

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: P332692-927

Luminaire Tested: **S124DIP-S1195D810U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332692-927  
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: S124DIP-S1195D810U927-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6074.8 lumens  
Efficiency: N/A  
Efficacy: 100.1 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

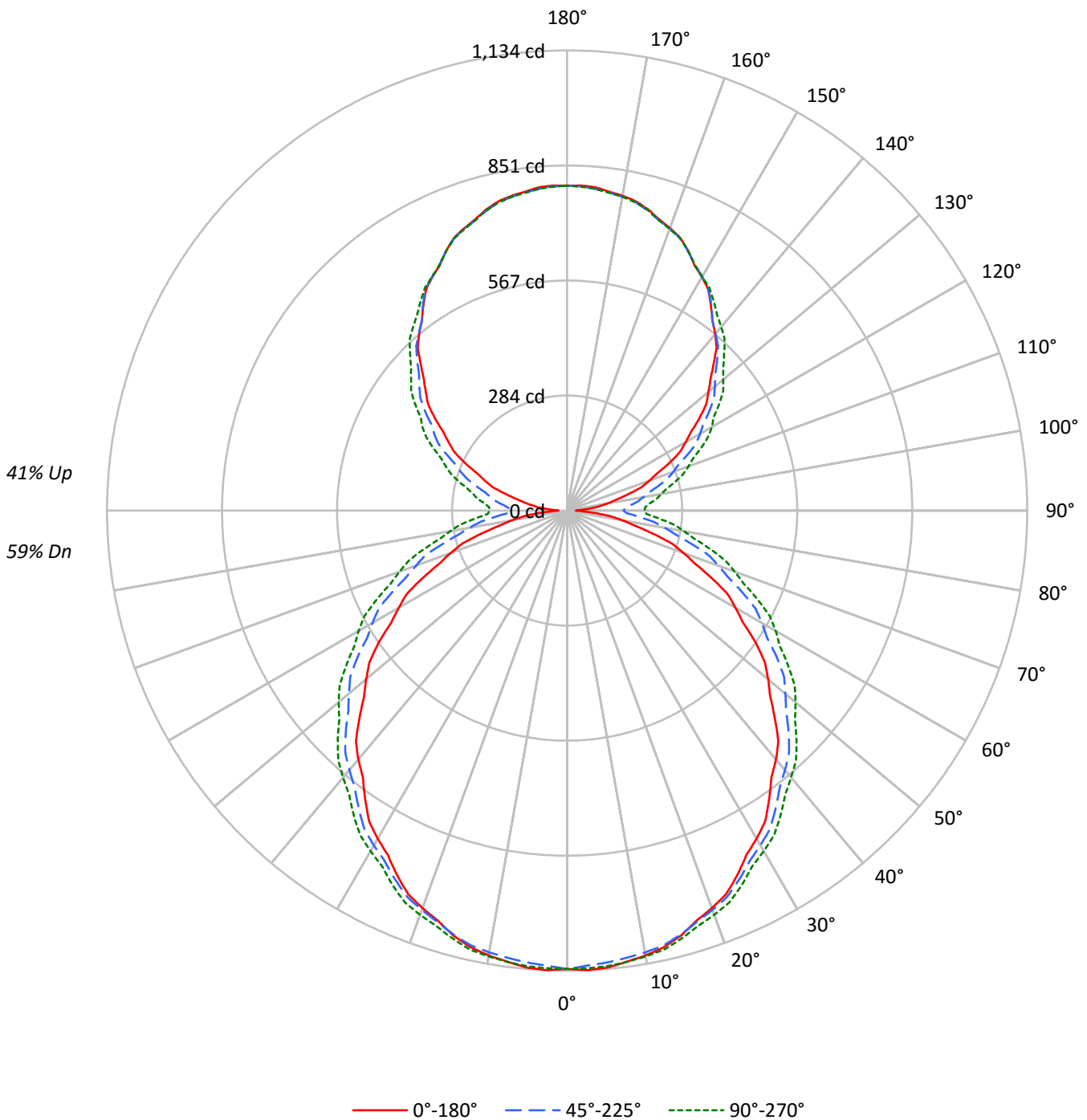
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20			20			20			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	88	88	88	76	76	76	64	64	64	59
1	99	94	89	85	92	87	83	80	76	73	70	65	63	61	55	53	52	47
2	89	81	74	69	83	76	70	65	65	61	57	56	53	50	47	45	43	38
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	42	38	36	32
4	74	62	54	48	69	58	51	45	51	45	40	44	39	35	37	33	30	27
5	68	56	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23
6	62	50	41	35	58	47	39	33	41	34	30	35	30	26	30	26	23	20
7	58	45	36	31	54	42	35	29	37	31	26	32	27	23	27	23	20	18
8	54	41	33	27	50	38	31	26	34	27	23	29	24	21	25	21	18	16
9	50	37	29	24	46	35	28	23	31	25	21	27	22	19	23	19	16	14
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	21	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	5.0
20°-30°	463.4	7.6
30°-40°	560.7	9.2
40°-50°	592.8	9.8
50°-60°	557.9	9.2
60°-70°	462.9	7.6
70°-80°	325.1	5.4
80°-90°	186.2	3.1
90°-100°	162.0	2.7
100°-110°	237.2	3.9
110°-120°	319.8	5.3
120°-130°	380.8	6.3
130°-140°	406.5	6.7
140°-150°	389.1	6.4
150°-160°	325.0	5.4
160°-170°	216.2	3.6
170°-180°	75.7	1.2
0°-30°	876.9	14.4
0°-40°	1437.6	23.7
0°-60°	2588.3	42.6
0°-90°	3562.4	58.6
90°-120°	719.0	11.8
90°-150°	1895.3	31.2
90°-180°	2512.0	41.4
0°-180°	6074.8	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	80	139	178	191	16
95°	54	101	157	192	204	54
105°	156	183	231	263	276	166
115°	278	290	328	354	364	274
125°	398	399	428	450	457	355
135°	510	514	522	541	547	395
145°	618	619	619	626	630	386
155°	706	706	705	708	705	325
165°	769	767	766	769	767	217
175°	800	797	796	800	796	76
180°	801	801	801	801	801	



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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°	37.8	49.6	61.4	73.1	84.9	97.0	109.6	122.2	134.7	147.2	155.5
90°	22.1	34.9	47.6	60.4	73.1	86.1	99.3	112.5	125.6	138.9	147.8
92.5°	32.5	44.4	56.2	68.0	79.9	92.3	105.1	118.0	130.8	143.7	152.1
95°	53.6	64.1	74.6	85.2	95.7	107.2	119.6	132.1	144.7	157.1	165.1
97.5°	79.9	88.8	97.8	106.8	115.7	126.5	139.0	151.5	164.1	176.7	184.5
100°	100.6	108.4	116.4	124.2	132.1	142.1	154.3	166.5	178.7	190.9	198.8
102.5°	123.4	130.1	136.7	143.3	150.0	159.1	171.0	182.9	194.8	206.7	214.4
105°	155.7	161.4	167.2	172.9	178.7	187.1	198.0	209.0	219.9	230.9	238.3
107.5°	191.9	196.8	201.5	206.3	211.0	218.4	228.3	238.3	248.2	258.1	265.4
110°	215.7	219.9	224.2	228.4	232.6	239.6	249.2	259.0	268.6	278.4	284.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	240.5	244.0	247.6	251.1	254.7	261.0	270.1	279.2	288.4	297.5	303.7
115°	277.6	280.1	282.7	285.2	287.7	293.3	302.1	310.8	319.5	328.2	334.3
117.5°	313.8	315.4	317.0	318.7	320.3	325.2	333.4	341.6	349.7	357.9	363.3
120°	337.1	338.4	339.8	341.2	342.6	347.2	354.9	362.7	370.4	378.1	383.1
122.5°	362.3	362.7	363.1	363.5	363.8	367.8	375.3	382.9	390.3	397.8	403.0
125°	398.3	398.1	397.8	397.5	397.2	400.5	407.4	414.3	421.2	428.1	433.2
127.5°	431.9	432.1	432.1	432.3	432.5	435.1	440.2	445.4	450.6	455.7	460.6
130°	454.6	454.8	455.0	455.0	455.2	457.5	462.0	466.5	471.0	475.5	480.3
132.5°	479.0	479.0	479.0	479.0	479.0	480.8	484.3	487.7	491.2	494.7	499.3
135°	509.8	510.6	511.4	512.2	513.0	514.4	516.4	518.4	520.4	522.3	526.6
137.5°	544.7	544.8	544.9	545.0	545.1	545.7	546.9	548.1	549.3	550.4	554.2
140°	568.0	568.0	567.9	567.9	567.9	568.1	568.4	568.6	568.9	569.2	572.7
142.5°	588.3	588.5	588.7	588.9	589.1	589.1	588.8	588.5	588.3	588.0	591.2
145°	617.5	617.7	618.1	618.3	618.5	618.8	618.9	619.0	619.2	619.3	620.8
147.5°	646.7	647.1	647.5	647.8	648.2	648.4	648.2	648.2	648.0	647.9	648.0
150°	664.6	664.8	665.1	665.4	665.7	665.7	665.7	665.7	665.7	665.7	665.7
152.5°	680.4	680.6	681.0	681.2	681.5	681.7	681.8	681.9	682.0	682.1	682.5
155°	706.0	706.0	706.0	706.0	706.0	705.9	705.8	705.7	705.5	705.4	705.9
157.5°	727.9	727.5	727.3	727.1	726.8	726.7	726.7	726.7	726.6	726.6	727.0
160°	740.7	740.5	740.5	740.3	740.1	740.0	739.9	739.7	739.6	739.5	739.9
162.5°	752.6	752.3	751.9	751.5	751.1	750.9	750.8	750.7	750.5	750.4	751.1
165°	768.6	768.2	767.8	767.3	766.9	766.6	766.3	766.0	765.7	765.5	766.3
167.5°	780.9	780.2	779.7	779.1	778.6	778.2	778.2	778.3	778.3	778.3	779.2
170°	787.7	787.1	786.4	785.7	785.1	784.7	784.9	785.1	785.1	785.3	786.1
172.5°	792.7	792.2	791.5	791.0	790.4	790.1	790.2	790.2	790.2	790.3	791.2
175°	799.5	798.8	798.1	797.5	796.8	796.4	796.2	796.1	796.0	795.8	796.8
177.5°	801.8	801.2	800.7	800.1	799.5	799.3	799.3	799.3	799.3	799.3	800.0
180°	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7



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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°	163.8	172.1	180.5	185.8	188.4	190.9	193.5	196.0
90°	156.8	165.8	174.8	180.5	183.1	185.5	188.1	190.6
92.5°	160.5	169.0	177.4	182.8	185.2	187.6	190.0	192.4
95°	173.1	181.1	189.1	194.4	196.9	199.5	202.0	204.5
97.5°	192.3	200.3	208.1	213.3	215.6	218.1	220.5	222.9
100°	206.6	214.5	222.4	227.3	229.3	231.2	233.1	235.1
102.5°	222.1	229.9	237.7	242.6	244.9	247.2	249.6	251.9
105°	245.7	253.2	260.6	265.7	268.4	271.0	273.7	276.3
107.5°	272.7	280.0	287.3	291.9	294.0	296.0	297.9	299.9
110°	290.7	296.9	303.1	307.5	310.2	312.8	315.5	318.1





TEST NUMBER: P332692-927

CATALOG NUMBER: S124DIP-S1195D810U927-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	309.9	316.1	322.3	326.5	328.9	331.2	333.5	335.9
115°	340.3	346.3	352.4	356.3	358.2	360.0	361.9	363.7
117.5°	368.7	374.1	379.5	383.1	385.1	387.1	389.0	391.0
120°	388.0	392.9	397.9	401.6	404.1	406.6	409.2	411.7
122.5°	408.1	413.3	418.4	421.8	423.3	424.8	426.4	427.9
125°	438.2	443.2	448.3	451.5	453.0	454.4	455.8	457.2
127.5°	465.3	470.2	474.9	478.2	479.8	481.6	483.2	484.9
130°	485.1	489.8	494.6	497.6	498.8	499.9	501.0	502.2
132.5°	503.8	508.4	512.9	515.9	517.5	518.9	520.4	521.8
135°	530.8	535.0	539.2	541.9	543.2	544.5	545.8	547.1
137.5°	557.9	561.7	565.5	568.1	569.5	571.0	572.5	574.0
140°	576.2	579.7	583.3	585.7	586.9	588.2	589.5	590.7
142.5°	594.4	597.5	600.7	602.9	604.0	605.1	606.3	607.4
145°	622.4	624.0	625.5	626.6	627.3	628.0	628.8	629.5
147.5°	648.2	648.2	648.4	648.8	649.6	650.4	651.1	651.9
150°	665.7	665.7	665.7	665.7	665.6	665.4	665.3	665.1
152.5°	682.8	683.1	683.4	683.4	683.1	682.7	682.4	682.0
155°	706.5	707.0	707.6	707.6	707.0	706.5	705.9	705.4
157.5°	727.4	727.9	728.3	728.2	727.8	727.3	726.8	726.4
160°	740.3	740.7	741.1	741.0	740.3	739.6	738.9	738.2
162.5°	751.9	752.6	753.4	753.4	752.7	752.0	751.3	750.6
165°	767.1	767.9	768.8	768.9	768.3	767.8	767.2	766.8
167.5°	780.0	780.9	781.6	781.6	780.8	779.9	779.1	778.2
170°	787.0	787.7	788.6	788.5	787.6	786.6	785.6	784.7
172.5°	792.1	793.1	794.0	794.0	793.1	792.0	791.1	790.1
175°	797.7	798.7	799.7	799.7	798.7	797.7	796.8	795.8
177.5°	800.8	801.6	802.4	802.3	801.5	800.6	799.7	798.8
180°	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7

(END OF REPORT)