

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: P332637-830

Luminaire Tested: **S124DIP-S1020D590U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332637-830
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: S124DIP-S1020D590U830-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6192.7 lumens
Efficiency: N/A
Efficacy: 126.9 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

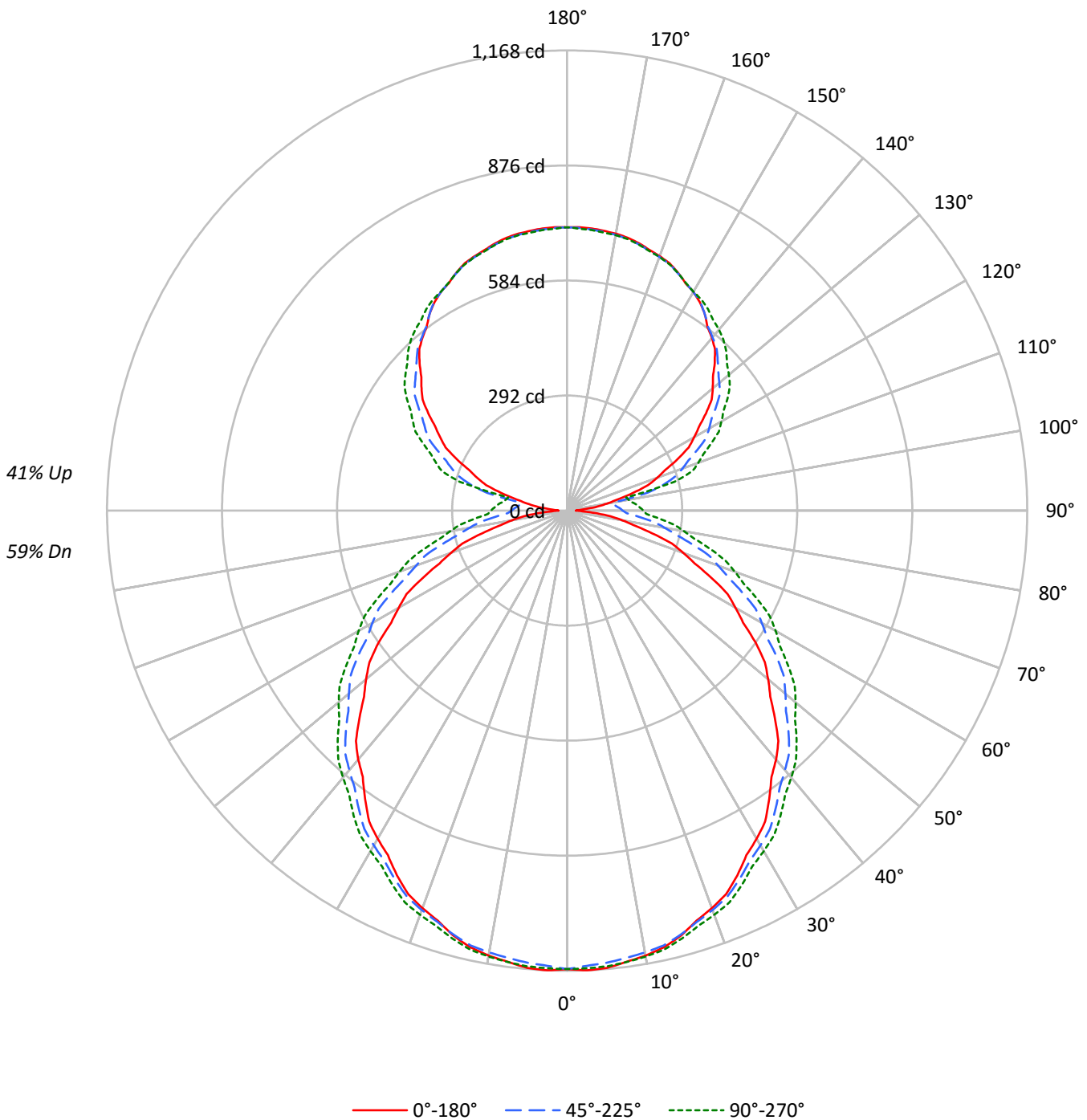
Input Watts (W): 48.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332637-830

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Luminous Intensity Polar Plot





TEST NUMBER: P332637-830

CATALOG NUMBER: S124DIP-S1020D590U830-4F0-1E-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	50	30	10	0	
RCR																						
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	65	65	65	59				
1	99	94	89	85	92	88	84	80	76	73	70	65	63	61	55	54	52	47				
2	89	81	74	69	83	76	70	65	66	61	57	56	53	50	48	45	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	35	37	34	31	27				
5	68	56	47	41	63	52	44	39	45	39	34	39	34	30	33	30	27	23				
6	63	50	41	35	58	47	39	33	41	35	30	35	30	27	30	26	23	20				
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	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	22	18	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9395	9395	9395
5°	9424	9182	9208
10°	9366	9032	9024
15°	9282	8858	8809
20°	9156	8666	8599
25°	9013	8450	8368
30°	8859	8237	8131
35°	8684	8018	7924
40°	8544	7809	7708
45°	8336	7617	7522
50°	8161	7395	7326
55°	7979	7187	7096
60°	7697	6921	6885
65°	7387	6635	6628
70°	7013	6309	6327
75°	6486	5950	6056
80°	5904	5605	5788
85°	5170	5301	5633



TEST NUMBER: P332637-830

CATALOG NUMBER: S124DIP-S1020D590U830-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.2	1.8
10°-20°	315.7	5.1
20°-30°	477.4	7.7
30°-40°	577.6	9.3
40°-50°	610.7	9.9
50°-60°	574.7	9.3
60°-70°	476.8	7.7
70°-80°	334.9	5.4
80°-90°	191.4	3.1
90°-100°	137.0	2.2
100°-110°	240.0	3.9
110°-120°	355.7	5.7
120°-130°	412.2	6.7
130°-140°	420.9	6.8
140°-150°	383.6	6.2
150°-160°	307.2	5.0
160°-170°	198.1	3.2
170°-180°	68.3	1.1
0°-30°	903.4	14.6
0°-40°	1481.0	23.9
0°-60°	2666.4	43.1
0°-90°	3669.7	59.3
90°-120°	732.7	11.8
90°-150°	1949.5	31.5
90°-180°	2523.0	40.7
0°-180°	6192.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1164	1164	1164	1164	1164	
5°	1165	1161	1152	1162	1161	111
15°	1117	1118	1114	1125	1125	315
25°	1022	1029	1033	1047	1049	470
35°	894	910	923	940	945	560
45°	745	770	795	816	824	576
55°	584	612	650	675	684	520
65°	404	446	490	521	533	400
75°	224	273	327	362	375	238
85°	69	124	182	220	235	74
90°	22	81	141	180	193	15
95°	46	73	125	162	176	51
105°	174	204	254	289	282	183
115°	310	325	364	393	403	306
125°	430	432	462	488	497	384
135°	530	530	540	561	571	408
145°	609	609	609	617	624	380
155°	666	667	665	667	666	307
165°	703	700	700	704	700	198
175°	719	716	716	720	714	68
180°	719	719	719	719	719	



TEST NUMBER: P332637-830

CATALOG NUMBER: S124DIP-S1020D590U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8
2.5°	1167.9	1167.2	1166.5	1165.8	1165.1	1163.9	1162.0	1160.2	1158.3	1156.4	1158.0
5°	1165.0	1164.1	1163.3	1162.4	1161.6	1160.1	1158.1	1156.0	1154.0	1152.0	1154.3
7.5°	1155.1	1154.6	1154.0	1153.6	1153.0	1152.0	1150.3	1148.6	1146.9	1145.2	1147.8
10°	1146.8	1146.5	1146.2	1145.9	1145.7	1144.7	1143.3	1141.9	1140.4	1139.0	1141.6
12.5°	1135.3	1135.3	1135.2	1135.1	1135.1	1134.5	1133.6	1132.6	1131.6	1130.6	1133.0
15°	1116.8	1117.1	1117.4	1117.7	1117.9	1117.7	1116.8	1116.0	1115.0	1114.2	1116.8
17.5°	1091.6	1092.4	1093.3	1094.1	1095.0	1095.3	1095.1	1095.0	1094.9	1094.7	1097.3
20°	1073.8	1074.7	1075.5	1076.4	1077.3	1077.9	1078.2	1078.5	1078.7	1079.0	1081.9
22.5°	1054.0	1055.1	1056.2	1057.3	1058.4	1059.2	1059.7	1060.3	1060.7	1061.3	1064.2
25°	1021.7	1023.4	1025.1	1026.9	1028.6	1029.9	1030.8	1031.7	1032.6	1033.4	1036.6
27.5°	985.7	988.3	990.8	993.3	995.9	997.9	999.2	1000.5	1001.8	1003.1	1006.2
30°	961.8	964.0	966.4	968.7	971.0	973.2	975.2	977.2	979.2	981.3	984.5
32.5°	935.7	938.5	941.2	944.1	946.8	949.3	951.6	953.9	956.1	958.4	962.0
35°	894.0	897.5	900.9	904.4	907.9	911.1	914.0	916.8	919.7	922.7	926.7
37.5°	852.0	856.0	860.0	864.0	868.0	871.8	875.3	878.9	882.6	886.2	890.2
40°	824.9	828.7	832.5	836.2	840.0	843.9	847.9	852.0	856.0	860.1	864.4
42.5°	793.6	797.9	802.1	806.3	810.5	815.0	819.7	824.5	829.2	834.1	838.9
45°	745.4	750.9	756.4	762.0	767.4	772.9	778.4	783.9	789.4	794.9	799.8
47.5°	699.3	704.9	710.6	716.3	722.0	728.0	734.3	740.7	747.2	753.5	758.6
50°	665.9	672.3	678.6	685.0	691.4	697.8	704.2	710.5	716.9	723.2	729.1
52.5°	632.5	638.9	645.3	651.7	658.1	664.9	672.1	679.5	686.7	694.1	699.8
55°	583.8	589.9	596.0	602.1	608.1	615.5	624.2	632.9	641.6	650.3	656.1
57.5°	529.3	536.9	544.4	552.0	559.5	567.5	576.2	584.8	593.4	602.1	609.0
60°	493.9	501.4	509.0	516.5	524.1	532.5	542.2	551.7	561.2	570.8	577.4
62.5°	459.5	467.7	476.0	484.2	492.4	501.2	510.9	520.4	530.0	539.5	546.2
65°	404.0	413.2	422.5	431.8	441.0	450.6	460.4	470.3	480.1	490.0	497.2
67.5°	350.5	360.4	370.2	380.1	389.9	400.1	410.7	421.2	431.8	442.3	449.7
70°	314.1	324.0	333.8	343.6	353.5	363.9	374.8	385.9	396.9	407.9	415.8
72.5°	278.6	288.7	298.8	308.9	319.0	329.8	341.5	353.2	365.0	376.6	384.2
75°	224.1	234.9	245.5	256.3	267.0	278.4	290.6	302.7	314.9	327.1	335.2
77.5°	173.3	184.6	196.0	207.4	218.8	230.7	243.6	256.3	269.0	281.7	289.9
80°	142.0	153.6	165.2	176.8	188.4	200.6	213.3	226.0	238.7	251.5	260.2
82.5°	110.7	122.8	134.9	146.9	158.9	171.4	184.1	196.8	209.6	222.3	231.2
85°	69.1	81.2	93.4	105.6	117.7	130.4	143.4	156.4	169.4	182.5	191.1
87.5°	38.9	51.0	63.1	75.1	87.2	99.7	112.5	125.5	138.3	151.2	159.8
90°	22.4	35.3	48.3	61.2	74.1	87.2	100.7	114.0	127.4	140.8	150.0
92.5°	26.6	37.0	47.6	58.1	68.6	80.5	94.0	107.4	120.7	134.1	143.1
95°	46.5	52.0	57.5	63.0	68.5	77.2	89.3	101.2	113.2	125.2	133.7
97.5°	78.1	89.0	99.7	110.5	121.2	125.8	124.2	122.6	121.0	119.5	127.1
100°	102.5	112.2	121.9	131.6	141.2	143.5	138.3	133.1	127.9	122.7	128.5
102.5°	130.9	139.1	147.2	155.4	163.6	172.2	181.1	190.0	198.9	207.8	193.5
105°	173.5	180.0	186.6	193.1	199.6	208.5	219.8	231.1	242.4	253.7	262.0
107.5°	215.4	220.5	225.6	230.6	235.7	243.8	254.8	265.7	276.6	287.6	295.2
110°	242.7	247.1	251.5	255.9	260.3	268.0	278.8	289.6	300.6	311.4	318.3



TEST NUMBER: P332637-830

CATALOG NUMBER: S124DIP-S1020D590U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	269.2	273.4	277.7	281.9	286.2	293.2	303.2	313.3	323.3	333.3	339.7
115°	310.0	312.9	315.9	318.9	321.9	327.9	337.1	346.2	355.3	364.5	371.1
117.5°	347.9	350.0	351.9	354.0	356.1	361.6	370.4	379.3	388.2	397.1	403.0
120°	372.7	374.0	375.3	376.7	378.1	382.9	391.2	399.4	407.6	415.9	422.0
122.5°	396.7	397.2	397.7	398.1	398.6	402.8	410.9	419.1	427.2	435.3	441.2
125°	430.0	430.2	430.4	430.6	430.7	434.3	441.3	448.3	455.3	462.3	468.2
127.5°	462.4	462.2	462.0	461.8	461.8	464.7	470.8	476.9	483.0	489.1	494.3
130°	482.4	482.2	482.1	481.9	481.7	484.2	489.2	494.2	499.2	504.1	509.4
132.5°	501.8	501.7	501.6	501.5	501.4	503.5	507.7	511.8	516.0	520.2	525.3
135°	529.5	529.4	529.2	529.1	529.0	530.2	532.7	535.3	537.7	540.3	545.1
137.5°	555.2	555.0	554.7	554.5	554.2	554.9	556.4	557.9	559.4	560.9	565.4
140°	571.9	571.9	571.8	571.8	571.7	572.0	572.5	573.1	573.6	574.1	578.2
142.5°	586.0	586.4	586.7	587.1	587.5	587.7	587.6	587.6	587.6	587.5	591.1
145°	608.9	608.9	609.0	609.1	609.2	609.2	609.2	609.2	609.2	609.2	611.1
147.5°	627.3	627.6	628.0	628.4	628.8	628.9	628.8	628.7	628.5	628.4	628.8
150°	640.6	640.7	640.9	641.1	641.3	641.4	641.2	641.1	641.0	640.8	640.8
152.5°	650.7	651.0	651.4	651.7	652.1	652.1	651.9	651.7	651.4	651.2	651.4
155°	666.2	666.3	666.4	666.5	666.7	666.5	666.2	665.8	665.4	665.1	665.5
157.5°	679.4	679.3	679.2	679.2	679.1	678.8	678.4	678.1	677.6	677.2	677.9
160°	687.1	686.7	686.4	686.1	685.7	685.4	685.3	685.2	685.0	684.9	685.7
162.5°	694.0	693.5	693.1	692.7	692.2	691.9	691.7	691.6	691.5	691.4	692.1
165°	702.7	702.1	701.5	700.9	700.3	700.0	700.0	700.0	700.0	700.0	701.0
167.5°	709.5	709.0	708.3	707.8	707.1	706.7	706.7	706.6	706.5	706.4	707.6
170°	713.5	712.8	712.0	711.3	710.6	710.3	710.4	710.5	710.7	710.8	711.7
172.5°	716.0	715.3	714.6	713.9	713.2	712.8	713.0	713.1	713.2	713.3	714.4
175°	718.9	718.1	717.4	716.7	716.0	715.7	715.8	716.0	716.0	716.1	717.2
177.5°	720.1	719.4	718.8	718.1	717.5	717.2	717.4	717.6	717.7	717.9	718.8
180°	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9



TEST NUMBER: P332637-830

CATALOG NUMBER: S124DIP-S1020D590U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8
2.5°	1159.7	1161.3	1162.9	1163.6	1163.4	1163.1	1162.9	1162.7
5°	1156.6	1159.0	1161.3	1162.2	1162.0	1161.7	1161.4	1161.1
7.5°	1150.5	1153.0	1155.7	1156.8	1156.5	1156.2	1155.9	1155.7
10°	1144.2	1146.8	1149.4	1150.6	1150.3	1150.0	1149.7	1149.4
12.5°	1135.4	1137.7	1140.1	1141.3	1141.2	1141.1	1141.1	1141.0
15°	1119.5	1122.0	1124.6	1125.8	1125.5	1125.2	1124.9	1124.6
17.5°	1099.9	1102.7	1105.3	1106.5	1106.3	1106.1	1105.8	1105.6
20°	1084.8	1087.7	1090.6	1092.0	1092.0	1092.0	1092.0	1092.0
22.5°	1067.1	1070.0	1072.9	1074.6	1075.1	1075.4	1075.9	1076.4
25°	1039.8	1042.9	1046.1	1047.9	1048.2	1048.5	1048.8	1049.0
27.5°	1009.1	1012.0	1015.0	1016.6	1017.0	1017.4	1017.7	1018.0
30°	987.7	990.8	994.0	995.9	996.5	997.0	997.7	998.2
32.5°	965.6	969.3	973.0	975.1	975.6	976.2	976.8	977.4
35°	930.8	934.8	938.9	941.3	942.2	943.0	944.0	944.8
37.5°	894.4	898.5	902.6	905.1	906.1	907.0	907.9	908.8
40°	868.7	873.1	877.5	880.2	881.4	882.5	883.7	884.9
42.5°	843.7	848.5	853.3	856.1	857.1	858.0	858.9	859.8
45°	804.7	809.7	814.6	817.8	819.3	820.7	822.2	823.6
47.5°	763.6	768.7	773.9	777.3	779.0	780.8	782.5	784.3
50°	734.8	740.6	746.4	750.2	752.0	753.7	755.4	757.1
52.5°	705.7	711.4	717.3	721.0	722.7	724.4	726.2	727.9
55°	661.9	667.7	673.4	677.2	678.9	680.7	682.4	684.2
57.5°	615.9	622.7	629.6	633.9	635.5	637.2	638.8	640.4
60°	584.1	590.8	597.4	601.9	604.3	606.5	608.9	611.1
62.5°	552.8	559.5	566.2	570.6	573.0	575.2	577.6	579.9
65°	504.4	511.7	519.0	523.8	526.0	528.4	530.7	533.0
67.5°	457.0	464.4	471.7	476.5	478.8	481.1	483.3	485.6
70°	423.5	431.3	439.1	444.1	446.1	448.2	450.2	452.2
72.5°	391.8	399.4	407.0	411.9	414.2	416.4	418.7	420.9
75°	343.3	351.4	359.5	364.9	367.5	370.1	372.7	375.3
77.5°	298.2	306.4	314.6	320.2	322.9	325.7	328.5	331.3
80°	268.9	277.6	286.3	291.7	294.1	296.4	298.7	301.0
82.5°	240.2	249.1	258.0	263.7	266.3	268.8	271.4	273.9
85°	199.8	208.5	217.2	223.0	225.9	228.8	231.7	234.6
87.5°	168.2	176.8	185.4	191.0	193.5	196.1	198.7	201.3
90°	159.1	168.1	177.3	183.1	185.7	188.2	190.8	193.3
92.5°	151.9	160.8	169.7	175.3	177.7	180.0	182.4	184.7
95°	142.2	150.8	159.4	164.9	167.7	170.4	173.1	175.9
97.5°	134.8	142.5	150.1	155.2	157.9	160.5	163.1	165.7
100°	134.3	140.1	145.8	149.8	151.9	154.1	156.3	158.4
102.5°	179.2	164.9	150.5	144.5	146.8	149.0	151.4	153.6
105°	270.4	278.7	287.0	290.2	288.2	286.3	284.3	282.2
107.5°	302.9	310.6	318.2	323.3	325.8	328.4	330.9	333.5
110°	325.2	332.1	338.9	343.7	346.5	349.1	351.8	354.5



TEST NUMBER: P332637-830

CATALOG NUMBER: S124DIP-S1020D590U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	346.0	352.4	358.8	363.4	366.2	368.9	371.6	374.5
115°	377.7	384.3	391.0	395.2	397.3	399.3	401.3	403.3
117.5°	409.1	415.0	421.0	425.1	427.3	429.7	432.0	434.2
120°	428.0	434.0	440.1	444.1	446.2	448.3	450.3	452.4
122.5°	447.1	453.1	459.0	462.9	464.8	466.6	468.4	470.3
125°	474.0	479.8	485.8	489.7	491.4	493.3	495.2	497.0
127.5°	499.4	504.5	509.6	513.2	515.1	516.9	518.8	520.7
130°	514.8	520.1	525.5	529.0	530.7	532.4	534.2	535.9
132.5°	530.4	535.5	540.5	543.9	545.5	547.2	548.8	550.5
135°	550.0	554.9	559.7	563.2	565.1	567.1	569.1	571.1
137.5°	569.9	574.4	578.9	581.8	583.2	584.6	586.0	587.3
140°	582.4	586.5	590.6	593.4	595.0	596.6	598.1	599.7
142.5°	594.7	598.2	601.8	604.2	605.4	606.7	607.9	609.2
145°	612.8	614.7	616.6	618.2	619.6	621.0	622.4	623.8
147.5°	629.1	629.4	629.7	630.4	631.4	632.5	633.6	634.6
150°	640.8	640.8	640.8	640.9	641.0	641.2	641.3	641.4
152.5°	651.6	651.8	652.0	652.1	652.0	651.9	651.8	651.8
155°	666.0	666.5	666.9	667.0	666.7	666.3	666.0	665.6
157.5°	678.4	679.1	679.7	679.7	679.1	678.4	677.9	677.2
160°	686.4	687.1	687.9	687.9	687.1	686.4	685.7	684.9
162.5°	692.9	693.5	694.3	694.3	693.4	692.6	691.8	691.0
165°	701.9	702.9	703.9	703.8	702.7	701.6	700.6	699.5
167.5°	708.6	709.6	710.7	710.6	709.5	708.2	707.0	705.9
170°	712.7	713.6	714.6	714.4	713.3	712.1	710.9	709.7
172.5°	715.3	716.2	717.2	717.0	715.8	714.4	713.1	711.8
175°	718.3	719.3	720.5	720.3	718.9	717.4	716.0	714.5
177.5°	719.5	720.3	721.0	720.9	719.7	718.6	717.4	716.2
180°	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9

(END OF REPORT)