

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: P332843-927

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332843-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
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-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6284.9 lumens
Efficiency: N/A
Efficacy: 105.1 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

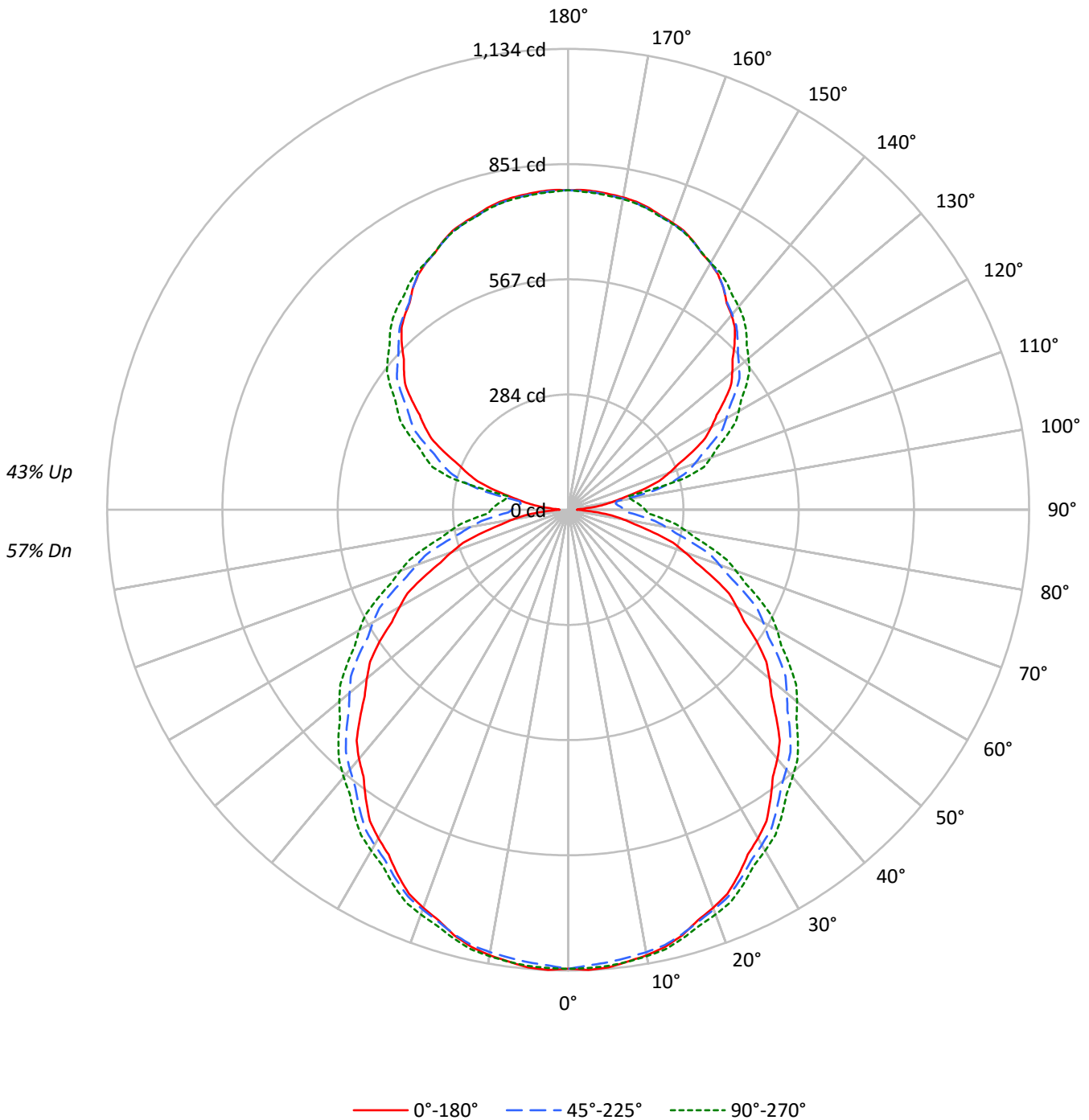
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332843-927

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

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	101	101	101	101	87	87	87	74	74	74	62	62	62	57
1	98	93	89	85	91	87	83	80	75	72	69	63	61	59	53	52	50	45
2	89	81	74	68	82	75	69	64	65	60	56	55	52	49	46	44	41	37
3	81	71	63	56	75	66	59	53	57	51	47	48	44	41	40	37	35	31
4	74	62	54	47	68	58	51	45	50	44	40	43	38	35	36	32	30	26
5	68	55	47	40	62	52	44	38	45	39	34	38	33	30	32	29	26	22
6	62	50	41	35	58	46	39	33	40	34	29	34	30	26	29	25	22	20
7	57	45	36	31	53	42	34	29	36	30	26	31	26	23	27	23	20	17
8	53	40	32	27	49	38	31	26	33	27	23	29	24	20	24	21	18	15
9	50	37	29	24	46	35	28	23	30	25	20	26	22	18	22	19	16	14
10	46	34	26	21	43	32	25	20	28	22	18	24	20	16	21	17	14	12

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	1.7
10°-20°	306.5	4.9
20°-30°	463.4	7.4
30°-40°	560.7	8.9
40°-50°	592.8	9.4
50°-60°	557.9	8.9
60°-70°	462.9	7.4
70°-80°	325.1	5.2
80°-90°	186.1	3.0
90°-100°	136.0	2.2
100°-110°	252.2	4.0
110°-120°	382.2	6.1
120°-130°	446.9	7.1
130°-140°	458.7	7.3
140°-150°	419.2	6.7
150°-160°	335.9	5.3
160°-170°	216.7	3.4
170°-180°	74.7	1.2
0°-30°	876.9	14.0
0°-40°	1437.6	22.9
0°-60°	2588.3	41.2
0°-90°	3562.3	56.7
90°-120°	770.5	12.3
90°-150°	2095.3	33.3
90°-180°	2723.0	43.3
0°-180°	6284.9	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	15
95°	49	72	123	159	173	55
105°	188	218	267	301	293	198
115°	338	353	391	419	429	333
125°	470	472	501	526	535	419
135°	579	579	589	610	620	446
145°	666	666	666	674	681	416
155°	729	729	727	729	728	336
165°	769	766	766	770	765	217
175°	786	783	783	788	782	75
180°	786	786	786	786	786	



TEST NUMBER: P332843-927

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

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°	26.6	36.8	47.1	57.2	67.4	79.1	92.2	105.4	118.5	131.7	140.4
95°	48.8	53.6	58.5	63.3	68.1	76.4	88.0	99.7	111.3	123.0	131.3
97.5°	83.6	94.3	105.1	115.9	126.6	130.4	127.2	124.1	120.9	117.7	125.2
100°	110.4	120.0	129.7	139.3	149.0	150.3	143.2	136.2	129.0	122.0	127.4
102.5°	141.4	149.6	157.6	165.8	174.0	182.2	190.6	199.0	207.3	215.7	199.2
105°	188.4	194.8	201.2	207.6	214.0	222.8	233.8	244.9	255.9	267.0	275.1
107.5°	234.1	239.1	244.2	249.1	254.1	262.0	272.7	283.4	294.1	304.9	312.4
110°	264.1	268.5	272.8	277.1	281.5	288.9	299.5	310.1	320.8	331.4	338.2



TEST NUMBER: P332843-927

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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	293.3	297.5	301.7	305.8	310.0	317.0	326.7	336.5	346.3	356.0	362.2
115°	338.0	341.0	343.9	346.8	349.7	355.6	364.5	373.4	382.2	391.1	397.5
117.5°	379.5	381.6	383.7	385.7	387.7	393.1	401.7	410.4	419.1	427.7	433.6
120°	406.8	408.1	409.5	410.9	412.3	416.9	424.9	433.0	441.0	449.0	454.9
122.5°	433.1	433.6	434.1	434.6	435.1	439.3	447.1	455.0	462.9	470.8	476.6
125°	469.6	469.8	470.1	470.3	470.6	474.0	480.9	487.6	494.4	501.1	506.8
127.5°	505.1	504.9	504.8	504.6	504.5	507.4	513.4	519.4	525.5	531.4	536.4
130°	527.1	527.0	526.8	526.7	526.6	528.9	533.8	538.7	543.6	548.4	553.7
132.5°	548.3	548.3	548.2	548.2	548.1	550.2	554.2	558.3	562.4	566.5	571.5
135°	578.8	578.7	578.5	578.4	578.3	579.5	581.9	584.5	586.9	589.4	594.1
137.5°	606.9	606.7	606.4	606.2	606.0	606.7	608.2	609.7	611.2	612.8	617.2
140°	625.3	625.2	625.2	625.2	625.2	625.4	626.0	626.5	627.1	627.6	631.7
142.5°	640.7	641.1	641.5	642.0	642.4	642.5	642.5	642.5	642.5	642.5	646.0
145°	665.7	665.8	666.0	666.1	666.1	666.2	666.2	666.2	666.2	666.2	668.0
147.5°	685.9	686.3	686.7	687.2	687.6	687.8	687.7	687.5	687.4	687.3	687.6
150°	700.4	700.7	700.9	701.2	701.4	701.5	701.3	701.2	701.1	700.9	700.9
152.5°	711.6	712.0	712.4	712.7	713.1	713.1	712.9	712.7	712.5	712.3	712.4
155°	728.6	728.7	728.8	729.0	729.1	729.0	728.6	728.2	727.8	727.4	727.9
157.5°	743.1	743.0	742.9	742.8	742.8	742.4	742.0	741.6	741.1	740.7	741.3
160°	751.5	751.1	750.8	750.4	750.0	749.6	749.6	749.4	749.2	749.2	750.0
162.5°	759.0	758.5	758.0	757.6	757.0	756.7	756.6	756.5	756.3	756.2	757.0
165°	768.6	767.9	767.2	766.6	766.0	765.6	765.6	765.6	765.6	765.6	766.7
167.5°	776.1	775.4	774.8	774.0	773.3	773.0	772.9	772.9	772.8	772.7	773.8
170°	780.3	779.5	778.7	777.9	777.2	776.8	777.0	777.1	777.2	777.4	778.4
172.5°	783.2	782.4	781.6	780.8	780.0	779.7	779.8	779.9	780.1	780.2	781.3
175°	786.2	785.4	784.7	783.9	783.1	782.8	782.8	783.0	783.2	783.2	784.4
177.5°	787.6	786.9	786.2	785.4	784.7	784.4	784.7	784.8	785.1	785.2	786.1
180°	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2



TEST NUMBER: P332843-927

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

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°	149.0	157.7	166.4	172.0	174.3	176.6	178.9	181.2
95°	139.7	148.1	156.5	162.0	164.7	167.3	170.0	172.6
97.5°	132.6	140.1	147.5	152.5	155.0	157.6	160.2	162.7
100°	132.8	138.1	143.5	147.2	149.3	151.4	153.5	155.6
102.5°	182.5	166.0	149.3	142.1	144.3	146.6	148.8	151.0
105°	283.4	291.6	299.8	302.6	300.2	297.7	295.2	292.8
107.5°	319.9	327.3	334.9	339.8	342.4	344.9	347.5	349.9
110°	344.8	351.6	358.3	363.0	365.7	368.3	370.9	373.6



TEST NUMBER: P332843-927

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	368.4	374.5	380.7	385.2	387.9	390.7	393.5	396.2
115°	404.0	410.4	416.8	421.1	423.0	425.0	427.0	429.0
117.5°	439.3	445.1	450.9	454.9	457.1	459.3	461.5	463.7
120°	460.8	466.7	472.5	476.5	478.5	480.5	482.4	484.4
122.5°	482.4	488.1	493.8	497.6	499.4	501.2	503.0	504.7
125°	512.6	518.3	524.0	527.8	529.7	531.5	533.3	535.1
127.5°	541.4	546.4	551.4	554.8	556.5	558.3	560.2	562.0
130°	558.9	564.0	569.3	572.7	574.3	576.1	577.7	579.4
132.5°	576.5	581.5	586.4	589.7	591.2	592.8	594.4	596.0
135°	599.0	603.7	608.5	611.8	613.8	615.7	617.7	619.6
137.5°	621.5	625.9	630.3	633.2	634.5	635.8	637.2	638.5
140°	635.7	639.8	643.8	646.6	648.1	649.7	651.2	652.8
142.5°	649.5	653.0	656.5	658.9	660.0	661.2	662.4	663.7
145°	669.9	671.7	673.5	675.1	676.5	677.9	679.3	680.6
147.5°	687.9	688.2	688.6	689.3	690.3	691.3	692.4	693.4
150°	700.9	700.9	700.9	701.0	701.2	701.2	701.4	701.5
152.5°	712.6	712.8	713.0	713.1	713.0	713.0	712.9	712.8
155°	728.4	729.0	729.4	729.5	729.1	728.7	728.3	728.0
157.5°	742.0	742.8	743.4	743.4	742.8	742.0	741.3	740.7
160°	750.8	751.5	752.3	752.3	751.5	750.8	750.0	749.2
162.5°	757.8	758.5	759.3	759.3	758.4	757.5	756.6	755.7
165°	767.7	768.7	769.8	769.8	768.6	767.4	766.2	765.0
167.5°	775.0	776.1	777.3	777.2	775.9	774.6	773.2	772.0
170°	779.4	780.5	781.6	781.4	780.1	778.8	777.5	776.2
172.5°	782.3	783.3	784.3	784.2	782.8	781.4	780.0	778.6
175°	785.6	786.8	788.0	787.7	786.2	784.7	783.1	781.5
177.5°	787.0	787.7	788.6	788.4	787.1	785.8	784.7	783.4
180°	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2

(END OF REPORT)