.0	0.3

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(END OF REPORT)