

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: P775669

Luminaire Tested: HCDJBS510CSD-HCD4TRC-1000lm-5000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775669
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2310613A001)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD4TRC-1000lm-5000K
Description: 4 INCH ROUND MEDIUM SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

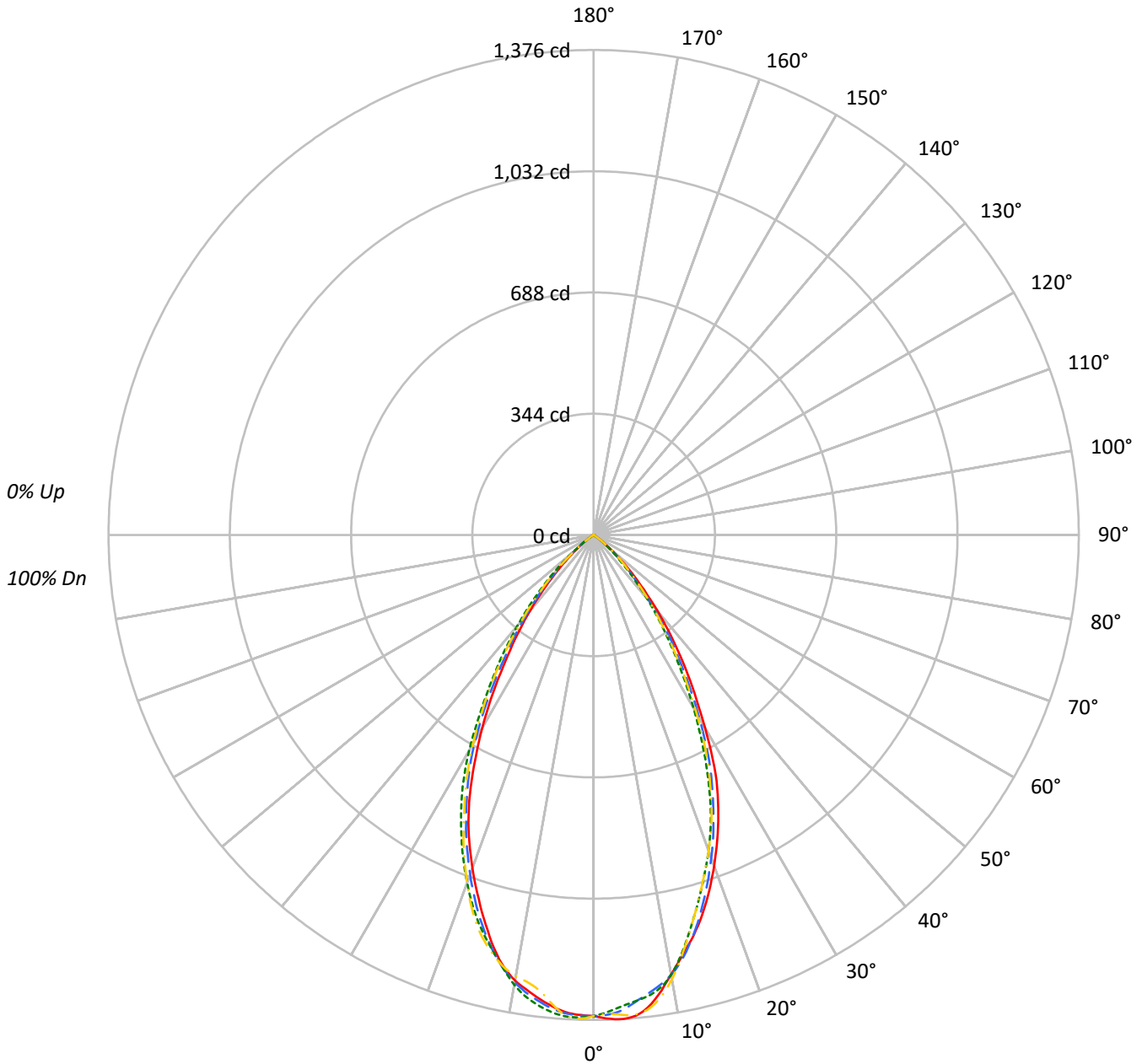
Lumens per Lamp: N/A
Luminaire Lumens: 1242.1 lumens
Efficiency: N/A
Efficacy: 124.2 lumens/watt
Spacing Criteria (0/90/45): 0.87 / 0.87 / 0.88
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): 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



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Luminous Intensity Polar Plot





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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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93	93	93	93	93	93		
	2	108	103	98	95	105	101	97	94	98	95	92	95	92	90	92	90	88	86	86	86	86	86	86		
	3	102	95	90	86	100	94	89	86	91	87	84	89	86	83	87	84	82	80	80	80	80	80	80		
	4	97	89	83	79	95	88	82	78	85	81	77	83	80	76	82	78	76	74	74	74	74	74	74		
	5	91	83	77	72	90	82	76	72	80	75	71	78	74	71	77	73	70	69	69	69	69	69	69		
	6	87	78	71	67	85	77	71	67	75	70	66	74	69	66	72	68	65	64	64	64	64	64	64		
	7	82	73	66	62	81	72	66	62	71	65	62	69	65	61	68	64	61	60	60	60	60	60	60		
	8	78	68	62	58	77	68	62	58	67	61	57	66	61	57	65	60	57	56	56	56	56	56	56		
	9	74	64	58	54	73	64	58	54	63	58	54	62	57	54	61	57	53	52	52	52	52	52	52		
	10	71	61	55	51	70	60	54	51	59	54	50	59	54	50	58	53	50	49	49	49	49	49	49		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	171835	171835	171835	171835
5°	172997	167919	169662	171772
10°	161784	161860	164058	165669
15°	149364	144764	151396	154184
20°	133766	127605	134703	140556
25°	115892	106978	115990	123571
30°	91725	82134	91711	102624
35°	67722	58658	66908	77416
40°	46246	38673	45836	55266
45°	27195	21126	26786	34563
50°	11571	9398	12472	16759
55°	2348	2282	3949	4937
60°	378	453	428	579
65°	208	268	208	357
70°	110	147	147	184
75°	49	97	97	146
80°	0	72	72	72
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 270°
 Vertical Angle: 45°
 Luminance: 34563 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.4	10.2
10°-20°	321.3	25.9
20°-30°	376.9	30.3
30°-40°	275.9	22.2
40°-50°	121.7	9.8
50°-60°	18.6	1.5
60°-70°	0.9	0.1
70°-80°	0.2	0.0
80°-90°	0.0	0.0
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°	824.7	66.4
0°-40°	1100.6	88.6
0°-60°	1240.9	99.9
0°-90°	1242.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1242.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1365	1365	1365	1365	1365	
5°	1369	1329	1343	1360	1369	127
15°	1146	1111	1162	1183	1146	319
25°	835	770	835	890	835	378
35°	441	382	436	504	441	276
45°	153	119	150	194	153	120
55°	11	10	18	22	11	15
65°	1	1	1	1	1	1
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1365.4	1365.4	1365.4	1365.4	1365.4	1365.4	1365.4	1365.4	1365.4	1365.4	1365.4
0.5°	1367.9	1366.1	1364.3	1364.0	1362.0	1362.0	1363.0	1363.8	1364.5	1364.9	1365.1
1°	1370.2	1366.8	1363.5	1361.8	1359.1	1359.3	1361.1	1362.4	1363.5	1364.2	1365.0
1.5°	1372.2	1367.5	1362.3	1358.9	1355.5	1357.2	1359.8	1361.8	1362.7	1363.4	1364.5
2°	1374.0	1367.9	1360.6	1355.3	1351.4	1355.0	1359.8	1362.2	1362.0	1362.3	1363.7
2.5°	1375.4	1367.7	1357.9	1350.3	1347.3	1353.2	1360.8	1363.1	1360.6	1360.4	1362.6
3°	1376.2	1366.6	1354.5	1345.0	1343.0	1352.2	1362.4	1364.1	1358.7	1357.5	1361.0
3.5°	1376.0	1364.4	1349.9	1339.3	1339.2	1351.4	1364.4	1365.0	1355.6	1353.7	1359.2
4°	1375.0	1361.1	1344.5	1333.1	1335.5	1350.9	1365.9	1365.1	1351.9	1349.0	1356.6
4.5°	1372.8	1356.5	1338.2	1327.3	1332.3	1350.2	1366.6	1364.4	1347.8	1343.3	1353.2
5°	1369.4	1351.0	1331.8	1321.9	1329.2	1349.1	1365.9	1362.4	1343.0	1337.0	1349.2
5.5°	1364.4	1344.6	1325.5	1316.8	1326.1	1347.0	1363.9	1359.5	1337.8	1330.1	1344.5
6°	1358.1	1337.2	1319.3	1312.4	1322.9	1343.8	1360.3	1355.3	1332.4	1323.5	1339.5
6.5°	1350.0	1329.5	1313.3	1308.2	1319.3	1339.9	1355.3	1350.1	1326.8	1316.8	1334.2
7°	1340.4	1320.9	1307.8	1304.2	1314.9	1334.4	1348.8	1343.6	1321.2	1311.0	1328.8
7.5°	1329.8	1311.8	1301.7	1300.1	1309.9	1327.1	1341.0	1336.4	1315.4	1305.1	1323.2
8°	1318.1	1302.0	1295.8	1295.8	1304.0	1318.6	1330.9	1327.9	1309.3	1299.9	1317.2
8.5°	1305.9	1291.2	1289.5	1290.7	1296.8	1308.9	1319.9	1318.6	1303.3	1295.4	1311.1
9°	1292.5	1280.4	1282.7	1284.9	1288.1	1297.1	1307.5	1308.3	1297.0	1291.4	1304.2
9.5°	1279.0	1269.4	1275.4	1278.1	1278.2	1284.3	1294.4	1296.9	1290.9	1287.2	1296.9
10°	1266.0	1258.3	1267.3	1270.2	1266.6	1270.5	1279.5	1284.8	1283.8	1282.7	1288.8
10.5°	1253.4	1247.0	1258.2	1260.7	1254.1	1255.1	1264.4	1271.6	1276.0	1277.9	1280.6
11°	1241.3	1235.7	1248.2	1248.9	1240.6	1239.1	1248.0	1257.7	1267.1	1272.6	1271.4
11.5°	1229.4	1223.9	1236.7	1237.3	1225.1	1223.2	1231.5	1242.8	1257.4	1265.9	1261.8
12°	1217.6	1211.8	1224.2	1223.6	1209.2	1204.5	1213.2	1227.1	1246.5	1258.2	1251.6
12.5°	1206.0	1199.5	1211.4	1208.2	1193.1	1187.2	1196.4	1210.9	1234.6	1248.8	1240.3
13°	1194.7	1187.2	1197.6	1192.6	1176.9	1171.6	1178.9	1194.7	1220.8	1238.0	1228.7
13.5°	1183.4	1173.9	1183.7	1177.9	1160.3	1153.1	1161.7	1178.3	1206.9	1226.4	1216.6
14°	1171.4	1160.2	1169.3	1161.5	1143.6	1136.8	1144.6	1161.6	1192.8	1213.2	1204.2
14.5°	1159.0	1146.3	1154.7	1145.3	1127.1	1120.9	1128.3	1145.6	1177.7	1199.5	1191.2
15°	1146.4	1132.1	1139.3	1129.0	1111.1	1104.1	1111.1	1129.6	1162.0	1185.3	1177.4
15.5°	1133.1	1117.2	1123.9	1112.5	1095.0	1087.7	1095.2	1113.6	1146.8	1170.9	1163.5
16°	1119.6	1102.4	1107.9	1095.9	1079.0	1072.0	1078.3	1098.1	1131.1	1155.5	1149.5
16.5°	1104.9	1086.9	1091.9	1079.7	1062.8	1056.5	1062.3	1083.1	1115.9	1140.2	1135.1
17°	1090.8	1071.5	1075.4	1063.2	1047.4	1040.5	1046.4	1067.1	1100.5	1124.7	1120.2
17.5°	1075.8	1055.5	1059.0	1046.8	1031.5	1025.1	1031.1	1051.9	1084.2	1108.8	1104.8
18°	1060.7	1039.7	1042.3	1030.5	1015.5	1009.2	1014.4	1036.9	1068.7	1092.8	1089.3
18.5°	1045.4	1023.4	1025.7	1014.0	999.6	993.8	998.6	1021.6	1053.6	1076.1	1073.3
19°	1030.1	1007.5	1008.4	997.3	984.2	978.3	983.0	1005.9	1037.7	1060.1	1057.3
19.5°	1014.5	991.2	992.2	980.9	968.5	963.5	968.2	991.1	1021.9	1043.3	1041.0
20°	998.8	975.5	975.1	964.7	952.8	948.1	952.3	976.0	1005.8	1026.6	1024.7
20.5°	982.9	959.3	958.5	948.3	937.3	933.0	936.8	960.4	989.9	1009.8	1008.2
21°	967.0	942.7	941.6	931.6	920.6	917.2	921.5	945.3	973.7	993.2	991.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	918.6	892.1	888.3	878.2	868.3	867.4	873.4	898.2	925.1	943.2	941.7
23°	902.3	874.4	870.1	859.7	849.5	849.2	855.6	881.3	908.9	926.7	925.4
23.5°	885.6	857.0	851.8	840.7	829.8	831.8	838.0	864.1	891.1	909.2	908.1
24°	868.6	839.2	833.6	821.3	810.0	813.0	819.4	845.6	872.9	891.6	890.0
24.5°	852.0	821.6	815.2	801.1	790.1	794.3	800.8	826.7	853.8	873.5	872.4
25°	834.6	803.2	796.8	781.4	770.4	775.5	782.2	807.8	835.3	855.2	855.6
25.5°	817.4	785.4	778.5	761.1	750.6	756.6	763.6	789.1	815.3	836.6	837.0
26°	799.7	767.4	760.1	740.6	729.8	735.8	744.9	770.2	795.1	818.0	819.6
26.5°	781.1	748.7	741.3	720.2	708.8	716.3	726.0	751.3	775.1	799.4	802.1
27°	760.8	729.2	722.3	699.9	688.1	695.1	706.1	730.9	754.9	780.7	784.6
27.5°	740.2	710.0	701.9	680.0	667.4	674.3	687.4	709.8	733.6	762.2	767.1
28°	719.1	689.7	681.5	660.0	646.4	653.6	666.5	688.3	712.3	743.6	749.5
28.5°	697.2	668.7	661.2	639.9	625.8	632.7	646.1	667.2	691.9	723.5	730.4
29°	675.0	647.8	640.5	620.3	605.4	611.8	625.5	645.7	671.7	703.3	710.8
29.5°	652.6	626.2	619.6	600.6	585.3	590.9	604.3	625.6	651.5	683.0	690.5
30°	631.2	604.8	599.4	581.1	565.2	569.9	582.6	604.3	631.1	662.3	670.0
30.5°	610.3	583.2	579.2	561.7	545.1	549.6	562.1	583.4	610.9	641.5	649.2
31°	589.9	561.0	559.1	541.6	525.7	529.0	541.2	563.5	590.4	621.4	628.2
31.5°	570.0	540.1	539.5	522.2	506.3	509.2	520.9	544.0	570.0	601.6	607.6
32°	550.2	520.0	520.2	502.9	487.2	490.9	500.7	524.2	550.4	581.8	586.9
32.5°	531.8	500.2	501.3	483.2	468.6	471.9	482.0	505.4	530.3	562.4	566.3
33°	513.8	480.9	482.7	463.8	450.2	453.7	462.7	486.5	510.4	542.8	546.2
33.5°	495.6	461.8	464.4	446.0	432.2	436.8	444.3	468.1	490.9	524.2	525.1
34°	477.2	443.6	446.1	428.2	415.0	418.1	426.3	450.2	471.9	505.6	505.0
34.5°	458.6	426.0	428.5	410.5	398.2	401.1	408.5	432.4	453.3	487.2	485.6
35°	440.8	408.6	410.6	393.8	381.8	385.8	391.3	415.0	435.5	469.0	466.8
35.5°	423.4	391.9	392.8	380.3	365.7	368.9	374.7	398.4	418.3	450.5	447.7
36°	405.6	382.1	381.1	364.0	350.4	351.7	358.7	381.4	402.2	432.4	429.5
36.5°	389.0	364.7	363.3	347.8	335.2	336.8	343.1	365.6	386.0	414.4	411.7
37°	373.3	347.2	345.4	331.5	320.2	321.2	327.7	349.4	370.1	396.7	395.0
37.5°	357.7	329.7	327.4	315.3	305.6	305.9	313.2	333.3	355.0	379.6	377.9
38°	342.2	312.3	309.4	300.3	291.0	291.4	298.9	318.8	339.2	362.4	361.8
38.5°	326.5	297.5	293.1	285.4	276.5	277.1	284.8	304.3	324.4	346.4	345.8
39°	310.9	283.3	278.7	270.4	262.5	263.8	271.2	288.8	309.0	330.3	330.1
39.5°	296.0	269.2	264.1	255.9	248.7	250.5	257.4	274.8	294.1	314.8	314.3
40°	281.5	255.1	250.2	241.6	235.4	237.5	244.3	261.1	279.0	299.1	299.4
40.5°	267.1	241.5	235.7	227.3	221.7	225.0	231.7	247.3	265.3	284.2	284.7
41°	252.7	228.6	222.9	213.8	209.2	212.6	219.4	234.1	250.8	269.3	270.3
41.5°	239.1	215.7	210.0	200.8	196.4	200.8	207.7	221.1	236.9	254.9	255.9
42°	225.4	203.2	197.5	188.1	184.3	189.4	196.2	208.8	223.7	240.7	242.4
42.5°	212.4	191.1	184.9	175.8	172.3	178.2	185.2	196.7	210.9	227.1	228.8
43°	199.7	178.8	173.7	164.3	160.8	167.4	174.9	184.8	198.5	213.6	215.8
43.5°	187.6	167.2	162.5	153.0	149.8	156.9	164.4	173.6	186.1	200.6	203.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	152.8	134.8	131.3	121.6	118.7	128.0	135.4	142.1	150.5	164.5	168.2
45.5°	141.9	124.5	121.7	112.2	109.5	119.2	126.4	132.2	139.4	153.5	157.2
46°	131.3	115.1	112.6	103.1	101.7	110.6	117.6	122.8	128.8	142.9	146.3
46.5°	120.7	105.9	104.0	94.7	93.9	102.9	109.2	114.0	118.3	132.8	136.1
47°	110.5	97.0	95.6	86.8	86.0	95.2	101.7	105.3	108.7	122.8	126.6
47.5°	100.7	88.6	87.6	79.3	78.3	87.5	94.4	97.7	100.9	113.5	117.1
48°	91.7	80.5	80.1	72.5	70.6	79.9	86.9	90.0	93.1	105.5	107.8
48.5°	82.7	72.8	72.9	66.1	64.4	72.3	79.4	82.3	85.3	97.5	99.6
49°	74.3	65.7	66.1	59.9	58.6	65.8	72.0	74.6	77.4	89.4	91.4
49.5°	66.5	58.9	59.7	54.4	53.2	59.5	65.2	67.9	69.7	81.4	83.2
50°	59.1	52.4	53.4	49.2	48.0	53.5	59.0	61.4	63.7	73.4	75.1
50.5°	52.4	46.2	47.7	44.1	43.1	47.9	52.9	55.6	58.0	66.5	68.0
51°	46.0	40.4	42.2	39.2	38.5	42.4	47.2	50.1	52.6	60.1	61.4
51.5°	39.9	35.8	36.9	35.2	34.1	37.4	41.7	44.8	47.4	54.3	54.8
52°	35.2	31.2	32.5	31.1	29.9	32.7	36.8	39.8	42.7	48.7	48.7
52.5°	30.6	26.7	28.3	27.1	25.7	28.3	31.8	35.0	38.1	43.4	42.9
53°	26.0	22.1	24.0	22.9	21.9	24.0	27.3	30.5	33.8	38.4	37.5
53.5°	21.4	17.5	19.7	19.0	18.2	20.2	23.1	26.1	29.3	33.7	32.4
54°	16.8	14.2	16.2	15.6	15.1	16.6	19.2	22.2	25.2	29.2	27.7
54.5°	13.5	11.3	13.1	12.6	12.8	14.1	15.8	18.4	21.3	24.8	23.5
55°	10.7	8.4	10.2	9.7	10.4	11.5	13.2	15.2	18.0	21.0	19.4
55.5°	7.8	5.9	7.5	7.0	8.1	9.0	10.8	12.8	15.5	17.5	15.9
56°	5.3	3.9	5.1	4.9	5.8	6.4	8.3	10.3	13.0	14.7	13.4
56.5°	3.5	3.4	3.5	3.5	3.5	3.9	5.9	7.9	10.4	12.0	10.9
57°	3.1	3.0	3.2	3.2	3.0	3.0	3.4	5.5	7.9	9.4	8.4
57.5°	2.7	2.5	2.8	2.9	2.7	2.7	2.7	3.1	5.4	6.7	6.0
58°	2.2	2.0	2.5	2.6	2.5	2.3	2.3	2.5	2.9	4.1	3.5
58.5°	1.9	1.8	2.1	2.2	2.2	2.2	2.1	2.1	2.3	2.9	2.7
59°	1.7	1.7	1.9	2.0	2.0	2.0	1.9	1.9	2.0	2.3	2.3
59.5°	1.6	1.6	1.8	1.9	1.9	1.9	1.8	1.8	1.8	2.0	2.1
60°	1.5	1.4	1.6	1.7	1.8	1.7	1.7	1.6	1.7	1.8	1.9
60.5°	1.4	1.3	1.5	1.6	1.7	1.6	1.5	1.5	1.6	1.7	1.8
61°	1.3	1.3	1.4	1.5	1.5	1.5	1.4	1.4	1.4	1.6	1.6
61.5°	1.2	1.2	1.3	1.4	1.5	1.4	1.3	1.3	1.3	1.4	1.5
62°	1.1	1.1	1.2	1.3	1.4	1.3	1.3	1.2	1.2	1.3	1.4
62.5°	1.0	1.0	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.3	1.3
63°	1.0	1.0	1.1	1.2	1.2	1.2	1.1	1.1	1.1	1.2	1.2
63.5°	0.9	0.9	1.0	1.1	1.1	1.1	1.0	1.0	1.0	1.1	1.2
64°	0.9	0.9	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.1
64.5°	0.7	0.7	0.9	1.0	1.0	1.0	0.9	0.9	0.9	1.0	1.0
65°	0.7	0.7	0.9	0.9	0.9	0.9	0.9	0.7	0.7	0.9	1.0
65.5°	0.6	0.6	0.7	0.9	0.9	0.9	0.7	0.7	0.7	0.9	0.9
66°	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.7



TEST NUMBER: P775669

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.6
68°	0.4	0.4	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.6
68.5°	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
69°	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.5
69.5°	0.3	0.3	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5
70°	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
70.5°	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4
71°	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4
71.5°	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4
72°	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
72.5°	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
73°	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3
73.5°	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3
74°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
74.5°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
75°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
75.5°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
76°	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2
76.5°	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2
77°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
77.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
78°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
78.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
79°	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
79.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
80°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
80.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1
81°	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1
81.5°	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775669
CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-5000K

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: P775669

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1365.4	1365.4	1365.4	1365.4	1365.4	1365.4
0.5°	1366.7	1366.6	1367.5	1368.6	1368.7	1367.9
1°	1367.4	1368.2	1369.8	1371.2	1371.5	1370.2
1.5°	1367.8	1369.3	1371.1	1372.8	1373.7	1372.2
2°	1368.2	1370.0	1371.2	1373.4	1375.3	1374.0
2.5°	1368.4	1369.9	1370.1	1372.3	1375.8	1375.4
3°	1368.3	1369.1	1367.0	1369.0	1375.2	1376.2
3.5°	1368.2	1367.8	1362.2	1364.0	1373.1	1376.0
4°	1368.1	1365.8	1356.0	1356.4	1369.5	1375.0
4.5°	1367.5	1363.1	1348.2	1347.5	1364.5	1372.8
5°	1366.7	1359.7	1338.9	1337.4	1357.9	1369.4
5.5°	1365.7	1355.7	1329.6	1326.7	1350.2	1364.4
6°	1364.2	1351.1	1320.1	1316.5	1342.8	1358.1
6.5°	1361.7	1346.3	1310.9	1307.2	1335.0	1350.0
7°	1357.9	1341.1	1303.0	1299.1	1325.7	1340.4
7.5°	1353.0	1335.5	1296.6	1292.2	1317.1	1329.8
8°	1346.1	1329.2	1291.2	1286.6	1307.9	1318.1
8.5°	1337.8	1322.5	1286.6	1282.3	1298.4	1305.9
9°	1328.4	1314.7	1282.4	1278.2	1288.6	1292.5
9.5°	1317.5	1306.0	1279.2	1274.3	1279.1	1279.0
10°	1305.0	1296.4	1275.1	1270.4	1269.2	1266.0
10.5°	1292.9	1285.7	1270.6	1266.2	1259.4	1253.4
11°	1279.9	1274.6	1265.6	1261.3	1249.3	1241.3
11.5°	1266.3	1263.0	1259.7	1255.7	1239.5	1229.4
12°	1253.6	1251.5	1252.5	1248.8	1229.5	1217.6
12.5°	1241.4	1239.9	1244.8	1240.9	1219.6	1206.0
13°	1228.8	1228.3	1236.6	1233.0	1210.1	1194.7
13.5°	1216.3	1217.1	1227.5	1224.0	1199.8	1183.4
14°	1204.3	1205.8	1218.0	1214.6	1189.1	1171.4
14.5°	1192.1	1194.9	1208.3	1204.9	1178.0	1159.0
15°	1179.7	1183.4	1197.4	1194.5	1166.5	1146.4
15.5°	1167.5	1172.2	1186.2	1183.8	1154.0	1133.1
16°	1154.3	1160.2	1174.4	1172.0	1141.4	1119.6
16.5°	1141.3	1148.1	1162.4	1159.2	1128.3	1104.9
17°	1126.9	1135.2	1149.6	1145.9	1114.6	1090.8
17.5°	1112.9	1122.2	1135.7	1131.7	1100.4	1075.8
18°	1098.0	1108.4	1120.9	1116.6	1085.8	1060.7
18.5°	1083.1	1094.2	1106.1	1100.7	1070.1	1045.4
19°	1067.5	1079.3	1090.3	1084.1	1055.0	1030.1
19.5°	1052.0	1065.0	1074.4	1067.1	1039.4	1014.5
20°	1035.9	1049.5	1058.5	1050.5	1023.5	998.8
20.5°	1020.3	1034.7	1041.2	1033.2	1007.4	982.9
21°	1004.2	1018.8	1024.9	1015.7	991.3	967.0

TEST NUMBER: P775669

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	956.8	972.1	974.6	962.2	941.5	918.6
23°	940.3	956.2	957.0	944.3	924.7	902.3
23.5°	923.7	939.7	939.1	925.9	906.8	885.6
24°	907.7	923.4	921.5	906.7	889.5	868.6
24.5°	891.4	906.8	903.3	887.9	871.4	852.0
25°	874.5	889.9	884.4	869.3	854.2	834.6
25.5°	858.0	873.1	866.5	851.0	835.4	817.4
26°	841.6	856.0	848.8	833.2	818.1	799.7
26.5°	824.2	839.1	830.7	815.0	799.9	781.1
27°	806.8	821.8	813.0	797.3	781.6	760.8
27.5°	789.4	804.1	794.8	779.2	761.7	740.2
28°	771.9	785.5	776.4	760.9	743.6	719.1
28.5°	754.5	766.2	758.0	742.1	723.9	697.2
29°	735.0	746.9	739.4	723.7	703.5	675.0
29.5°	714.8	726.9	720.9	704.4	683.4	652.6
30°	693.6	706.2	701.5	684.8	662.6	631.2
30.5°	672.0	685.1	681.3	664.6	640.8	610.3
31°	651.9	663.3	661.3	644.5	619.9	589.9
31.5°	629.6	641.4	640.9	624.4	598.4	570.0
32°	606.5	620.3	620.9	605.0	577.9	550.2
32.5°	586.2	599.5	600.3	585.4	557.7	531.8
33°	565.2	579.4	581.0	566.6	537.6	513.8
33.5°	544.2	558.9	560.1	547.8	518.8	495.6
34°	524.4	540.6	540.9	528.7	500.5	477.2
34.5°	505.5	522.2	522.5	510.0	482.7	458.6
35°	487.3	503.9	503.3	491.8	465.0	440.8
35.5°	469.4	486.0	484.8	473.3	448.1	423.4
36°	451.7	468.4	467.1	455.3	431.0	405.6
36.5°	434.0	451.1	449.3	436.9	414.6	389.0
37°	416.6	433.8	431.3	418.7	398.2	373.3
37.5°	399.4	416.6	414.8	401.7	380.7	357.7
38°	382.5	399.2	397.3	385.0	364.9	342.2
38.5°	365.7	382.6	379.0	368.8	349.3	326.5
39°	349.2	367.2	363.6	352.5	333.6	310.9
39.5°	333.4	351.8	348.3	336.3	318.0	296.0
40°	318.1	336.4	333.0	320.0	302.4	281.5
40.5°	303.0	321.1	317.6	303.8	287.7	267.1
41°	289.4	305.7	302.3	288.5	273.2	252.7
41.5°	274.7	291.1	287.0	273.6	259.0	239.1
42°	260.9	276.8	272.0	259.1	245.0	225.4
42.5°	247.4	262.3	257.5	245.2	231.5	212.4
43°	234.9	248.1	243.0	231.5	217.9	199.7
43.5°	221.5	234.2	228.9	217.6	204.5	187.6



TEST NUMBER: P775669

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	185.1	194.2	189.4	179.3	166.1	152.8
45.5°	172.8	181.6	176.7	167.3	154.2	141.9
46°	161.6	169.4	164.5	155.5	142.8	131.3
46.5°	150.3	157.6	153.0	144.2	131.6	120.7
47°	139.7	146.1	141.5	133.2	120.9	110.5
47.5°	128.9	134.9	130.5	122.5	110.5	100.7
48°	118.9	124.2	119.6	112.2	100.9	91.7
48.5°	109.1	113.9	109.6	102.7	91.8	82.7
49°	100.2	104.2	100.0	93.1	83.0	74.3
49.5°	91.5	94.8	90.8	84.1	74.6	66.5
50°	82.6	85.6	81.5	75.4	67.1	59.1
50.5°	73.9	77.1	73.4	67.3	59.5	52.4
51°	66.3	69.1	65.5	59.8	52.6	46.0
51.5°	59.2	61.5	58.3	52.7	46.3	39.9
52°	52.2	54.5	51.2	45.9	40.1	35.2
52.5°	46.0	48.0	44.9	39.9	35.4	30.6
53°	40.2	41.7	38.8	35.2	30.6	26.0
53.5°	34.7	36.3	34.2	30.4	25.9	21.4
54°	29.4	31.7	29.6	25.7	21.1	16.8
54.5°	25.0	27.1	25.1	21.0	16.4	13.5
55°	20.7	22.5	20.5	16.3	13.3	10.7
55.5°	16.8	17.8	15.9	13.1	10.3	7.8
56°	14.3	14.5	12.8	10.3	7.6	5.3
56.5°	11.7	11.6	10.1	7.5	5.0	3.5
57°	9.2	8.7	7.3	5.1	3.4	3.1
57.5°	6.6	6.3	5.0	3.5	3.1	2.7
58°	4.1	4.4	3.6	3.1	2.7	2.2
58.5°	3.1	3.8	3.3	2.8	2.2	1.9
59°	2.7	3.4	2.9	2.3	1.9	1.7
59.5°	2.5	2.9	2.6	2.0	1.7	1.6
60°	2.2	2.3	2.1	1.8	1.6	1.5
60.5°	2.0	2.1	2.0	1.7	1.5	1.4
61°	1.9	2.0	1.8	1.6	1.4	1.3
61.5°	1.7	1.8	1.7	1.5	1.3	1.2
62°	1.6	1.7	1.6	1.4	1.2	1.1
62.5°	1.5	1.6	1.5	1.3	1.1	1.0
63°	1.4	1.5	1.4	1.2	1.1	1.0
63.5°	1.3	1.4	1.3	1.1	1.0	0.9
64°	1.2	1.3	1.2	1.0	0.9	0.9
64.5°	1.2	1.2	1.1	1.0	0.9	0.7
65°	1.1	1.2	1.1	0.9	0.7	0.7
65.5°	1.0	1.1	1.0	0.9	0.7	0.6
66°	1.0	1.0	0.9	0.7	0.6	0.6



TEST NUMBER: P775669

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.7	0.9	0.7	0.6	0.5	0.5
68°	0.7	0.7	0.6	0.5	0.5	0.4
68.5°	0.6	0.7	0.6	0.5	0.4	0.4
69°	0.6	0.6	0.6	0.5	0.4	0.4
69.5°	0.5	0.6	0.5	0.4	0.4	0.3
70°	0.5	0.5	0.5	0.4	0.3	0.3
70.5°	0.5	0.5	0.5	0.4	0.3	0.3
71°	0.4	0.5	0.4	0.4	0.3	0.3
71.5°	0.4	0.4	0.4	0.3	0.3	0.2
72°	0.4	0.4	0.4	0.3	0.3	0.2
72.5°	0.4	0.4	0.3	0.3	0.2	0.2
73°	0.3	0.3	0.3	0.3	0.2	0.2
73.5°	0.3	0.3	0.3	0.2	0.2	0.2
74°	0.3	0.3	0.3	0.2	0.2	0.2
74.5°	0.3	0.3	0.3	0.2	0.2	0.1
75°	0.2	0.3	0.2	0.2	0.2	0.1
75.5°	0.2	0.2	0.2	0.2	0.1	0.1
76°	0.2	0.2	0.2	0.2	0.1	0.1
76.5°	0.2	0.2	0.2	0.1	0.1	0.1
77°	0.2	0.2	0.2	0.1	0.1	0.1
77.5°	0.2	0.2	0.2	0.1	0.1	0.1
78°	0.2	0.2	0.1	0.1	0.1	0.1
78.5°	0.1	0.1	0.1	0.1	0.1	0.1
79°	0.1	0.1	0.1	0.1	0.1	0.1
79.5°	0.1	0.1	0.1	0.1	0.1	0.0
80°	0.1	0.1	0.1	0.1	0.0	0.0
80.5°	0.1	0.1	0.1	0.1	0.0	0.0
81°	0.1	0.1	0.1	0.1	0.0	0.0
81.5°	0.1	0.1	0.1	0.0	0.0	0.0
82°	0.1	0.1	0.1	0.0	0.0	0.0
82.5°	0.1	0.1	0.1	0.0	0.0	0.0
83°	0.1	0.1	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775669

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-5000K

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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Cooper Lighting Solutions Photometric Lab
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Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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Scaled Data Report





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

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21.5°	951.1	926.2	924.3	914.0	903.8	901.4	906.8	930.0	957.4	976.2	975.0
22°	935.1	909.1	906.8	896.1	886.3	884.7	890.5	914.6	941.3	959.9	958.4



44°	175.6	156.0	151.6	141.9	139.3	146.9	154.4	162.7	173.7	188.1	191.2
44.5°	163.9	145.2	141.3	131.5	128.7	137.2	144.7	152.2	162.0	176.2	179.3



66.5°	0.5	0.5	0.6	0.7	0.7	0.7	0.6	0.6	0.6	0.7	0.7
67°	0.5	0.5	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.7



89°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0

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21.5°	988.3	1003.5	1008.3	998.2	974.9	951.1
22°	972.2	987.6	991.2	980.6	958.7	935.1



44°	209.0	220.6	215.3	204.5	191.2	175.6
44.5°	196.7	207.3	202.4	191.8	178.8	163.9

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Scaled Data Report



66.5°	0.9	1.0	0.9	0.7	0.6	0.5
67°	0.9	0.9	0.7	0.6	0.5	0.5

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Scaled Data Report



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)