

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: P332844-927

Luminaire Tested: **S124DIW-S1195D770U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332844-927
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-S1195D770U927-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5962.1 lumens
Efficiency: N/A
Efficacy: 99.7 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

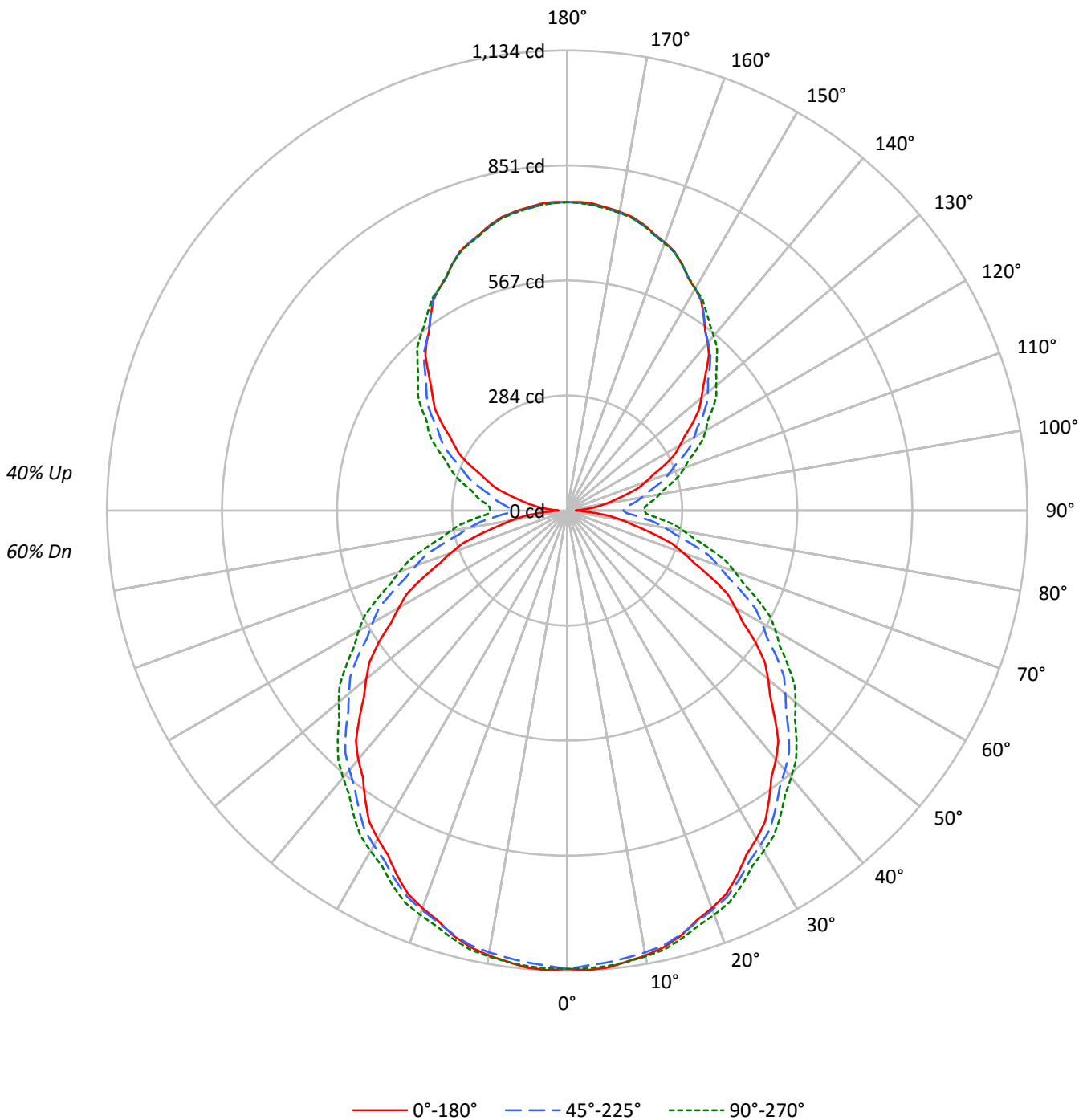
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60
1	99	94	89	85	92	88	84	80	76	73	70	65	63	61	56	54	53	48
2	89	81	74	69	83	76	70	65	66	61	57	57	53	50	48	46	43	39
3	81	71	63	57	75	66	59	54	58	52	48	50	45	42	42	39	36	32
4	74	63	54	48	69	59	51	45	51	45	40	44	39	36	38	34	31	27
5	68	56	47	41	63	52	44	39	46	39	35	39	34	31	34	30	27	24
6	63	50	41	35	58	47	39	33	41	35	30	36	31	27	30	26	23	21
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	28	24	21	18
8	54	41	33	27	50	38	31	26	34	28	23	30	25	21	25	21	18	16
9	50	37	29	24	47	35	28	23	31	25	21	27	22	19	23	20	17	14
10	47	34	27	22	44	32	25	21	29	23	19	25	20	17	22	18	15	13

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	1.8
10°-20°	306.5	5.1
20°-30°	463.4	7.8
30°-40°	560.7	9.4
40°-50°	592.8	9.9
50°-60°	557.9	9.4
60°-70°	462.9	7.8
70°-80°	325.1	5.5
80°-90°	186.1	3.1
90°-100°	159.3	2.7
100°-110°	229.3	3.8
110°-120°	306.3	5.1
120°-130°	363.0	6.1
130°-140°	386.6	6.5
140°-150°	369.5	6.2
150°-160°	308.6	5.2
160°-170°	205.3	3.4
170°-180°	71.9	1.2
0°-30°	876.9	14.7
0°-40°	1437.6	24.1
0°-60°	2588.3	43.4
0°-90°	3562.3	59.7
90°-120°	694.9	11.7
90°-150°	1814.0	30.4
90°-180°	2400.0	40.3
0°-180°	5962.1	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°	22	79	138	177	190	16
95°	52	99	155	189	202	52
105°	148	176	223	256	269	158
115°	264	277	315	341	350	261
125°	378	379	408	430	437	337
135°	484	488	496	515	521	375
145°	586	587	588	595	598	367
155°	670	670	670	672	670	308
165°	730	728	727	730	728	206
175°	759	756	756	759	756	72
180°	760	760	760	760	760	



TEST NUMBER: P332844-927

CATALOG NUMBER: S124DIW-S1195D770U927-4F0-1E-UDD-D1

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°	37.8	49.6	61.3	73.0	84.8	97.0	109.5	122.0	134.5	147.0	155.3
90°	22.0	34.7	47.4	60.0	72.7	85.6	98.8	111.9	125.0	138.2	147.1
92.5°	31.8	43.6	55.4	67.1	78.9	91.2	104.0	116.8	129.6	142.4	150.8
95°	51.7	62.2	72.6	83.1	93.6	105.0	117.4	129.8	142.3	154.7	162.7
97.5°	76.5	85.5	94.4	103.3	112.3	122.9	135.5	147.9	160.4	172.9	180.7
100°	96.3	104.1	111.9	119.7	127.5	137.5	149.6	161.8	174.0	186.1	193.9
102.5°	117.9	124.5	131.1	137.7	144.3	153.5	165.3	177.1	189.0	200.8	208.5
105°	148.4	154.2	159.9	165.6	171.3	179.7	190.7	201.6	212.5	223.4	230.8
107.5°	182.8	187.6	192.3	197.1	201.8	209.2	219.1	229.0	239.0	248.9	256.2
110°	205.3	209.5	213.7	217.9	222.1	229.0	238.8	248.5	258.2	267.9	274.1



TEST NUMBER: P332844-927

CATALOG NUMBER: S124DIW-S1195D770U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	228.8	232.3	235.8	239.4	242.9	249.3	258.4	267.6	276.7	285.9	292.1
115°	264.0	266.5	269.0	271.6	274.0	279.7	288.4	297.1	305.9	314.7	320.7
117.5°	298.3	299.8	301.5	303.1	304.8	309.7	317.8	326.1	334.2	342.5	347.8
120°	320.3	321.6	323.1	324.4	325.7	330.3	338.1	345.9	353.6	361.4	366.3
122.5°	344.3	344.7	345.0	345.4	345.8	349.7	357.3	364.8	372.3	379.9	385.0
125°	378.4	378.1	377.9	377.6	377.3	380.6	387.5	394.3	401.3	408.2	413.3
127.5°	410.3	410.4	410.5	410.6	410.7	413.4	418.5	423.7	428.9	434.1	438.9
130°	431.8	431.9	432.1	432.1	432.3	434.6	439.0	443.5	448.1	452.6	457.3
132.5°	454.9	454.9	454.9	454.9	454.9	456.6	460.1	463.7	467.1	470.6	475.2
135°	484.0	484.8	485.6	486.4	487.2	488.5	490.5	492.5	494.5	496.5	500.7
137.5°	517.2	517.3	517.4	517.5	517.5	518.2	519.4	520.5	521.7	522.8	526.6
140°	539.3	539.3	539.3	539.2	539.2	539.4	539.6	540.0	540.2	540.5	544.0
142.5°	558.6	558.7	559.0	559.1	559.4	559.4	559.0	558.8	558.5	558.3	561.4
145°	586.3	586.5	586.8	587.0	587.2	587.4	587.6	587.7	587.8	588.0	589.5
147.5°	614.0	614.3	614.7	615.1	615.4	615.5	615.4	615.3	615.2	615.1	615.2
150°	631.0	631.2	631.4	631.7	631.9	632.1	632.1	632.1	632.1	632.1	632.1
152.5°	645.9	646.2	646.4	646.7	647.0	647.1	647.2	647.4	647.5	647.5	647.8
155°	670.3	670.3	670.3	670.3	670.3	670.2	670.0	669.9	669.8	669.7	670.2
157.5°	690.9	690.7	690.5	690.2	690.0	689.9	689.8	689.8	689.8	689.8	690.1
160°	703.2	703.1	702.9	702.8	702.7	702.5	702.4	702.3	702.1	702.0	702.4
162.5°	714.5	714.2	713.8	713.4	713.1	712.9	712.7	712.6	712.5	712.3	713.0
165°	729.7	729.3	728.9	728.5	728.1	727.8	727.5	727.2	727.0	726.7	727.5
167.5°	741.2	740.8	740.2	739.7	739.1	738.8	738.9	738.9	738.9	738.9	739.7
170°	747.9	747.2	746.6	745.9	745.3	745.0	745.1	745.3	745.4	745.5	746.3
172.5°	752.6	752.0	751.5	750.9	750.4	750.1	750.1	750.2	750.2	750.2	751.1
175°	759.1	758.4	757.7	757.1	756.5	756.1	755.9	755.7	755.7	755.5	756.5
177.5°	761.1	760.7	760.1	759.6	759.1	758.8	758.8	758.8	758.8	758.8	759.5
180°	760.2	760.2	760.2	760.2	760.2	760.2	760.2	760.2	760.2	760.2	760.2



TEST NUMBER: P332844-927

CATALOG NUMBER: S124DIW-S1195D770U927-4F0-1E-UDD-D1

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°	163.7	172.0	180.3	185.7	188.2	190.8	193.3	195.8
90°	156.1	165.0	173.9	179.7	182.1	184.7	187.2	189.6
92.5°	159.2	167.6	176.0	181.4	183.9	186.2	188.6	191.1
95°	170.7	178.7	186.6	191.9	194.5	197.0	199.5	202.0
97.5°	188.5	196.4	204.2	209.4	211.8	214.2	216.6	219.0
100°	201.8	209.6	217.5	222.4	224.3	226.3	228.3	230.3
102.5°	216.3	223.9	231.7	236.7	239.0	241.3	243.6	245.9
105°	238.3	245.7	253.1	258.1	260.8	263.4	266.0	268.7
107.5°	263.5	270.8	278.0	282.7	284.6	286.6	288.7	290.7
110°	280.3	286.5	292.7	297.1	299.8	302.4	305.1	307.7



TEST NUMBER: P332844-927

CATALOG NUMBER: S124DIW-S1195D770U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	298.3	304.4	310.6	314.9	317.2	319.6	321.9	324.2
115°	326.7	332.8	338.8	342.8	344.6	346.4	348.3	350.1
117.5°	353.2	358.6	364.0	367.7	369.7	371.7	373.7	375.7
120°	371.3	376.3	381.2	385.0	387.5	390.0	392.5	395.0
122.5°	390.1	395.4	400.5	403.9	405.4	407.0	408.5	410.1
125°	418.4	423.4	428.5	431.7	433.2	434.6	436.0	437.4
127.5°	443.7	448.5	453.3	456.5	458.3	459.9	461.7	463.3
130°	462.2	467.0	471.7	474.8	475.9	477.1	478.2	479.4
132.5°	479.7	484.3	488.9	491.9	493.5	494.9	496.4	497.9
135°	504.9	509.1	513.4	516.2	517.5	518.7	520.1	521.3
137.5°	530.4	534.2	537.9	540.5	542.0	543.5	544.9	546.4
140°	547.6	551.0	554.6	557.0	558.3	559.5	560.8	562.1
142.5°	564.6	567.8	570.9	573.1	574.3	575.4	576.6	577.7
145°	591.0	592.6	594.1	595.3	596.0	596.8	597.5	598.3
147.5°	615.4	615.4	615.6	616.0	616.8	617.6	618.4	619.1
150°	632.1	632.1	632.1	632.0	631.8	631.7	631.6	631.4
152.5°	648.2	648.5	648.8	648.8	648.5	648.2	647.8	647.5
155°	670.7	671.2	671.8	671.8	671.2	670.7	670.2	669.7
157.5°	690.5	690.9	691.3	691.3	690.9	690.5	690.0	689.5
160°	702.8	703.2	703.6	703.5	702.8	702.1	701.5	700.8
162.5°	713.8	714.5	715.2	715.2	714.5	713.9	713.3	712.6
165°	728.3	729.0	729.8	730.0	729.4	728.9	728.4	727.9
167.5°	740.5	741.2	742.0	742.0	741.2	740.5	739.7	738.8
170°	747.1	747.9	748.7	748.6	747.7	746.8	745.8	745.0
172.5°	752.0	752.9	753.8	753.8	752.8	751.9	751.0	750.1
175°	757.3	758.3	759.1	759.1	758.3	757.3	756.5	755.5
177.5°	760.3	761.0	761.8	761.7	760.8	760.0	759.1	758.4
180°	760.2	760.2	760.2	760.2	760.2	760.2	760.2	760.2

(END OF REPORT)