

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: P332862-927

Luminaire Tested: **S124DIW-S1195D1560U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332862-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D1560U927-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8140.3 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

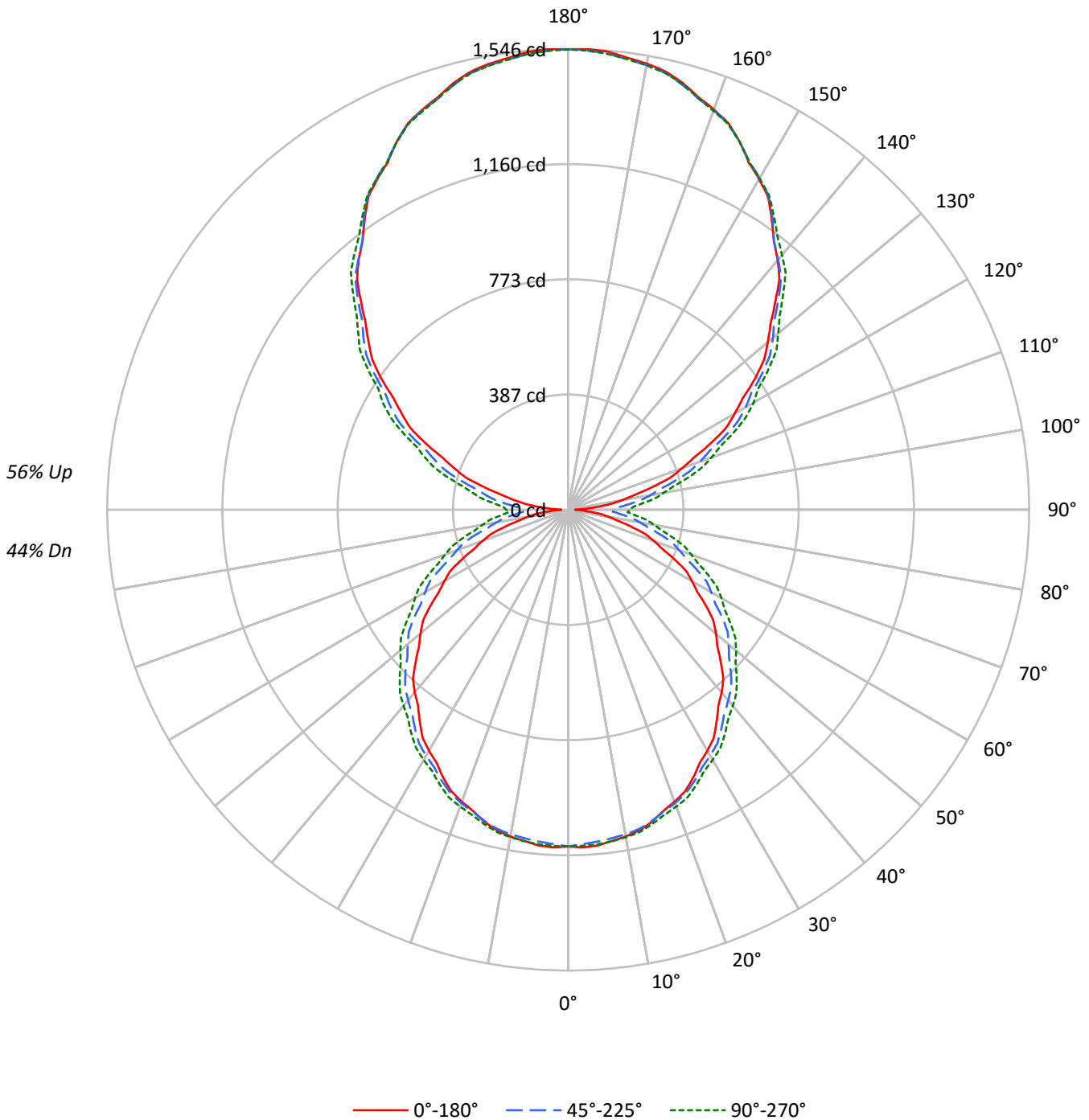
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80		65	65	65		50	50	50	44
1	96	91	87	83	87	83	80	76	69	66	64		55	54	52		43	42	41	35
2	87	79	72	67	79	72	67	62	60	56	52		48	45	43		37	35	34	29
3	79	69	61	55	72	63	56	51	52	47	43		42	39	36		33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	37		37	33	30		29	26	24	20
5	66	54	46	39	60	50	42	37	41	36	31		33	29	26		26	23	21	17
6	61	48	40	34	55	44	37	32	37	31	27		30	26	23		24	21	18	15
7	56	43	35	30	51	40	33	28	33	28	24		27	23	20		22	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21		25	21	18		20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19		23	19	16		18	15	13	11
10	45	33	25	21	41	30	24	19	26	20	17		21	17	14		17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9120	9120	9120
5°	9147	8912	8938
10°	9092	8767	8760
15°	9010	8598	8551
20°	8888	8412	8347
25°	8749	8203	8124
30°	8599	7995	7894
35°	8429	7783	7692
40°	8293	7580	7482
45°	8093	7394	7302
50°	7922	7178	7111
55°	7746	6976	6888
60°	7471	6718	6685
65°	7170	6440	6434
70°	6805	6123	6141
75°	6298	5775	5878
80°	5734	5442	5618
85°	5012	5144	5468



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.0	1.3
10°-20°	306.5	3.8
20°-30°	463.4	5.7
30°-40°	560.7	6.9
40°-50°	592.8	7.3
50°-60°	557.9	6.9
60°-70°	462.9	5.7
70°-80°	325.1	4.0
80°-90°	188.4	2.3
90°-100°	211.0	2.6
100°-110°	382.6	4.7
110°-120°	566.4	7.0
120°-130°	706.0	8.7
130°-140°	771.7	9.5
140°-150°	748.0	9.2
150°-160°	626.9	7.7
160°-170°	417.1	5.1
170°-180°	146.1	1.8
0°-30°	876.9	10.8
0°-40°	1437.6	17.7
0°-60°	2588.3	31.8
0°-90°	3564.7	43.8
90°-120°	1160.0	14.2
90°-150°	3385.6	41.6
90°-180°	4576.0	56.2
0°-180°	8140.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1130	1130	1130	1130	1130	
5°	1131	1127	1118	1128	1127	107
15°	1084	1085	1082	1092	1092	305
25°	992	999	1003	1016	1018	457
35°	868	883	896	912	917	543
45°	724	748	772	792	800	559
55°	567	594	631	656	664	505
65°	392	433	476	506	517	389
75°	218	265	318	352	364	231
85°	67	120	177	214	228	71
90°	24	88	152	194	208	18
95°	88	141	201	237	250	93
105°	290	318	368	402	417	308
115°	528	541	578	603	612	521
125°	764	764	793	813	820	681
135°	981	988	997	1014	1019	759
145°	1190	1193	1194	1201	1202	744
155°	1362	1362	1360	1365	1360	626
165°	1482	1479	1476	1483	1479	418
175°	1542	1536	1535	1542	1535	146
180°	1544	1544	1544	1544	1544	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7
2.5°	1133.7	1133.0	1132.3	1131.6	1131.0	1129.7	1127.9	1126.2	1124.3	1122.5	1124.1
5°	1130.8	1130.0	1129.2	1128.4	1127.5	1126.1	1124.1	1122.1	1120.2	1118.2	1120.5
7.5°	1121.3	1120.8	1120.2	1119.7	1119.3	1118.2	1116.6	1114.9	1113.3	1111.7	1114.2
10°	1113.2	1112.9	1112.6	1112.3	1112.1	1111.2	1109.8	1108.4	1107.0	1105.6	1108.1
12.5°	1102.0	1102.0	1101.9	1101.8	1101.8	1101.3	1100.3	1099.4	1098.4	1097.5	1099.8
15°	1084.1	1084.3	1084.7	1084.9	1085.2	1084.9	1084.1	1083.2	1082.4	1081.6	1084.1
17.5°	1059.5	1060.4	1061.2	1062.1	1062.9	1063.3	1063.1	1062.9	1062.7	1062.6	1065.2
20°	1042.4	1043.1	1044.0	1044.9	1045.7	1046.2	1046.6	1046.9	1047.1	1047.4	1050.2
22.5°	1023.1	1024.1	1025.2	1026.3	1027.4	1028.2	1028.6	1029.2	1029.7	1030.2	1033.0
25°	991.7	993.4	995.1	996.8	998.5	999.7	1000.6	1001.4	1002.3	1003.1	1006.2
27.5°	956.8	959.3	961.8	964.2	966.7	968.6	969.9	971.2	972.5	973.8	976.6
30°	933.5	935.8	938.0	940.3	942.5	944.7	946.6	948.6	950.5	952.5	955.6
32.5°	908.2	910.9	913.6	916.3	919.0	921.5	923.7	925.9	928.0	930.3	933.8
35°	867.8	871.2	874.5	877.9	881.2	884.3	887.2	889.9	892.8	895.6	899.5
37.5°	827.0	830.9	834.8	838.7	842.6	846.2	849.7	853.2	856.7	860.2	864.2
40°	800.7	804.4	808.0	811.7	815.3	819.1	823.1	827.0	830.9	834.9	839.1
42.5°	770.4	774.4	778.6	782.7	786.8	791.2	795.7	800.3	804.9	809.6	814.3
45°	723.6	728.9	734.3	739.6	744.9	750.3	755.6	761.0	766.3	771.7	776.4
47.5°	678.7	684.3	689.8	695.3	700.8	706.7	712.9	719.1	725.2	731.4	736.3
50°	646.4	652.6	658.8	665.0	671.1	677.3	683.5	689.7	695.9	702.0	707.7
52.5°	614.0	620.2	626.4	632.6	638.7	645.4	652.4	659.6	666.6	673.8	679.4
55°	566.7	572.6	578.5	584.4	590.3	597.5	605.9	614.3	622.8	631.2	636.8
57.5°	513.8	521.2	528.5	535.8	543.0	550.9	559.3	567.7	576.1	584.4	591.1
60°	479.4	486.7	494.0	501.4	508.7	517.0	526.2	535.5	544.8	554.1	560.5
62.5°	446.0	454.0	462.0	470.0	477.9	486.6	495.9	505.2	514.4	523.7	530.1
65°	392.1	401.2	410.1	419.1	428.1	437.4	446.9	456.5	466.0	475.6	482.7
67.5°	340.2	349.8	359.4	368.9	378.5	388.4	398.6	408.8	419.1	429.4	436.5
70°	304.8	314.4	324.0	333.5	343.1	353.2	363.8	374.5	385.2	395.9	403.5
72.5°	270.5	280.2	290.0	299.8	309.6	320.1	331.5	342.9	354.2	365.6	373.0
75°	217.6	228.0	238.4	248.7	259.2	270.3	282.1	293.9	305.7	317.5	325.3
77.5°	168.3	179.3	190.3	201.3	212.3	224.0	236.4	248.7	261.1	273.5	281.5
80°	137.9	149.1	160.3	171.6	182.8	194.6	207.0	219.4	231.8	244.2	252.5
82.5°	107.5	119.2	130.9	142.6	154.3	166.4	178.7	191.1	203.4	215.8	224.4
85°	67.0	78.8	90.6	102.4	114.2	126.5	139.1	151.8	164.5	177.1	185.5
87.5°	38.2	50.2	62.3	74.3	86.3	98.8	111.5	124.2	137.0	149.7	158.2
90°	23.8	38.0	52.1	66.3	80.5	94.7	108.8	123.1	137.3	151.5	161.3
92.5°	44.8	58.2	71.7	85.2	98.6	112.2	125.7	139.3	152.9	166.4	175.3
95°	88.1	99.8	111.5	123.1	134.8	147.3	160.7	174.0	187.4	200.8	209.2
97.5°	140.1	150.0	159.9	169.8	179.7	191.4	205.0	218.6	232.2	245.8	254.1
100°	181.2	189.5	197.9	206.3	214.6	225.5	238.8	252.2	265.5	278.9	287.0
102.5°	225.1	232.0	238.8	245.6	252.5	262.3	275.2	288.1	301.0	313.9	322.1
105°	289.7	295.6	301.5	307.4	313.2	321.9	333.4	344.8	356.3	367.8	375.6
107.5°	359.9	364.9	369.8	374.7	379.6	387.1	397.1	407.1	417.1	427.1	434.7
110°	406.7	411.1	415.7	420.1	424.5	431.6	441.2	450.8	460.3	469.8	475.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	455.3	459.0	462.6	466.1	469.8	476.0	484.9	493.8	502.7	511.6	517.8
115°	528.4	530.9	533.5	536.0	538.5	544.0	552.5	560.9	569.4	577.9	583.8
117.5°	598.3	600.1	601.8	603.6	605.3	610.1	618.1	626.1	634.1	642.1	647.1
120°	644.2	646.1	648.0	649.9	651.8	656.4	663.8	671.1	678.5	685.9	690.1
122.5°	692.9	693.5	694.1	694.7	695.3	699.3	706.5	713.9	721.2	728.6	733.3
125°	763.6	763.3	763.0	762.7	762.4	765.6	772.5	779.2	785.9	792.7	797.6
127.5°	828.5	829.0	829.6	830.0	830.6	833.3	838.3	843.3	848.3	853.2	857.8
130°	873.4	873.9	874.4	874.9	875.4	878.0	882.4	886.9	891.4	896.0	900.5
132.5°	920.2	920.5	920.8	921.1	921.4	923.3	926.6	930.0	933.4	936.8	941.1
135°	980.8	982.4	984.0	985.6	987.2	989.0	990.9	992.9	994.9	996.8	1000.8
137.5°	1048.2	1048.6	1049.1	1049.6	1050.0	1051.0	1052.3	1053.7	1055.1	1056.5	1059.9
140°	1093.1	1093.4	1093.6	1093.8	1094.1	1094.3	1094.6	1095.0	1095.2	1095.5	1098.8
142.5°	1133.1	1133.6	1134.1	1134.6	1135.0	1135.1	1134.7	1134.3	1134.0	1133.6	1136.8
145°	1189.8	1190.6	1191.4	1192.2	1192.9	1193.4	1193.7	1194.0	1194.2	1194.5	1195.9
147.5°	1246.2	1247.1	1248.2	1249.1	1250.1	1250.5	1250.3	1250.1	1249.9	1249.7	1249.7
150°	1280.6	1281.4	1282.1	1282.9	1283.7	1284.0	1284.0	1284.0	1284.0	1284.0	1284.0
152.5°	1312.0	1312.6	1313.2	1313.8	1314.4	1314.8	1314.9	1315.2	1315.4	1315.6	1316.2
155°	1361.7	1361.7	1361.7	1361.7	1361.7	1361.6	1361.3	1361.0	1360.8	1360.5	1361.6
157.5°	1403.7	1403.3	1402.8	1402.3	1401.8	1401.6	1401.5	1401.4	1401.4	1401.4	1402.2
160°	1428.6	1428.3	1428.1	1427.8	1427.5	1427.3	1427.0	1426.7	1426.5	1426.2	1427.0
162.5°	1451.5	1450.9	1450.2	1449.5	1448.7	1448.3	1448.0	1447.8	1447.5	1447.2	1448.7
165°	1482.3	1481.5	1480.7	1480.0	1479.2	1478.5	1478.0	1477.4	1476.9	1476.4	1478.0
167.5°	1506.0	1504.9	1503.8	1502.7	1501.6	1501.0	1501.1	1501.1	1501.2	1501.3	1502.8
170°	1519.4	1518.1	1516.7	1515.4	1514.1	1513.5	1513.8	1514.1	1514.3	1514.6	1516.2
172.5°	1528.9	1527.8	1526.7	1525.6	1524.5	1523.9	1524.0	1524.1	1524.1	1524.2	1526.0
175°	1542.1	1540.7	1539.4	1538.1	1536.8	1536.0	1535.7	1535.4	1535.2	1534.9	1536.8
177.5°	1546.3	1545.3	1544.3	1543.2	1542.1	1541.6	1541.6	1541.6	1541.6	1541.6	1543.1
180°	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7
2.5°	1125.7	1127.3	1128.9	1129.5	1129.3	1129.0	1128.9	1128.6
5°	1122.8	1125.0	1127.2	1128.2	1127.9	1127.7	1127.4	1127.1
7.5°	1116.7	1119.3	1121.8	1122.9	1122.6	1122.4	1122.0	1121.8
10°	1110.6	1113.2	1115.7	1116.8	1116.6	1116.3	1115.9	1115.7
12.5°	1102.1	1104.4	1106.7	1107.9	1107.8	1107.7	1107.6	1107.6
15°	1086.6	1089.2	1091.6	1092.8	1092.5	1092.3	1091.9	1091.6
17.5°	1067.8	1070.3	1072.9	1074.1	1073.9	1073.6	1073.4	1073.2
20°	1053.0	1055.8	1058.7	1060.0	1060.0	1060.0	1060.0	1060.0
22.5°	1035.8	1038.6	1041.4	1043.1	1043.5	1043.9	1044.4	1044.9
25°	1009.3	1012.4	1015.5	1017.2	1017.5	1017.7	1018.0	1018.3
27.5°	979.5	982.4	985.2	986.8	987.2	987.5	987.9	988.2
30°	958.7	961.8	964.9	966.7	967.3	967.8	968.4	969.0
32.5°	937.3	940.9	944.4	946.5	947.1	947.6	948.2	948.7
35°	903.5	907.4	911.3	913.7	914.6	915.4	916.2	917.1
37.5°	868.2	872.1	876.2	878.6	879.5	880.4	881.3	882.2
40°	843.3	847.6	851.8	854.4	855.6	856.7	857.8	858.9
42.5°	818.9	823.6	828.2	831.0	831.9	832.8	833.7	834.6
45°	781.2	786.0	790.8	793.8	795.3	796.6	798.0	799.5
47.5°	741.3	746.2	751.2	754.5	756.2	757.9	759.5	761.3
50°	713.3	718.9	724.5	728.2	729.9	731.6	733.2	734.9
52.5°	685.0	690.6	696.2	699.9	701.6	703.2	704.9	706.6
55°	642.5	648.1	653.7	657.4	659.0	660.8	662.4	664.1
57.5°	597.8	604.5	611.2	615.3	616.9	618.5	620.0	621.6
60°	567.0	573.5	579.9	584.2	586.5	588.7	591.0	593.3
62.5°	536.6	543.1	549.5	553.9	556.2	558.4	560.6	562.9
65°	489.6	496.7	503.7	508.3	510.6	512.9	515.2	517.4
67.5°	443.6	450.8	457.9	462.6	464.8	466.9	469.1	471.3
70°	411.1	418.7	426.3	431.1	433.0	435.0	437.0	438.9
72.5°	380.3	387.7	395.1	399.8	402.0	404.2	406.4	408.6
75°	333.3	341.1	349.0	354.2	356.7	359.3	361.8	364.3
77.5°	289.5	297.5	305.4	310.8	313.5	316.2	318.9	321.5
80°	261.0	269.4	277.9	283.2	285.4	287.7	289.9	292.2
82.5°	233.1	241.8	250.4	256.0	258.5	260.9	263.4	265.9
85°	193.9	202.4	210.8	216.4	219.3	222.0	224.9	227.7
87.5°	166.7	175.2	183.6	189.1	191.7	194.2	196.9	199.5
90°	171.0	180.8	190.5	196.8	199.6	202.3	205.1	207.9
92.5°	184.3	193.1	202.0	207.7	210.2	212.9	215.4	218.0
95°	217.6	226.0	234.4	239.9	242.3	244.9	247.4	249.9
97.5°	262.4	270.8	279.1	284.5	286.8	289.3	291.7	294.1
100°	295.2	303.2	311.4	316.4	318.4	320.4	322.3	324.3
102.5°	330.2	338.3	346.4	351.6	354.0	356.5	358.9	361.3
105°	383.4	391.3	399.1	404.5	407.6	410.6	413.7	416.7
107.5°	442.4	450.0	457.7	462.6	464.5	466.5	468.4	470.4
110°	481.7	487.7	493.6	498.1	501.1	504.1	507.2	510.2



TEST NUMBER: P332862-927

CATALOG NUMBER: S124DIW-S1195D1560U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	523.9	530.0	536.1	540.4	542.9	545.3	547.6	550.1
115°	589.7	595.6	601.5	605.3	607.0	608.7	610.5	612.1
117.5°	652.0	657.0	661.9	665.3	667.0	668.8	670.4	672.2
120°	694.4	698.7	703.1	706.5	709.3	712.1	714.9	717.7
122.5°	738.0	742.8	747.4	750.4	751.4	752.5	753.5	754.6
125°	802.3	807.2	812.0	814.9	816.1	817.3	818.4	819.6
127.5°	862.3	866.8	871.3	874.3	875.8	877.3	878.8	880.3
130°	905.0	909.5	914.0	916.6	917.3	917.9	918.5	919.1
132.5°	945.4	949.7	954.0	956.8	958.1	959.3	960.6	961.9
135°	1004.8	1008.8	1012.7	1015.1	1016.1	1016.9	1017.8	1018.7
137.5°	1063.3	1066.8	1070.2	1072.6	1074.2	1075.8	1077.3	1078.9
140°	1102.2	1105.6	1109.1	1111.3	1112.5	1113.6	1114.8	1115.9
142.5°	1139.9	1143.0	1146.2	1148.3	1149.5	1150.6	1151.8	1152.9
145°	1197.3	1198.7	1200.2	1201.0	1201.3	1201.7	1202.1	1202.4
147.5°	1249.7	1249.7	1249.7	1250.1	1250.7	1251.3	1252.0	1252.6
150°	1284.0	1284.0	1284.0	1284.0	1283.7	1283.4	1283.2	1282.9
152.5°	1316.8	1317.5	1318.1	1318.1	1317.4	1316.8	1316.1	1315.3
155°	1362.6	1363.7	1364.8	1364.8	1363.7	1362.6	1361.6	1360.5
157.5°	1403.0	1403.7	1404.5	1404.5	1403.6	1402.7	1401.8	1400.9
160°	1427.8	1428.6	1429.4	1429.1	1427.8	1426.5	1425.1	1423.8
162.5°	1450.1	1451.5	1452.9	1453.0	1451.7	1450.4	1449.1	1447.7
165°	1479.6	1481.1	1482.7	1483.0	1481.9	1480.9	1479.8	1478.8
167.5°	1504.4	1506.0	1507.6	1507.6	1505.9	1504.3	1502.6	1500.9
170°	1517.8	1519.4	1521.0	1520.8	1519.0	1517.1	1515.3	1513.4
172.5°	1527.8	1529.5	1531.4	1531.4	1529.5	1527.6	1525.7	1523.9
175°	1538.7	1540.5	1542.4	1542.4	1540.5	1538.7	1536.8	1534.9
177.5°	1544.6	1546.0	1547.5	1547.4	1545.7	1544.0	1542.4	1540.6
180°	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4

(END OF REPORT)