

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332170-940

Luminaire Tested: **S123DIW-S775D1320U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332170-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S775D1320U940-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7591.0 lumens
Efficiency: N/A
Efficacy: 123.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

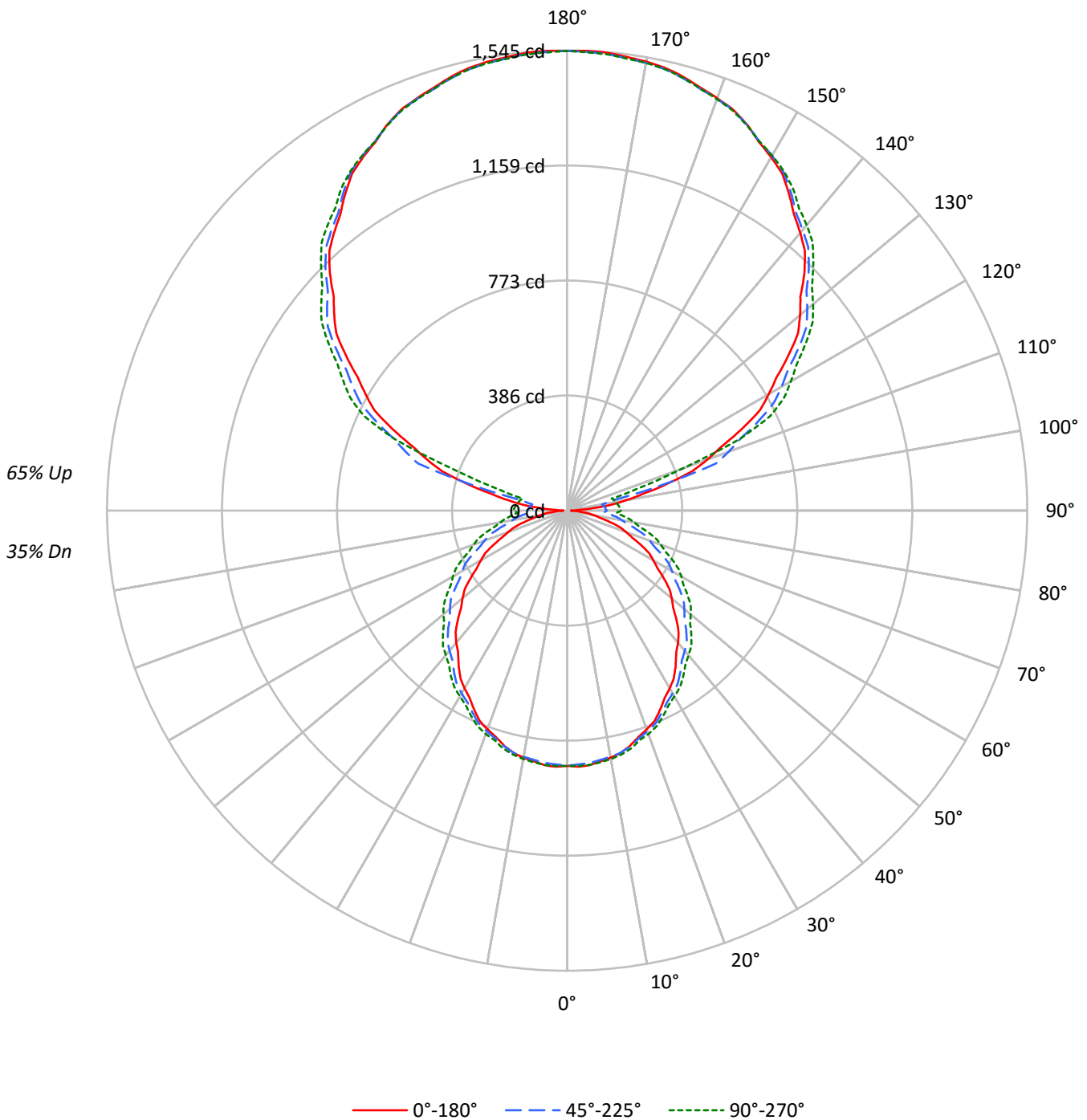
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	0
RCR																		
0	104	104	104	104	94	94	94	94	75	75	75	58	58	58	42	42	42	35
1	94	89	85	81	84	81	77	74	64	62	60	50	48	47	36	35	34	28
2	85	77	71	66	76	70	65	60	56	52	49	43	41	38	31	30	28	23
3	77	68	60	54	69	61	55	50	49	45	41	38	35	32	27	25	24	19
4	71	60	52	46	63	54	47	42	43	38	34	34	30	27	24	22	20	16
5	65	53	45	39	58	48	41	36	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	36	31	35	29	26	27	23	20	20	17	15	12
7	55	43	35	29	49	39	32	27	31	26	22	24	21	18	18	15	13	11
8	51	39	31	26	46	35	28	24	29	23	20	22	19	16	17	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	17	14	15	13	11	8
10	44	32	25	20	40	29	23	19	24	19	16	19	15	13	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9226	9226	9226
5°	9255	8994	8999
10°	9172	8787	8743
15°	9054	8552	8462
20°	8884	8283	8155
25°	8676	7974	7832
30°	8462	7695	7504
35°	8223	7401	7242
40°	7995	7134	6961
45°	7742	6877	6737
50°	7490	6622	6490
55°	7215	6363	6268
60°	6946	6099	6041
65°	6670	5818	5769
70°	6254	5502	5492
75°	5730	5140	5210
80°	5128	4782	4885
85°	4559	4540	4699



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.3	1.1
10°-20°	231.6	3.1
20°-30°	346.4	4.6
30°-40°	413.7	5.5
40°-50°	432.9	5.7
50°-60°	406.2	5.4
60°-70°	339.3	4.5
70°-80°	242.7	3.2
80°-90°	149.1	2.0
90°-100°	146.9	1.9
100°-110°	334.2	4.4
110°-120°	686.9	9.0
120°-130°	843.4	11.1
130°-140°	885.4	11.7
140°-150°	819.7	10.8
150°-160°	659.2	8.7
160°-170°	425.5	5.6
170°-180°	146.6	1.9
0°-30°	659.3	8.7
0°-40°	1073.0	14.1
0°-60°	1912.1	25.2
0°-90°	2643.1	34.8
90°-120°	1168.0	15.4
90°-150°	3716.5	49.0
90°-180°	4948.0	65.2
0°-180°	7591.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	857	857	857	857	857	
5°	858	856	851	858	857	81
15°	817	820	819	828	827	230
25°	738	747	750	761	762	340
35°	635	650	662	675	680	397
45°	519	542	565	582	590	400
55°	396	427	460	484	493	354
65°	274	310	351	378	388	270
75°	148	192	239	269	281	159
85°	46	93	142	172	183	48
90°	13	71	133	168	181	12
95°	80	73	128	163	174	94
105°	349	379	321	155	155	370
115°	646	665	708	740	754	637
125°	906	917	947	968	978	809
135°	1127	1133	1148	1167	1169	867
145°	1299	1306	1308	1318	1322	813
155°	1430	1428	1429	1434	1428	658
165°	1508	1504	1503	1511	1504	426
175°	1543	1538	1539	1546	1538	147
180°	1543	1543	1543	1543	1543	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1
2.5°	860.9	860.3	859.9	859.3	858.9	857.9	856.7	855.3	854.0	852.7	854.0
5°	858.1	857.6	857.2	856.8	856.4	855.6	854.3	853.1	851.9	850.6	852.3
7.5°	849.6	849.7	849.8	849.9	850.0	849.4	848.2	847.0	845.8	844.6	846.7
10°	842.2	842.6	843.0	843.5	843.8	843.6	842.5	841.5	840.4	839.4	841.5
12.5°	833.2	833.8	834.4	835.0	835.5	835.5	834.8	834.1	833.4	832.7	834.6
15°	817.0	817.6	818.2	818.9	819.5	819.7	819.5	819.3	819.0	818.9	820.9
17.5°	796.5	797.7	799.0	800.1	801.4	802.0	801.9	801.8	801.7	801.6	803.5
20°	781.5	782.7	784.0	785.2	786.5	787.3	787.7	788.2	788.5	789.0	790.9
22.5°	765.8	767.0	768.3	769.5	770.8	771.7	772.3	772.8	773.5	774.0	776.4
25°	737.6	739.7	741.7	743.9	745.9	747.3	747.9	748.5	749.1	749.8	752.4
27.5°	709.3	711.6	714.0	716.3	718.7	720.5	721.8	723.2	724.5	725.9	728.2
30°	689.0	691.8	694.5	697.1	699.8	702.0	703.6	705.3	707.0	708.6	711.1
32.5°	666.6	669.7	672.7	675.7	678.8	681.4	683.5	685.7	687.9	690.0	692.7
35°	634.9	638.2	641.6	644.9	648.2	651.2	653.9	656.6	659.3	662.0	665.1
37.5°	601.3	605.0	608.8	612.5	616.3	619.7	623.1	626.4	629.7	633.0	636.6
40°	578.9	582.6	586.4	590.1	593.8	597.8	601.9	606.1	610.2	614.4	617.9
42.5°	554.2	558.8	563.4	567.9	572.5	576.9	581.2	585.6	589.9	594.2	598.1
45°	519.2	524.1	529.1	534.0	539.0	544.1	549.3	554.5	559.7	564.9	568.8
47.5°	482.3	488.0	493.7	499.3	504.9	510.7	516.7	522.5	528.5	534.4	538.9
50°	458.4	464.2	470.0	475.9	481.7	487.8	494.3	500.7	507.1	513.5	518.3
52.5°	433.0	439.2	445.3	451.5	457.6	464.2	471.4	478.4	485.5	492.6	497.6
55°	395.9	402.7	409.6	416.4	423.3	430.4	437.9	445.4	452.8	460.3	465.9
57.5°	359.6	366.8	373.9	381.0	388.3	395.8	404.0	412.2	420.4	428.6	434.2
60°	334.3	341.7	349.2	356.7	364.2	372.1	380.7	389.1	397.6	406.2	412.0
62.5°	310.3	318.0	325.7	333.2	340.9	349.2	358.2	367.2	376.2	385.2	391.0
65°	273.6	281.7	289.7	297.8	305.9	314.5	323.7	332.8	342.0	351.1	357.3
67.5°	236.2	244.8	253.4	262.0	270.5	279.6	288.8	298.1	307.4	316.7	323.5
70°	210.1	219.0	227.9	236.8	245.8	255.2	265.2	275.1	285.1	295.1	301.7
72.5°	186.2	195.1	204.0	212.9	221.9	231.5	241.7	252.1	262.3	272.6	279.5
75°	148.5	158.2	168.0	177.7	187.4	197.5	207.9	218.3	228.6	239.1	245.8
77.5°	115.6	125.5	135.3	145.1	154.9	165.1	175.6	186.0	196.4	206.9	214.1
80°	92.5	102.6	112.8	123.0	133.1	143.6	154.4	165.1	175.9	186.7	193.8
82.5°	72.2	82.6	92.9	103.3	113.6	124.2	135.2	146.2	157.1	168.1	175.1
85°	45.7	56.1	66.5	76.9	87.2	97.9	109.0	119.9	130.9	142.0	149.0
87.5°	25.1	35.9	46.7	57.6	68.4	79.5	90.7	102.0	113.2	124.5	131.7
90°	13.3	26.0	38.7	51.5	64.1	77.5	91.3	105.2	119.1	133.0	141.1
92.5°	32.7	41.2	49.7	58.1	66.5	77.2	90.2	103.1	116.0	128.9	137.4
95°	80.3	77.8	75.5	73.1	70.8	76.1	89.1	102.0	115.0	128.0	136.2
97.5°	149.7	152.3	155.0	157.6	160.2	157.2	148.6	139.9	131.3	122.6	130.8
100°	202.2	213.9	225.6	237.4	249.1	239.9	209.6	179.5	149.3	119.0	127.2
102.5°	262.0	271.6	281.2	290.9	300.5	288.4	254.3	220.3	186.3	152.2	151.8
105°	349.2	357.0	364.7	372.5	380.3	377.2	363.2	349.1	335.1	321.1	281.9
107.5°	440.2	446.7	453.2	459.7	466.1	475.4	487.5	499.5	511.7	523.7	496.2
110°	501.0	506.7	512.5	518.3	524.1	532.4	543.6	554.6	565.8	576.8	573.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	559.6	564.5	569.4	574.4	579.3	587.1	597.9	608.6	619.4	630.2	635.5
115°	645.6	649.6	653.6	657.6	661.6	668.6	678.3	688.1	697.9	707.7	715.2
117.5°	729.6	733.0	736.5	739.9	743.2	749.0	757.2	765.4	773.6	781.9	788.8
120°	781.1	784.4	787.7	791.1	794.4	800.0	807.5	815.1	822.8	830.4	837.1
122.5°	834.3	836.8	839.2	841.6	844.0	849.0	856.5	864.0	871.5	878.9	884.9
125°	906.3	908.4	910.3	912.4	914.4	919.0	926.0	933.1	940.1	947.2	952.0
127.5°	977.0	978.7	980.6	982.4	984.3	988.3	994.5	1000.7	1006.9	1013.1	1018.0
130°	1021.0	1022.8	1024.7	1026.4	1028.3	1031.8	1037.0	1042.1	1047.3	1052.5	1057.4
132.5°	1062.4	1064.4	1066.4	1068.4	1070.4	1073.4	1077.6	1081.7	1085.8	1090.0	1094.8
135°	1126.7	1128.0	1129.4	1130.6	1131.9	1134.3	1137.6	1140.9	1144.2	1147.5	1152.0
137.5°	1181.5	1183.3	1185.1	1186.9	1188.6	1190.4	1192.2	1194.1	1196.0	1197.8	1202.3
140°	1217.5	1219.0	1220.5	1222.1	1223.6	1225.0	1226.5	1227.8	1229.2	1230.6	1234.8
142.5°	1251.4	1252.8	1254.1	1255.5	1256.9	1257.9	1258.8	1259.7	1260.6	1261.5	1265.2
145°	1298.9	1300.5	1302.0	1303.6	1305.2	1306.2	1306.7	1307.2	1307.8	1308.2	1310.5
147.5°	1342.6	1343.8	1345.0	1346.1	1347.4	1348.2	1348.7	1349.2	1349.7	1350.2	1351.2
150°	1370.2	1370.9	1371.7	1372.4	1373.2	1373.9	1374.4	1374.8	1375.4	1375.9	1376.4
152.5°	1394.9	1395.3	1395.6	1396.0	1396.3	1396.7	1397.0	1397.3	1397.6	1397.9	1398.8
155°	1429.8	1429.3	1428.8	1428.3	1427.7	1427.6	1427.9	1428.2	1428.4	1428.6	1429.9
157.5°	1456.9	1456.8	1456.8	1456.7	1456.6	1456.5	1456.3	1456.0	1455.7	1455.5	1457.0
160°	1473.4	1473.1	1472.8	1472.6	1472.3	1472.1	1471.9	1471.6	1471.3	1471.1	1472.6
162.5°	1489.0	1488.3	1487.6	1486.9	1486.3	1485.9	1485.6	1485.3	1485.1	1484.8	1486.6
165°	1507.8	1507.0	1506.2	1505.5	1504.7	1504.2	1504.0	1503.7	1503.4	1503.2	1505.2
167.5°	1522.4	1521.4	1520.4	1519.4	1518.3	1517.9	1517.9	1517.9	1517.9	1517.9	1519.9
170°	1530.7	1529.6	1528.7	1527.7	1526.6	1526.1	1526.1	1526.1	1526.1	1526.1	1528.1
172.5°	1536.2	1535.0	1533.7	1532.5	1531.3	1530.8	1531.0	1531.2	1531.4	1531.6	1533.7
175°	1543.3	1542.0	1540.8	1539.4	1538.2	1537.7	1537.9	1538.2	1538.5	1538.7	1540.5
177.5°	1545.2	1544.1	1543.1	1542.1	1541.1	1540.7	1540.9	1541.1	1541.2	1541.5	1543.1
180°	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1
2.5°	855.3	856.7	857.9	858.5	858.4	858.2	858.0	857.9
5°	853.9	855.6	857.2	857.9	857.7	857.6	857.4	857.1
7.5°	848.7	850.9	852.9	853.8	853.5	853.4	853.1	852.8
10°	843.6	845.6	847.7	848.6	848.1	847.7	847.3	846.9
12.5°	836.5	838.4	840.3	841.1	840.6	840.3	839.8	839.4
15°	823.0	825.1	827.2	828.0	827.9	827.7	827.4	827.2
17.5°	805.4	807.3	809.1	809.9	809.7	809.3	809.0	808.8
20°	792.7	794.6	796.5	797.5	797.7	797.9	798.1	798.3
22.5°	778.7	781.1	783.5	784.6	784.5	784.3	784.3	784.1
25°	755.2	757.9	760.5	761.9	761.9	761.9	761.9	761.9
27.5°	730.5	732.8	735.1	736.4	736.6	736.7	736.9	737.1
30°	713.6	716.1	718.6	719.9	719.9	719.9	719.9	719.9
32.5°	695.3	697.9	700.6	702.2	702.7	703.2	703.6	704.2
35°	668.2	671.4	674.4	676.5	677.3	678.1	678.9	679.8
37.5°	640.1	643.6	647.1	649.3	649.9	650.6	651.2	651.9
40°	621.4	624.9	628.5	630.6	631.5	632.3	633.1	634.0
42.5°	601.9	605.7	609.7	612.2	613.3	614.5	615.6	616.8
45°	572.7	576.7	580.7	583.4	585.1	586.7	588.4	590.1
47.5°	543.3	547.8	552.2	555.1	556.3	557.7	558.9	560.2
50°	523.1	527.8	532.6	535.7	537.2	538.6	540.1	541.5
52.5°	502.5	507.5	512.4	515.8	517.5	519.3	521.1	522.9
55°	471.5	477.2	482.7	486.3	488.0	489.6	491.3	493.0
57.5°	439.9	445.5	451.1	455.0	456.9	458.9	460.7	462.7
60°	417.8	423.6	429.4	433.5	435.7	438.0	440.3	442.6
62.5°	396.9	402.7	408.5	412.4	414.6	416.7	418.8	420.9
65°	363.6	369.7	375.9	380.1	382.2	384.2	386.4	388.4
67.5°	330.3	337.2	343.9	348.2	349.9	351.7	353.5	355.2
70°	308.4	315.0	321.6	325.9	328.1	330.1	332.2	334.3
72.5°	286.2	293.0	299.9	304.3	306.4	308.4	310.5	312.6
75°	252.7	259.6	266.4	271.1	273.6	276.1	278.6	281.1
77.5°	221.3	228.5	235.8	240.3	242.3	244.2	246.1	248.0
80°	200.8	207.9	215.0	219.5	221.6	223.6	225.8	227.8
82.5°	182.2	189.2	196.3	200.8	203.0	205.0	207.1	209.1
85°	156.0	163.1	170.1	174.7	176.7	178.9	180.9	183.0
87.5°	138.9	146.2	153.5	158.2	160.4	162.6	164.7	166.9
90°	149.2	157.2	165.3	170.7	173.3	175.8	178.4	181.0
92.5°	145.9	154.4	163.0	168.4	170.6	172.7	175.0	177.2
95°	144.4	152.7	160.9	165.9	168.1	170.1	172.2	174.3
97.5°	139.1	147.3	155.5	160.8	163.1	165.4	167.8	170.1
100°	135.2	143.2	151.3	156.5	158.8	161.1	163.5	165.8
102.5°	151.2	150.8	150.3	151.3	153.9	156.4	159.0	161.5
105°	242.5	203.2	164.0	145.5	147.9	150.3	152.7	155.0
107.5°	468.7	441.2	413.7	383.9	351.7	319.5	287.3	255.2
110°	570.9	567.8	564.8	545.9	511.1	476.4	441.6	406.8



TEST NUMBER: P332170-940

CATALOG NUMBER: S123DIW-S775D1320U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	641.0	646.3	651.7	651.5	645.6	639.7	633.8	627.9
115°	722.6	730.2	737.7	742.9	745.6	748.2	750.9	753.6
117.5°	795.8	802.7	809.7	814.1	815.9	817.8	819.6	821.4
120°	844.0	850.8	857.6	861.7	863.2	864.6	866.1	867.5
122.5°	891.0	897.0	903.0	906.9	908.6	910.2	911.9	913.5
125°	956.9	961.7	966.6	970.0	972.0	973.9	975.9	977.9
127.5°	1023.0	1027.9	1032.8	1035.7	1036.6	1037.5	1038.4	1039.3
130°	1062.4	1067.4	1072.3	1075.1	1075.9	1076.7	1077.4	1078.1
132.5°	1099.6	1104.4	1109.2	1112.0	1112.7	1113.3	1114.0	1114.7
135°	1156.5	1161.0	1165.5	1167.9	1168.1	1168.4	1168.7	1168.9
137.5°	1206.8	1211.3	1215.8	1218.3	1218.9	1219.4	1219.9	1220.4
140°	1238.9	1243.0	1247.1	1249.5	1250.0	1250.5	1251.0	1251.5
142.5°	1268.7	1272.3	1275.9	1277.9	1278.2	1278.5	1278.9	1279.2
145°	1312.6	1314.7	1317.0	1318.4	1319.3	1320.1	1320.9	1321.8
147.5°	1352.3	1353.3	1354.2	1354.5	1354.2	1353.7	1353.3	1352.8
150°	1376.9	1377.4	1378.0	1378.0	1377.7	1377.3	1377.0	1376.6
152.5°	1399.7	1400.7	1401.6	1401.5	1400.4	1399.4	1398.2	1397.1
155°	1431.2	1432.4	1433.8	1433.6	1432.1	1430.6	1429.1	1427.5
157.5°	1458.6	1460.1	1461.6	1461.3	1459.4	1457.4	1455.4	1453.4
160°	1474.1	1475.7	1477.2	1477.0	1475.2	1473.5	1471.7	1469.9
162.5°	1488.3	1490.0	1491.7	1491.8	1490.2	1488.7	1487.1	1485.5
165°	1507.3	1509.3	1511.4	1511.4	1509.7	1507.9	1506.1	1504.3
167.5°	1522.0	1523.9	1526.0	1526.0	1523.9	1522.0	1519.9	1517.9
170°	1530.2	1532.2	1534.3	1534.3	1532.2	1530.2	1528.1	1526.1
172.5°	1535.7	1537.8	1539.8	1539.6	1537.4	1535.2	1532.9	1530.7
175°	1542.3	1544.1	1545.9	1545.7	1543.7	1541.7	1539.6	1537.6
177.5°	1544.7	1546.4	1548.0	1547.8	1545.8	1543.7	1541.7	1539.6
180°	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3

(END OF REPORT)