

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: P776146

Luminaire Tested: HCDJBS1525CSD-HCD81TRMW-2500lm-3000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776146  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B044)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS1525CSD-HCD81TRMW-2500lm-3000K  
Description: 8 INCH ROUND SHALLOW-WIDE MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

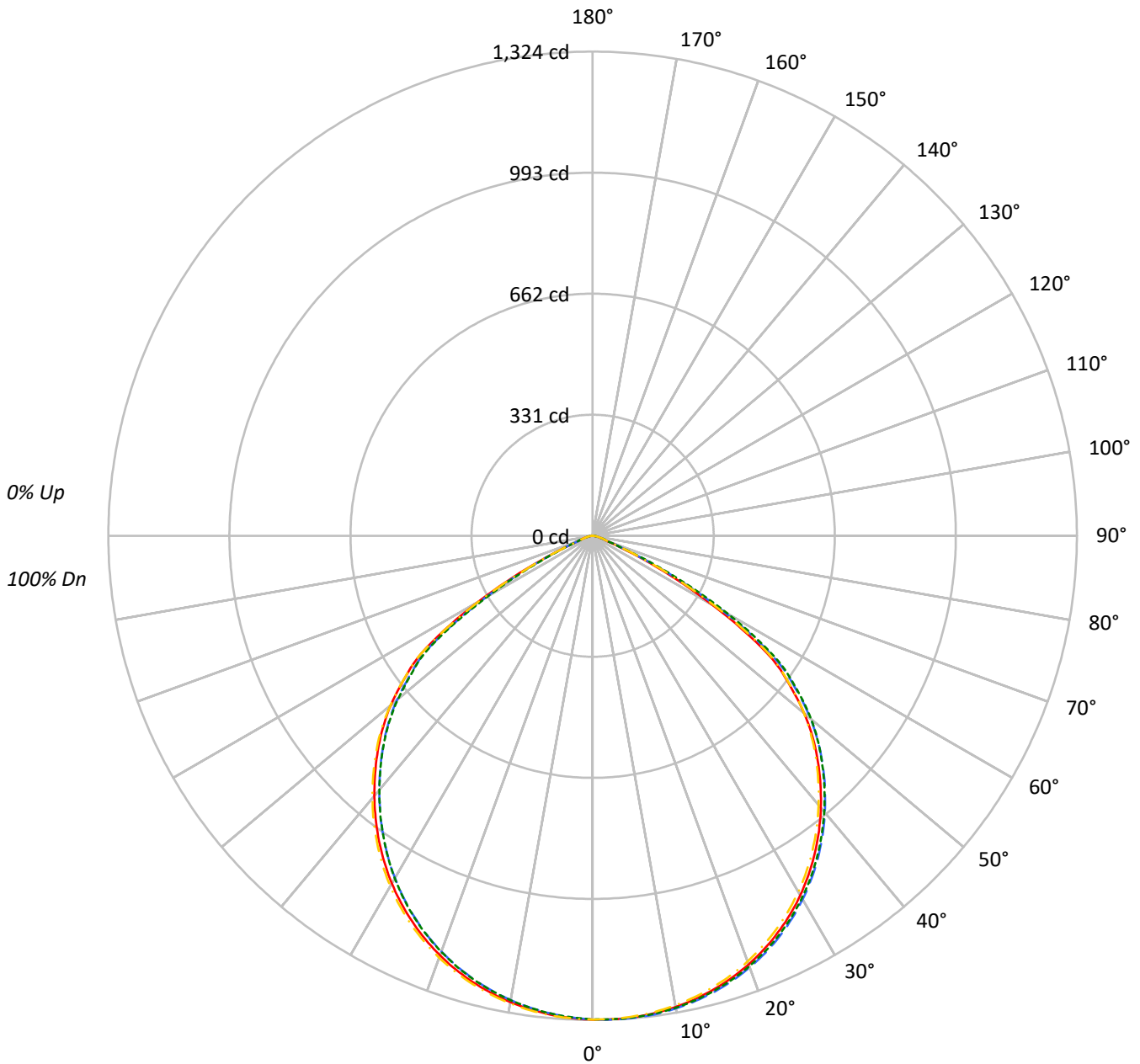
Lumens per Lamp: N/A  
Luminaire Lumens: 3048.5 lumens  
Efficiency: N/A  
Efficacy: 121.9 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.25 / 1.35  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

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: P776146  
CATALOG NUMBER: HCDJBL51525CSD-HCD81TRMW-2500lm-3000K

### Luminous Intensity Polar Plot





TEST NUMBER: P776146

CATALOG NUMBER: HCDJBL5125CSD-HCD81TRMW-2500lm-3000K

**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	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	100	100	100	100		
	1	111	107	104	101	109	105	102	99	101	98	96	97	95	93	94	92	91	89	89	89	89	89	89		
	2	103	96	90	85	100	94	89	84	91	86	83	87	84	81	85	82	79	77	77	77	77	77	77		
	3	95	86	79	73	92	84	78	72	81	76	71	79	74	70	76	72	69	67	67	67	67	67	67		
	4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	69	64	60	58	58	58	58	58	58		
	5	81	69	61	55	79	68	60	55	66	59	54	64	58	54	62	57	53	51	51	51	51	51	51		
	6	75	62	54	48	73	62	54	48	60	53	48	58	52	47	57	51	47	45	45	45	45	45	45		
	7	69	57	49	43	68	56	48	43	55	48	43	53	47	42	52	46	42	40	40	40	40	40	40		
	8	65	52	44	39	63	51	44	38	50	43	38	49	43	38	48	42	38	36	36	36	36	36	36		
	9	60	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	32	32	32	32	32	32		
	10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	29	29	29	29	29	29		

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

	0°	90°	180°	270°
0°	40385	40385	40385	40385
5°	40497	40509	40291	40184
10°	40559	40627	40144	39976
15°	40577	40694	39939	39705
20°	40524	40700	39663	39335
25°	40343	40592	39255	38820
30°	40016	40340	38701	38126
35°	39481	39906	37953	37215
40°	38683	39257	36993	36144
45°	37602	38366	35854	34891
50°	35850	37024	34198	32963
55°	32735	34327	31197	29882
60°	23148	26061	22049	20181
65°	11363	13596	10258	9261
70°	3615	3990	3642	3571
75°	2619	2937	2654	2713
80°	1828	2163	1828	1952
85°	1051	1471	1051	1226

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 38453 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.2	4.1
10°-20°	359.2	11.8
20°-30°	543.7	17.8
30°-40°	648.1	21.3
40°-50°	654.0	21.5
50°-60°	519.5	17.0
60°-70°	168.4	5.5
70°-80°	25.8	0.8
80°-90°	4.5	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°	1028.1	33.7
0°-40°	1676.2	55.0
0°-60°	2849.7	93.5
0°-90°	3048.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3048.5	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1323	1323	1323	1323	1323	
5°	1321	1322	1315	1311	1321	126
15°	1284	1288	1264	1256	1284	362
25°	1198	1205	1165	1152	1198	552
35°	1059	1071	1018	998	1059	662
45°	871	889	830	808	871	670
55°	615	645	586	561	615	531
65°	157	188	142	128	157	170
75°	22	25	22	23	22	25
85°	3	4	3	4	3	4
90°	0	0	0	0	0	



TEST NUMBER: P776146

CATALOG NUMBER: HCDJBLS1525CSD-HCD81TRMW-2500lm-3000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8
0.5°	1323.6	1323.3	1323.3	1323.6	1322.3	1322.6	1323.1	1323.1	1322.8	1322.3	1322.1
1°	1323.6	1323.6	1323.8	1324.1	1322.8	1322.8	1322.8	1322.8	1322.3	1321.6	1321.4
1.5°	1323.8	1323.8	1324.1	1324.3	1323.1	1322.8	1322.8	1322.6	1321.6	1320.9	1320.4
2°	1323.6	1323.8	1324.3	1324.6	1323.3	1322.8	1322.6	1322.1	1321.1	1319.9	1319.4
2.5°	1323.3	1323.8	1324.3	1324.6	1323.3	1322.8	1322.1	1321.4	1320.1	1319.1	1318.4
3°	1323.3	1323.8	1324.3	1324.6	1323.1	1322.6	1321.8	1320.6	1319.4	1317.9	1317.4
3.5°	1322.8	1323.6	1324.1	1324.6	1323.1	1322.1	1321.1	1319.9	1318.4	1316.7	1315.9
4°	1322.6	1323.3	1323.8	1324.1	1322.8	1321.8	1320.4	1318.9	1317.2	1315.4	1314.7
4.5°	1321.8	1322.8	1323.6	1323.8	1322.3	1321.1	1319.6	1317.9	1315.9	1313.9	1313.0
5°	1321.4	1322.3	1323.3	1323.3	1321.8	1320.6	1318.6	1316.7	1314.7	1312.5	1311.5
5.5°	1320.6	1321.6	1322.6	1322.8	1321.1	1319.9	1317.6	1315.4	1313.0	1310.7	1309.7
6°	1319.6	1320.9	1321.8	1322.1	1320.4	1318.9	1316.4	1314.2	1311.5	1309.0	1308.0
6.5°	1318.6	1320.1	1321.1	1321.4	1319.6	1317.9	1315.2	1312.7	1309.7	1307.0	1306.0
7°	1317.4	1319.1	1320.4	1320.4	1318.6	1316.7	1313.9	1311.2	1308.0	1305.1	1303.8
7.5°	1316.2	1317.9	1319.4	1319.4	1317.6	1315.4	1312.7	1309.3	1306.0	1303.1	1301.8
8°	1314.9	1316.7	1318.1	1318.4	1316.4	1314.2	1311.0	1307.5	1304.1	1300.9	1299.4
8.5°	1313.2	1315.4	1316.9	1316.9	1315.2	1312.5	1309.3	1305.5	1301.8	1298.6	1297.1
9°	1311.7	1314.2	1315.7	1315.7	1313.7	1311.0	1307.3	1303.6	1299.6	1296.2	1294.7
9.5°	1310.0	1312.5	1314.2	1314.2	1312.2	1309.5	1305.5	1301.3	1297.4	1293.7	1292.0
10°	1308.3	1311.0	1312.5	1312.5	1310.5	1307.5	1303.6	1299.1	1294.9	1291.0	1289.2
10.5°	1306.3	1309.3	1310.7	1310.7	1308.8	1305.5	1301.6	1296.7	1292.2	1288.3	1286.3
11°	1304.3	1307.3	1309.0	1309.0	1306.8	1303.6	1299.1	1294.2	1289.5	1285.3	1283.3
11.5°	1302.1	1305.3	1307.0	1307.0	1304.8	1301.3	1296.7	1291.7	1286.8	1282.3	1280.4
12°	1299.9	1303.3	1305.1	1305.1	1302.6	1299.1	1294.2	1288.8	1283.8	1279.4	1277.1
12.5°	1297.6	1301.1	1302.8	1302.8	1300.6	1296.7	1291.7	1286.0	1280.6	1275.9	1273.7
13°	1294.9	1298.6	1300.6	1300.4	1298.1	1294.2	1289.0	1283.1	1277.4	1272.7	1270.5
13.5°	1292.2	1295.9	1298.1	1297.9	1295.7	1291.5	1286.3	1279.9	1274.2	1269.2	1266.8
14°	1289.5	1293.4	1295.7	1295.4	1293.0	1288.8	1283.3	1276.9	1270.7	1265.8	1263.1
14.5°	1286.8	1290.7	1293.2	1292.7	1290.5	1285.8	1280.1	1273.4	1267.3	1262.1	1259.4
15°	1283.8	1288.3	1290.5	1290.0	1287.5	1283.1	1276.9	1270.0	1263.6	1258.1	1255.7
15.5°	1280.6	1285.0	1287.5	1287.0	1284.6	1279.9	1273.7	1266.8	1259.9	1254.4	1251.5
16°	1277.4	1282.1	1284.6	1283.8	1281.3	1276.7	1270.2	1262.8	1255.9	1250.2	1247.3
16.5°	1274.2	1278.9	1281.3	1280.6	1278.4	1273.4	1266.8	1259.1	1252.0	1246.3	1243.1
17°	1270.5	1275.7	1278.1	1277.4	1275.2	1270.0	1263.1	1255.2	1248.0	1242.1	1238.6
17.5°	1267.0	1272.2	1274.9	1273.9	1271.7	1266.5	1259.1	1251.2	1243.6	1237.4	1234.2
18°	1263.3	1268.5	1271.2	1270.5	1268.3	1262.8	1255.4	1247.0	1239.4	1232.9	1229.5
18.5°	1259.6	1265.0	1267.8	1266.5	1264.5	1258.9	1251.5	1242.8	1234.9	1228.2	1224.8
19°	1255.4	1261.3	1263.8	1263.1	1260.6	1254.9	1247.3	1238.4	1230.2	1223.3	1219.8
19.5°	1251.5	1257.4	1260.1	1259.1	1256.6	1251.0	1243.1	1233.9	1225.5	1218.6	1214.9
20°	1247.3	1253.2	1256.2	1255.2	1252.7	1246.8	1238.6	1229.5	1220.8	1213.7	1209.7
20.5°	1243.1	1249.0	1252.0	1251.0	1248.5	1242.6	1234.2	1224.5	1215.6	1208.5	1204.5
21°	1238.4	1244.8	1247.5	1246.8	1244.0	1238.1	1229.2	1219.6	1210.7	1203.0	1199.1



TEST NUMBER: P776146

CATALOG NUMBER: HCDJBLS1525CSD-HCD81TRMW-2500lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1224.3	1231.0	1234.2	1232.9	1230.5	1224.0	1214.7	1204.5	1194.7	1186.5	1182.3
23°	1219.1	1226.3	1229.2	1228.2	1225.8	1219.1	1209.7	1198.9	1189.0	1181.1	1176.4
23.5°	1214.2	1221.3	1224.5	1223.3	1220.6	1214.2	1204.3	1193.7	1183.3	1174.9	1170.4
24°	1208.7	1216.1	1219.4	1218.4	1215.6	1209.0	1198.9	1188.0	1177.6	1169.2	1164.3
24.5°	1203.3	1211.0	1214.2	1212.9	1210.5	1203.5	1193.4	1182.3	1171.4	1162.8	1157.9
25°	1197.6	1205.5	1208.7	1207.5	1205.0	1197.9	1188.0	1176.4	1165.3	1156.6	1151.4
25.5°	1192.2	1200.1	1203.3	1202.1	1199.6	1192.4	1182.3	1170.2	1159.3	1150.4	1145.0
26°	1186.5	1194.4	1197.6	1196.6	1193.9	1186.7	1176.4	1164.3	1152.9	1143.8	1138.6
26.5°	1180.6	1188.7	1192.2	1190.9	1188.0	1181.1	1170.2	1158.1	1146.5	1137.1	1131.7
27°	1174.4	1182.8	1186.0	1185.0	1182.1	1175.1	1164.3	1151.7	1139.8	1130.4	1124.8
27.5°	1168.2	1176.6	1180.3	1178.8	1176.4	1169.0	1157.9	1145.3	1133.2	1123.5	1117.8
28°	1161.8	1170.4	1174.2	1172.7	1170.2	1162.8	1151.4	1138.3	1126.2	1116.6	1110.9
28.5°	1155.4	1164.0	1167.7	1166.5	1163.8	1156.4	1145.0	1131.7	1119.3	1109.2	1103.5
29°	1149.0	1157.9	1161.3	1160.1	1157.4	1149.7	1138.1	1124.8	1112.4	1102.3	1096.1
29.5°	1142.0	1151.4	1154.9	1153.7	1150.9	1143.3	1131.4	1117.8	1105.0	1094.6	1088.7
30°	1135.1	1144.5	1148.0	1147.0	1144.3	1136.4	1124.5	1110.7	1097.8	1087.2	1081.0
30.5°	1128.5	1137.6	1141.3	1140.1	1137.6	1129.7	1117.6	1103.5	1090.2	1079.6	1073.1
31°	1121.1	1130.7	1134.4	1133.2	1130.4	1122.5	1110.2	1096.1	1082.8	1071.9	1065.5
31.5°	1113.9	1123.5	1127.2	1126.0	1123.5	1115.4	1103.0	1088.4	1075.1	1064.0	1057.6
32°	1106.5	1116.1	1120.1	1118.8	1116.4	1108.2	1095.6	1081.0	1067.2	1056.1	1049.7
32.5°	1098.8	1108.7	1112.9	1111.4	1108.9	1100.8	1088.0	1073.1	1059.3	1047.9	1041.0
33°	1091.4	1101.3	1105.5	1104.0	1101.8	1093.4	1080.3	1065.5	1051.2	1039.8	1033.1
33.5°	1083.5	1093.6	1097.8	1096.6	1094.1	1085.7	1072.4	1057.3	1043.3	1031.1	1024.5
34°	1075.4	1085.7	1090.2	1088.7	1086.2	1078.1	1064.7	1049.2	1034.9	1022.8	1016.1
34.5°	1067.5	1077.8	1082.3	1080.8	1078.3	1069.9	1056.6	1041.0	1026.5	1014.4	1007.2
35°	1059.3	1069.7	1074.4	1072.9	1070.7	1062.0	1048.4	1032.9	1018.3	1005.7	998.8
35.5°	1050.9	1061.5	1066.2	1064.7	1062.5	1053.9	1040.0	1024.2	1009.7	996.8	989.9
36°	1042.5	1053.4	1057.8	1056.8	1054.6	1045.7	1031.9	1015.6	1000.8	988.2	981.0
36.5°	1033.9	1044.7	1049.4	1048.4	1046.0	1037.3	1023.5	1007.2	992.1	979.3	972.1
37°	1025.2	1036.1	1041.0	1040.0	1037.8	1028.9	1014.8	998.8	983.0	970.1	963.2
37.5°	1016.6	1027.4	1032.6	1031.4	1029.2	1020.0	1006.2	989.7	974.1	961.3	953.8
38°	1007.4	1018.6	1023.7	1022.8	1020.5	1011.6	997.3	980.8	965.2	951.9	944.7
38.5°	998.5	1009.7	1014.8	1014.1	1011.6	1002.7	988.4	971.9	956.1	942.7	935.3
39°	989.4	1000.5	1006.0	1005.0	1003.0	993.9	979.5	962.7	946.9	933.3	926.2
39.5°	980.0	991.4	996.8	996.1	994.1	984.7	970.1	953.6	937.5	924.0	916.8
40°	970.6	982.0	987.9	986.9	985.0	975.8	961.0	944.0	928.2	914.6	907.2
40.5°	961.3	972.6	978.3	977.8	975.8	966.4	951.6	934.6	918.8	904.7	897.8
41°	951.4	963.0	968.9	968.4	966.2	957.1	942.2	925.2	909.1	895.3	887.9
41.5°	941.5	953.4	959.3	959.0	957.1	947.7	932.9	915.8	899.8	885.7	878.3
42°	931.9	943.7	949.9	949.6	947.7	938.0	923.2	906.4	889.9	875.8	868.4
42.5°	922.0	933.8	940.3	940.0	938.0	928.4	913.6	896.5	880.0	866.2	858.8
43°	912.1	923.7	930.4	930.4	928.7	918.8	904.0	886.9	870.4	856.0	848.9
43.5°	902.0	913.8	920.5	920.7	918.8	908.9	894.1	877.0	860.5	846.2	839.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	870.9	882.7	890.1	890.6	888.6	878.8	864.2	847.4	830.4	815.8	808.9
45.5°	860.0	872.1	879.5	880.5	878.5	868.4	853.8	836.8	820.2	805.7	798.7
46°	849.4	861.7	869.1	870.1	868.1	858.0	843.7	826.6	809.9	795.3	788.4
46.5°	838.5	850.4	858.5	859.5	857.8	847.6	833.1	816.3	799.2	784.9	778.0
47°	827.1	839.5	847.6	848.9	847.4	836.8	822.2	805.4	788.6	774.3	767.1
47.5°	815.8	828.1	836.5	838.0	836.8	825.9	811.3	794.5	778.0	763.2	756.3
48°	804.4	816.5	825.4	826.9	825.4	815.0	801.2	783.9	767.1	752.3	745.4
48.5°	792.3	804.7	813.6	815.5	814.5	804.2	789.4	772.8	755.8	741.2	734.0
49°	780.5	793.1	802.0	804.4	803.2	792.3	778.0	761.2	743.9	729.3	722.2
49.5°	767.9	780.7	789.8	792.3	791.6	780.7	766.1	749.3	732.3	717.5	710.1
50°	754.8	767.9	777.5	780.2	779.5	768.9	754.5	737.5	720.0	705.1	697.5
50.5°	741.4	754.3	764.7	767.1	766.9	756.8	741.9	724.6	707.4	692.0	684.6
51°	728.3	741.2	751.3	754.5	754.3	743.4	728.6	711.6	694.0	679.0	671.5
51.5°	714.0	727.1	737.5	740.9	741.4	730.3	715.5	698.2	681.2	666.4	658.5
52°	699.9	713.5	723.9	727.4	727.6	716.7	701.9	684.4	667.1	652.5	644.6
52.5°	685.9	699.0	709.8	713.0	713.8	702.7	687.8	670.6	653.8	638.9	631.3
53°	671.8	684.6	695.5	699.5	699.7	688.8	673.8	656.7	640.2	625.6	618.2
53.5°	658.0	670.3	681.4	685.1	685.9	675.2	659.9	643.6	627.3	613.3	606.1
54°	644.6	657.2	667.8	672.0	672.3	661.4	646.8	630.5	615.0	600.7	593.3
54.5°	630.8	643.6	654.3	658.5	658.7	648.6	633.8	617.0	601.4	587.1	579.9
55°	615.0	627.6	638.9	643.4	644.9	634.0	619.2	602.1	586.1	572.0	564.8
55.5°	597.4	610.0	622.1	626.6	628.8	618.2	602.6	585.3	567.8	553.2	546.8
56°	577.0	591.3	602.4	607.1	610.8	600.4	583.9	565.1	547.3	533.2	526.3
56.5°	555.2	570.0	581.4	586.6	590.8	580.7	563.9	544.1	526.3	511.3	504.3
57°	532.0	546.6	559.2	564.6	569.5	558.4	541.6	522.1	503.6	488.5	481.1
57.5°	507.5	521.4	536.0	542.4	547.3	535.5	518.7	499.4	480.6	465.8	457.4
58°	482.1	496.2	512.0	519.7	524.6	511.3	494.0	475.2	457.2	441.9	433.5
58.5°	457.2	470.7	487.0	496.2	501.4	487.3	469.8	451.5	433.7	418.9	409.5
59°	430.7	445.6	462.4	472.2	476.7	461.1	444.1	426.3	409.2	394.7	384.8
59.5°	405.3	419.6	436.9	447.0	451.7	435.9	418.4	401.1	385.0	370.7	360.8
60°	379.1	394.7	411.5	422.3	426.8	410.5	392.7	375.4	361.1	347.3	337.6
60.5°	354.4	369.7	385.8	396.7	401.8	386.0	367.0	351.0	337.1	323.5	314.2
61°	329.5	345.3	360.1	371.0	375.9	361.1	342.1	325.5	312.9	300.8	291.4
61.5°	305.3	321.6	335.4	344.8	351.2	337.6	317.6	301.3	289.5	278.6	269.0
62°	281.8	297.4	311.2	319.3	326.8	312.9	293.9	277.4	266.5	256.9	247.7
62.5°	259.1	274.4	287.2	293.7	301.6	289.2	270.2	253.9	245.3	236.6	228.0
63°	237.1	251.7	263.8	269.2	277.6	266.0	249.5	232.9	224.0	216.4	208.0
63.5°	215.6	229.7	240.1	244.3	254.4	244.8	228.5	211.7	202.8	195.9	188.0
64°	194.9	208.0	217.8	221.0	232.4	223.3	207.5	190.4	181.5	175.6	168.2
64.5°	175.4	187.7	196.1	198.6	210.4	202.0	186.5	169.4	160.5	155.1	150.4
65°	157.3	167.9	175.1	177.3	188.2	180.5	165.7	150.9	142.0	137.3	134.1
65.5°	139.1	148.9	155.4	157.6	166.2	159.3	147.0	133.9	125.2	120.5	119.0
66°	120.5	130.7	136.1	138.3	146.0	139.8	129.9	118.3	109.2	105.2	105.0





TEST NUMBER: P776146

CATALOG NUMBER: HCDJBLS1525CSD-HCD81TRMW-2500lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	79.0	84.2	87.7	89.7	94.1	91.4	85.7	78.8	68.9	69.2	70.6
68°	69.9	74.6	78.5	80.3	80.3	77.8	73.4	68.7	59.5	60.8	62.0
68.5°	60.8	65.2	69.6	70.9	68.4	65.9	63.2	59.8	52.1	54.3	54.8
69°	51.9	55.8	60.8	61.7	58.5	56.3	55.1	52.4	46.7	48.9	48.9
69.5°	42.7	46.4	51.9	52.4	50.6	49.1	48.2	46.4	43.0	44.5	44.2
70°	40.5	42.0	43.0	43.0	44.7	44.0	43.2	42.2	40.8	41.0	41.2
70.5°	38.5	39.3	40.0	40.0	41.0	40.8	40.5	39.8	38.8	39.0	39.0
71°	36.3	37.3	38.0	38.0	38.8	38.8	38.5	37.8	36.8	37.0	37.3
71.5°	34.3	35.6	36.3	36.3	37.0	36.8	36.6	35.8	34.6	35.1	35.3
72°	32.4	33.6	34.3	34.3	35.1	35.1	34.8	34.1	32.8	33.3	33.6
72.5°	30.6	31.6	32.6	32.6	33.3	33.1	32.8	32.1	30.9	31.4	31.9
73°	28.6	29.9	30.6	30.9	31.6	31.4	31.1	30.4	29.1	29.6	30.1
73.5°	26.9	28.2	28.9	29.1	29.9	29.6	29.4	28.6	27.4	27.9	28.4
74°	25.4	26.4	27.4	27.4	28.2	27.9	27.9	26.9	25.7	26.2	26.7
74.5°	23.7	24.7	25.7	25.7	26.4	26.4	26.2	25.2	24.0	24.7	25.2
75°	22.2	23.2	24.2	24.2	24.9	24.7	24.7	23.7	22.5	23.0	23.7
75.5°	20.7	21.7	22.7	22.7	23.5	23.2	23.2	22.2	21.2	21.5	22.2
76°	19.3	20.3	21.2	21.2	22.0	22.0	21.7	20.7	19.8	20.3	21.0
76.5°	18.0	18.8	19.8	20.0	20.7	20.5	20.5	19.5	18.5	19.0	19.5
77°	16.8	17.5	18.5	18.8	19.3	19.3	19.0	18.3	17.0	17.5	18.3
77.5°	15.6	16.3	17.3	17.5	18.0	18.0	17.8	16.8	15.8	16.3	17.0
78°	14.3	15.1	16.1	16.3	16.8	16.8	16.5	15.6	14.6	15.1	15.6
78.5°	13.3	14.1	14.8	15.1	15.6	15.6	15.3	14.3	13.3	13.8	14.6
79°	12.3	12.8	13.8	14.1	14.3	14.3	14.1	13.1	12.3	12.6	13.3
79.5°	11.1	11.9	12.8	12.8	13.3	13.3	13.1	12.1	11.4	11.6	12.3
80°	10.4	10.9	11.6	11.9	12.3	12.3	12.1	11.1	10.4	10.6	11.4
80.5°	9.4	9.9	10.6	10.9	11.4	11.4	11.1	10.1	9.4	9.6	10.4
81°	8.4	8.9	9.9	10.1	10.4	10.4	10.1	9.1	8.4	8.6	9.4
81.5°	7.7	8.2	8.9	9.1	9.4	9.4	9.1	8.4	7.7	7.9	8.4
82°	6.9	7.4	8.2	8.2	8.6	8.6	8.4	7.4	6.9	6.9	7.7
82.5°	5.9	6.4	7.2	7.4	7.7	7.7	7.4	6.7	5.9	6.2	6.9
83°	5.2	5.7	6.4	6.7	6.9	6.9	6.7	5.9	5.2	5.4	6.2
83.5°	4.7	4.9	5.7	5.9	6.2	6.2	5.9	5.2	4.7	4.7	5.4
84°	4.0	4.2	4.9	5.2	5.4	5.4	5.2	4.4	4.0	4.2	4.7
84.5°	3.5	3.7	4.2	4.4	4.7	4.7	4.4	3.7	3.5	3.5	4.0
85°	3.0	3.2	3.7	4.0	4.2	4.2	4.0	3.2	3.0	3.0	3.5
85.5°	2.2	2.5	3.2	3.5	3.5	3.5	3.2	2.5	2.5	2.2	3.0
86°	2.0	2.0	2.7	2.7	3.0	3.0	2.7	2.0	2.0	1.7	2.5
86.5°	1.5	1.5	2.2	2.2	2.5	2.5	2.2	1.7	1.5	1.5	2.0
87°	1.0	1.2	1.7	2.0	2.0	2.0	1.7	1.2	1.0	1.0	1.5
87.5°	0.7	1.0	1.2	1.5	1.5	1.5	1.5	1.0	0.7	0.7	1.2
88°	0.5	0.7	1.0	1.0	1.2	1.2	1.0	0.7	0.5	0.5	0.7
88.5°	0.2	0.5	0.5	0.7	0.7	0.7	0.7	0.5	0.2	0.2	0.5



TEST NUMBER: P776146  
CATALOG NUMBER: HCDJBL51525CSD-HCD81TRMW-2500lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
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: P776146

CATALOG NUMBER: HCDJBLS1525CSD-HCD81TRMW-2500lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8
0.5°	1322.3	1321.4	1321.8	1322.6	1323.3	1323.6
1°	1321.6	1320.6	1321.4	1322.3	1323.3	1323.6
1.5°	1320.9	1319.9	1320.6	1322.1	1323.3	1323.8
2°	1319.9	1319.1	1319.9	1321.6	1323.1	1323.6
2.5°	1318.9	1318.1	1319.1	1320.9	1322.6	1323.3
3°	1317.6	1316.9	1318.1	1320.1	1322.1	1323.3
3.5°	1316.4	1315.7	1317.2	1319.4	1321.6	1322.8
4°	1314.9	1314.4	1315.9	1318.4	1320.9	1322.6
4.5°	1313.5	1313.0	1314.7	1317.4	1320.1	1321.8
5°	1312.0	1311.2	1313.5	1316.2	1319.1	1321.4
5.5°	1310.0	1309.7	1312.0	1314.9	1318.1	1320.6
6°	1308.3	1308.0	1310.2	1313.7	1316.9	1319.6
6.5°	1306.5	1306.0	1308.5	1312.0	1315.7	1318.6
7°	1304.3	1304.1	1307.0	1310.5	1314.4	1317.4
7.5°	1302.3	1301.8	1305.1	1308.8	1313.0	1316.2
8°	1299.9	1299.6	1302.8	1306.8	1311.5	1314.9
8.5°	1297.6	1297.1	1300.6	1305.1	1309.5	1313.2
9°	1295.2	1294.7	1298.1	1302.8	1307.8	1311.7
9.5°	1292.5	1292.2	1295.9	1300.6	1305.8	1310.0
10°	1289.7	1289.5	1293.4	1298.4	1303.8	1308.3
10.5°	1286.8	1286.8	1290.7	1295.9	1301.6	1306.3
11°	1284.1	1283.8	1288.0	1293.4	1299.4	1304.3
11.5°	1280.8	1280.8	1285.0	1290.7	1297.1	1302.1
12°	1277.6	1277.6	1282.1	1288.0	1294.4	1299.9
12.5°	1274.4	1274.4	1279.1	1285.0	1292.0	1297.6
13°	1271.0	1271.0	1275.9	1282.1	1289.2	1294.9
13.5°	1267.3	1267.5	1272.5	1278.9	1286.3	1292.2
14°	1263.6	1263.6	1269.0	1275.7	1283.3	1289.5
14.5°	1259.9	1259.9	1265.5	1272.5	1280.1	1286.8
15°	1256.2	1256.2	1261.8	1269.0	1276.9	1283.8
15.5°	1252.0	1252.2	1257.6	1265.3	1273.7	1280.6
16°	1247.8	1248.0	1253.7	1261.6	1270.2	1277.4
16.5°	1243.6	1243.8	1249.7	1257.6	1266.5	1274.2
17°	1239.4	1239.6	1245.5	1253.7	1262.8	1270.5
17.5°	1234.4	1234.9	1241.3	1249.7	1259.1	1267.0
18°	1230.0	1230.5	1236.6	1245.5	1254.9	1263.3
18.5°	1225.3	1225.5	1232.2	1241.1	1251.0	1259.6
19°	1220.3	1220.8	1227.5	1236.6	1246.8	1255.4
19.5°	1215.4	1215.6	1222.6	1232.2	1242.6	1251.5
20°	1210.2	1210.7	1217.6	1227.5	1237.9	1247.3
20.5°	1204.8	1205.3	1212.7	1222.6	1233.4	1243.1
21°	1199.3	1199.8	1207.2	1217.6	1228.7	1238.4

TEST NUMBER: P776146

CATALOG NUMBER: HCDJBLS1525CSD-HCD81TRMW-2500lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1182.3	1183.0	1191.2	1201.8	1213.9	1224.3
23°	1176.6	1177.1	1185.3	1196.4	1208.7	1219.1
23.5°	1170.4	1171.2	1179.6	1190.9	1203.3	1214.2
24°	1164.3	1165.0	1173.7	1185.0	1197.9	1208.7
24.5°	1158.1	1158.8	1167.2	1179.3	1192.2	1203.3
25°	1151.7	1152.4	1161.1	1173.2	1186.5	1197.6
25.5°	1145.0	1146.0	1154.9	1167.2	1180.6	1192.2
26°	1138.6	1139.3	1148.5	1160.8	1174.6	1186.5
26.5°	1131.7	1132.7	1142.0	1154.6	1168.2	1180.6
27°	1124.8	1125.7	1135.1	1148.0	1162.1	1174.4
27.5°	1117.8	1118.6	1128.2	1141.3	1155.6	1168.2
28°	1110.7	1111.4	1121.3	1134.6	1149.2	1161.8
28.5°	1103.3	1104.3	1114.4	1127.7	1142.5	1155.4
29°	1095.9	1096.8	1106.7	1120.8	1135.6	1149.0
29.5°	1088.2	1089.4	1099.6	1113.6	1128.7	1142.0
30°	1080.3	1081.5	1092.2	1106.2	1121.8	1135.1
30.5°	1072.6	1073.9	1084.3	1098.8	1114.4	1128.5
31°	1065.0	1066.0	1076.8	1091.4	1107.0	1121.1
31.5°	1056.8	1058.1	1068.9	1083.8	1099.6	1113.9
32°	1048.7	1049.7	1060.8	1076.1	1092.2	1106.5
32.5°	1040.3	1041.5	1052.6	1068.0	1084.5	1098.8
33°	1032.1	1033.4	1044.7	1060.0	1076.8	1091.4
33.5°	1023.7	1024.7	1036.1	1052.1	1068.7	1083.5
34°	1015.1	1016.1	1027.7	1043.7	1060.5	1075.4
34.5°	1006.2	1007.7	1019.3	1035.3	1052.4	1067.5
35°	997.6	998.5	1010.7	1027.0	1044.0	1059.3
35.5°	988.9	990.2	1001.8	1018.3	1035.6	1050.9
36°	980.0	981.0	993.1	1009.7	1027.0	1042.5
36.5°	970.9	972.4	984.2	1001.0	1018.6	1033.9
37°	962.0	963.2	975.1	992.1	1009.7	1025.2
37.5°	952.6	953.8	965.9	983.0	1000.8	1016.6
38°	943.5	944.5	956.6	973.9	991.6	1007.4
38.5°	934.3	935.3	947.4	964.7	982.5	998.5
39°	924.7	925.9	938.0	955.6	973.4	989.4
39.5°	915.3	916.3	928.7	945.9	964.2	980.0
40°	905.9	906.9	919.0	936.6	954.8	970.6
40.5°	896.3	897.3	909.1	926.9	945.4	961.3
41°	886.9	887.7	899.8	917.3	935.6	951.4
41.5°	877.0	877.5	889.6	907.4	925.9	941.5
42°	867.4	868.1	880.0	898.0	916.3	931.9
42.5°	857.8	858.0	870.1	888.1	906.2	922.0
43°	847.6	848.4	860.5	878.0	896.3	912.1
43.5°	837.8	838.3	850.1	867.9	886.2	902.0



TEST NUMBER: P776146

CATALOG NUMBER: HCDJBLS1525CSD-HCD81TRMW-2500lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	807.9	808.1	819.5	837.3	855.5	870.9
45.5°	797.8	797.8	809.1	826.9	844.7	860.0
46°	787.4	787.1	798.5	816.3	834.1	849.4
46.5°	777.0	776.3	787.9	805.4	823.2	838.5
47°	766.4	765.9	776.8	794.3	812.1	827.1
47.5°	755.3	754.5	765.2	782.9	800.7	815.8
48°	744.2	743.2	753.8	771.3	788.9	804.4
48.5°	732.8	731.3	742.2	759.5	777.0	792.3
49°	720.9	719.5	730.1	747.1	765.2	780.5
49.5°	708.8	707.1	717.5	735.0	752.6	767.9
50°	696.2	694.0	704.6	721.7	739.7	754.8
50.5°	683.4	681.4	691.5	708.6	726.1	741.4
51°	670.3	668.1	678.5	695.5	712.8	728.3
51.5°	657.0	654.7	664.6	682.2	699.2	714.0
52°	643.1	641.4	651.5	668.3	685.1	699.9
52.5°	629.8	628.1	638.2	654.5	670.3	685.9
53°	617.0	615.5	625.4	641.4	657.2	671.8
53.5°	604.4	603.4	613.3	628.8	644.1	658.0
54°	592.3	591.0	600.7	616.5	631.3	644.6
54.5°	578.7	577.2	587.1	602.4	617.2	630.8
55°	564.1	561.4	572.0	587.3	602.1	615.0
55.5°	546.8	542.6	553.2	568.6	583.6	597.4
56°	525.8	521.9	532.7	547.8	563.1	577.0
56.5°	503.8	499.6	510.3	526.1	540.9	555.2
57°	481.1	476.2	487.0	502.9	518.4	532.0
57.5°	457.4	451.7	463.6	479.4	494.5	507.5
58°	433.5	427.0	439.6	455.7	470.3	482.1
58.5°	408.5	402.8	415.4	431.7	443.8	457.2
59°	383.6	377.9	391.0	406.5	419.4	430.7
59.5°	359.1	354.4	367.0	382.3	394.2	405.3
60°	334.7	330.5	343.3	357.6	368.3	379.1
60.5°	311.0	307.0	319.6	332.9	342.3	354.4
61°	287.2	283.5	295.9	308.2	317.9	329.5
61.5°	265.3	262.0	273.2	284.8	293.9	305.3
62°	245.3	239.8	251.4	260.8	269.5	281.8
62.5°	225.5	219.1	229.7	237.8	246.7	259.1
63°	205.7	199.1	208.5	215.6	224.0	237.1
63.5°	186.0	179.8	188.4	194.4	202.8	215.6
64°	166.2	161.3	168.4	173.9	181.8	194.9
64.5°	149.7	144.5	149.9	154.9	163.0	175.4
65°	134.1	128.2	132.4	136.6	144.7	157.3
65.5°	119.5	113.6	115.8	119.8	127.7	139.1
66°	105.7	99.8	100.3	104.5	112.1	120.5



TEST NUMBER: P776146  
 CATALOG NUMBER: HCDJBL1525CSD-HCD81TRMW-2500lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	72.1	71.1	70.6	73.8	76.3	79.0
68°	63.0	63.0	62.7	65.2	67.4	69.9
68.5°	55.3	54.8	54.8	56.6	58.8	60.8
69°	49.1	46.7	46.9	47.9	49.9	51.9
69.5°	44.2	42.5	42.7	43.5	44.5	42.7
70°	41.0	40.0	40.3	40.8	41.0	40.5
70.5°	39.0	38.3	38.5	38.8	38.8	38.5
71°	37.3	36.3	36.6	37.0	37.0	36.3
71.5°	35.3	34.6	34.8	35.1	35.1	34.3
72°	33.6	32.6	32.8	33.3	33.1	32.4
72.5°	31.6	30.9	31.1	31.6	31.4	30.6
73°	29.9	29.1	29.4	29.6	29.4	28.6
73.5°	28.4	27.7	27.7	28.2	27.7	26.9
74°	26.7	25.9	26.2	26.4	26.2	25.4
74.5°	25.2	24.5	24.7	24.9	24.5	23.7
75°	23.7	23.0	23.2	23.2	23.0	22.2
75.5°	22.2	21.5	21.7	22.0	21.5	20.7
76°	21.0	20.3	20.3	20.5	20.0	19.3
76.5°	19.5	18.8	19.0	19.0	18.5	18.0
77°	18.3	17.5	17.8	17.8	17.3	16.8
77.5°	17.0	16.3	16.5	16.5	16.1	15.6
78°	15.8	15.3	15.3	15.6	14.8	14.3
78.5°	14.6	14.1	14.3	14.3	13.8	13.3
79°	13.6	13.1	13.1	13.3	12.6	12.3
79.5°	12.6	12.1	12.1	12.1	11.6	11.1
80°	11.6	11.1	11.1	11.1	10.6	10.4
80.5°	10.6	10.1	10.1	10.1	9.6	9.4
81°	9.6	9.4	9.4	9.4	8.9	8.4
81.5°	8.6	8.4	8.6	8.4	7.9	7.7
82°	7.9	7.7	7.7	7.7	7.2	6.9
82.5°	7.2	6.9	6.9	6.9	6.2	5.9
83°	6.4	5.9	6.2	5.9	5.4	5.2
83.5°	5.7	5.4	5.4	5.2	4.7	4.7
84°	4.9	4.7	4.7	4.7	4.2	4.0
84.5°	4.2	4.0	4.2	4.0	3.5	3.5
85°	3.7	3.5	3.5	3.5	3.0	3.0
85.5°	3.2	3.0	3.0	3.0	2.2	2.2
86°	2.5	2.5	2.5	2.5	2.0	2.0
86.5°	2.2	2.0	2.0	2.0	1.5	1.5
87°	1.7	1.5	1.5	1.5	1.2	1.0
87.5°	1.2	1.0	1.0	1.0	1.0	0.7
88°	0.7	0.7	0.7	0.7	0.5	0.5
88.5°	0.5	0.2	0.2	0.2	0.2	0.2



TEST NUMBER: P776146

CATALOG NUMBER: HCDJBL1525CSD-HCD81TRMW-2500lm-3000K

**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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Scaled Data Report



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Scaled Data Report





21.5°	1233.7	1240.3	1243.3	1242.3	1239.6	1233.4	1224.5	1214.7	1205.5	1197.6	1193.7
22°	1229.0	1235.9	1238.6	1237.9	1235.2	1228.7	1219.6	1209.7	1200.3	1192.4	1188.0



44°	891.6	903.7	910.4	910.6	908.6	899.0	884.2	867.4	850.4	836.0	829.1
44.5°	881.2	893.1	900.0	900.7	899.0	888.6	874.1	857.3	840.5	826.2	819.0



66.5°	103.5	114.4	118.6	120.8	127.4	122.3	113.6	103.5	94.1	91.4	92.4
67°	88.2	98.5	102.3	104.2	110.4	106.2	98.8	90.6	80.3	79.3	80.8



89°	0.0	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.0	0.0	0.0
89.5°	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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21.5°	1193.9	1194.7	1202.1	1212.7	1223.8	1233.7
22°	1188.2	1189.0	1196.6	1207.2	1218.9	1229.0



44°	827.9	828.4	840.2	858.0	876.0	891.6
44.5°	818.0	818.3	829.9	847.9	865.9	881.2



66.5°	93.4	87.7	86.7	90.9	98.5	103.5
67°	82.5	79.5	78.5	82.2	85.2	88.2

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89°	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



(END OF REPORT)