

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: P332646-840

Luminaire Tested: **S124DIP-S1020D810U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332646-840
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-S1020D810U840-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7519.0 lumens
Efficiency: N/A
Efficacy: 138.2 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

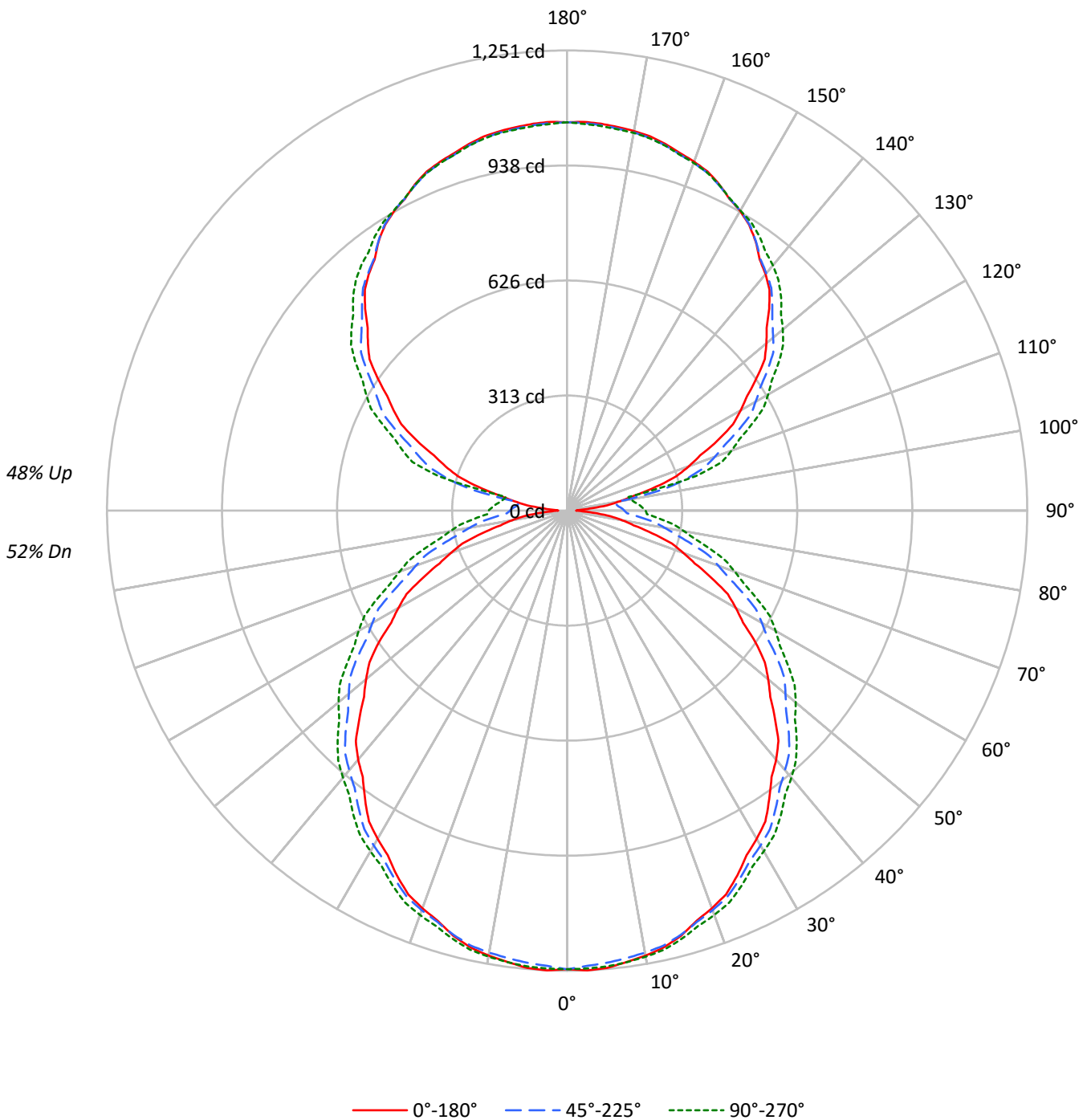
Input Watts (W): 54.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332646-840

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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	97	92	88	84	90	86	82	78	73	70	67	61	59	57	50	48	47	42
2	88	80	73	68	81	74	68	63	63	59	55	53	49	47	43	41	39	34
3	80	70	62	56	74	65	58	52	55	50	46	46	42	39	38	35	33	28
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	30	28	24
5	67	55	46	40	62	51	43	38	44	38	33	37	32	28	30	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	27	24	21	18
7	57	44	36	30	52	41	34	29	35	29	25	30	25	22	25	21	18	16
8	53	40	32	27	49	37	30	25	32	26	22	27	23	19	23	19	16	14
9	49	37	29	24	45	34	27	22	29	24	20	25	21	17	21	17	15	13
10	46	33	26	21	42	31	25	20	27	22	18	23	19	16	19	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10066	10066	10066
5°	10097	9838	9866
10°	10035	9677	9669
15°	9945	9490	9439
20°	9810	9285	9213
25°	9657	9054	8967
30°	9492	8825	8712
35°	9305	8591	8490
40°	9154	8367	8259
45°	8931	8161	8059
50°	8744	7924	7849
55°	8549	7700	7603
60°	8247	7415	7378
65°	7914	7109	7102
70°	7513	6760	6779
75°	6949	6374	6488
80°	6328	6004	6203
85°	5536	5679	6037



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.1	1.6
10°-20°	338.3	4.5
20°-30°	511.5	6.8
30°-40°	618.9	8.2
40°-50°	654.3	8.7
50°-60°	615.8	8.2
60°-70°	510.9	6.8
70°-80°	358.9	4.8
80°-90°	205.9	2.7
90°-100°	156.6	2.1
100°-110°	319.4	4.2
110°-120°	500.3	6.7
120°-130°	592.8	7.9
130°-140°	612.8	8.1
140°-150°	562.3	7.5
150°-160°	451.1	6.0
160°-170°	290.9	3.9
170°-180°	100.3	1.3
0°-30°	967.9	12.9
0°-40°	1586.8	21.1
0°-60°	2856.9	38.0
0°-90°	3932.6	52.3
90°-120°	976.2	13.0
90°-150°	2744.1	36.5
90°-180°	3586.0	47.7
0°-180°	7519.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1247	1247	1247	1247	1247	
5°	1248	1244	1234	1245	1244	118
15°	1197	1198	1194	1206	1205	337
25°	1095	1103	1107	1122	1124	504
35°	958	974	989	1007	1012	600
45°	799	825	852	875	882	617
55°	626	656	697	724	733	557
65°	433	478	525	559	571	429
75°	240	292	350	388	402	255
85°	74	133	196	236	251	79
90°	25	89	156	199	214	17
95°	62	83	139	180	195	70
105°	250	284	338	377	363	263
115°	452	469	511	542	553	445
125°	629	633	664	692	703	562
135°	777	777	789	812	823	599
145°	894	895	895	904	911	558
155°	978	979	977	980	978	451
165°	1032	1028	1028	1034	1027	292
175°	1056	1051	1052	1058	1049	100
180°	1056	1056	1056	1056	1056	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9
2.5°	1251.3	1250.6	1249.8	1249.1	1248.3	1247.0	1245.0	1243.0	1241.0	1239.0	1240.7
5°	1248.2	1247.3	1246.4	1245.5	1244.6	1242.9	1240.8	1238.6	1236.5	1234.3	1236.8
7.5°	1237.6	1237.1	1236.5	1236.0	1235.4	1234.3	1232.4	1230.6	1228.8	1227.0	1229.8
10°	1228.7	1228.4	1228.1	1227.8	1227.5	1226.5	1225.0	1223.5	1221.8	1220.3	1223.1
12.5°	1216.4	1216.4	1216.3	1216.2	1216.2	1215.6	1214.6	1213.5	1212.4	1211.3	1214.0
15°	1196.6	1196.9	1197.2	1197.5	1197.8	1197.5	1196.6	1195.7	1194.7	1193.8	1196.6
17.5°	1169.5	1170.4	1171.3	1172.3	1173.3	1173.6	1173.4	1173.3	1173.1	1172.9	1175.7
20°	1150.5	1151.4	1152.4	1153.3	1154.3	1154.9	1155.2	1155.5	1155.8	1156.1	1159.2
22.5°	1129.2	1130.4	1131.7	1132.9	1134.0	1134.9	1135.4	1136.0	1136.5	1137.1	1140.2
25°	1094.7	1096.5	1098.3	1100.2	1102.1	1103.5	1104.4	1105.4	1106.3	1107.2	1110.6
27.5°	1056.1	1058.8	1061.6	1064.3	1067.0	1069.1	1070.6	1072.0	1073.4	1074.8	1078.0
30°	1030.5	1032.9	1035.4	1037.8	1040.4	1042.7	1044.8	1047.0	1049.1	1051.4	1054.8
32.5°	1002.5	1005.5	1008.5	1011.5	1014.4	1017.1	1019.6	1022.0	1024.4	1026.8	1030.7
35°	957.9	961.6	965.2	969.0	972.7	976.1	979.3	982.3	985.4	988.6	992.9
37.5°	912.8	917.2	921.4	925.7	930.0	934.0	937.9	941.7	945.6	949.5	953.8
40°	883.8	887.9	891.9	896.0	900.0	904.1	908.5	912.8	917.2	921.5	926.1
42.5°	850.3	854.9	859.4	863.9	868.4	873.2	878.3	883.4	888.5	893.6	898.8
45°	798.6	804.6	810.4	816.4	822.2	828.1	834.0	839.9	845.8	851.7	857.0
47.5°	749.2	755.3	761.3	767.5	773.6	780.0	786.8	793.7	800.5	807.3	812.7
50°	713.5	720.3	727.1	734.0	740.7	747.6	754.5	761.2	768.1	774.9	781.1
52.5°	677.7	684.6	691.4	698.2	705.1	712.4	720.1	728.0	735.8	743.7	749.8
55°	625.5	632.1	638.5	645.1	651.6	659.4	668.8	678.1	687.4	696.7	703.0
57.5°	567.1	575.2	583.3	591.4	599.5	608.0	617.3	626.6	635.8	645.1	652.5
60°	529.2	537.2	545.3	553.4	561.5	570.6	580.9	591.1	601.3	611.6	618.6
62.5°	492.3	501.1	510.0	518.8	527.6	537.0	547.3	557.5	567.8	578.0	585.2
65°	432.8	442.7	452.7	462.6	472.5	482.8	493.3	503.9	514.4	525.0	532.7
67.5°	375.6	386.2	396.7	407.3	417.8	428.7	440.0	451.3	462.6	473.9	481.8
70°	336.5	347.1	357.6	368.1	378.7	389.9	401.6	413.4	425.3	437.1	445.5
72.5°	298.5	309.3	320.1	330.9	341.7	353.4	365.9	378.4	391.0	403.5	411.6
75°	240.1	251.7	263.1	274.6	286.1	298.3	311.3	324.4	337.4	350.4	359.1
77.5°	185.7	197.8	210.1	222.2	234.4	247.2	260.9	274.6	288.2	301.8	310.6
80°	152.2	164.6	177.0	189.5	201.9	214.9	228.5	242.2	255.8	269.4	278.8
82.5°	118.7	131.6	144.5	157.4	170.3	183.6	197.2	210.9	224.6	238.2	247.7
85°	74.0	87.1	100.1	113.1	126.1	139.7	153.6	167.5	181.5	195.5	204.8
87.5°	41.8	54.8	67.9	80.9	94.0	107.4	121.3	135.2	149.1	162.9	172.2
90°	24.7	39.1	53.4	67.8	82.1	96.6	111.4	126.1	140.9	155.6	165.6
92.5°	31.2	42.4	53.7	65.0	76.2	89.3	104.0	118.8	133.5	148.2	158.0
95°	61.6	65.8	70.1	74.4	78.7	87.3	100.2	113.0	125.9	138.9	148.2
97.5°	108.7	121.2	133.8	146.3	158.9	161.6	154.6	147.6	140.7	133.7	141.9
100°	144.8	156.1	167.3	178.5	189.8	189.3	177.2	165.1	153.0	140.9	146.2
102.5°	186.5	195.9	205.3	214.7	224.1	233.2	241.9	250.5	259.2	267.9	243.9
105°	250.2	257.5	264.8	272.1	279.2	289.1	301.4	313.8	326.2	338.5	347.8
107.5°	311.7	317.3	323.0	328.5	334.2	343.0	355.1	367.1	379.2	391.2	399.6
110°	352.2	357.2	362.0	366.9	371.7	380.1	392.0	403.9	415.9	427.8	435.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	391.6	396.4	401.2	406.0	410.8	418.6	429.5	440.3	451.2	462.0	468.9
115°	452.1	455.4	458.8	462.1	465.4	471.9	481.7	491.5	501.2	511.0	518.2
117.5°	508.0	510.3	512.7	515.0	517.5	523.4	533.1	542.7	552.3	562.0	568.4
120°	544.7	546.3	548.0	549.6	551.2	556.4	565.3	574.1	582.9	591.8	598.3
122.5°	580.1	580.7	581.3	581.9	582.5	587.1	595.9	604.7	613.4	622.2	628.5
125°	629.3	629.8	630.2	630.6	631.0	634.8	642.3	649.6	657.0	664.5	670.9
127.5°	677.1	677.0	676.8	676.7	676.6	679.8	686.6	693.4	700.1	706.9	712.5
130°	706.9	706.8	706.7	706.5	706.4	709.0	714.6	720.0	725.6	731.0	736.8
132.5°	735.4	735.4	735.4	735.4	735.4	737.7	742.4	747.0	751.6	756.3	761.7
135°	776.6	776.4	776.3	776.1	775.9	777.3	780.1	783.0	785.9	788.7	794.1
137.5°	814.4	814.2	813.9	813.6	813.3	814.2	816.0	817.8	819.7	821.5	826.4
140°	839.0	839.0	839.1	839.1	839.1	839.5	840.2	840.8	841.5	842.1	846.7
142.5°	860.0	860.5	861.1	861.7	862.2	862.5	862.5	862.6	862.6	862.6	866.6
145°	893.6	893.8	894.0	894.3	894.5	894.6	894.6	894.6	894.6	894.6	896.7
147.5°	920.7	921.3	922.0	922.7	923.3	923.6	923.4	923.2	923.0	922.9	923.3
150°	940.3	940.6	941.0	941.4	941.8	941.9	941.7	941.6	941.4	941.2	941.2
152.5°	955.5	956.0	956.5	957.0	957.6	957.7	957.4	957.0	956.6	956.3	956.6
155°	978.4	978.5	978.7	978.9	979.1	978.9	978.4	977.8	977.2	976.7	977.4
157.5°	997.7	997.6	997.5	997.4	997.3	996.9	996.3	995.8	995.2	994.6	995.5
160°	1009.2	1008.6	1008.0	1007.5	1007.0	1006.6	1006.5	1006.3	1006.1	1005.9	1007.0
162.5°	1019.3	1018.5	1017.8	1017.2	1016.5	1016.1	1015.9	1015.8	1015.6	1015.4	1016.5
165°	1032.0	1031.2	1030.3	1029.4	1028.5	1028.0	1028.0	1028.0	1028.0	1028.0	1029.5
167.5°	1042.1	1041.2	1040.3	1039.4	1038.4	1037.9	1037.8	1037.7	1037.6	1037.5	1039.1
170°	1047.8	1046.7	1045.7	1044.6	1043.6	1043.2	1043.3	1043.5	1043.7	1043.9	1045.2
172.5°	1051.6	1050.6	1049.5	1048.4	1047.4	1046.9	1047.1	1047.3	1047.4	1047.6	1049.0
175°	1055.7	1054.6	1053.6	1052.6	1051.5	1051.1	1051.3	1051.4	1051.6	1051.8	1053.3
177.5°	1057.6	1056.6	1055.6	1054.6	1053.7	1053.3	1053.6	1053.9	1054.2	1054.4	1055.5
180°	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9
2.5°	1242.5	1244.3	1246.0	1246.7	1246.5	1246.2	1246.0	1245.8
5°	1239.2	1241.7	1244.3	1245.3	1245.0	1244.7	1244.4	1244.1
7.5°	1232.6	1235.4	1238.2	1239.4	1239.1	1238.8	1238.5	1238.2
10°	1225.9	1228.7	1231.5	1232.7	1232.4	1232.1	1231.8	1231.5
12.5°	1216.5	1219.0	1221.5	1222.8	1222.7	1222.6	1222.6	1222.5
15°	1199.4	1202.1	1205.0	1206.2	1205.9	1205.6	1205.3	1205.0
17.5°	1178.5	1181.4	1184.3	1185.6	1185.3	1185.1	1184.8	1184.6
20°	1162.3	1165.4	1168.5	1170.0	1170.0	1170.0	1170.0	1170.0
22.5°	1143.3	1146.4	1149.5	1151.3	1151.9	1152.3	1152.8	1153.3
25°	1114.1	1117.4	1120.8	1122.8	1123.1	1123.4	1123.7	1124.0
27.5°	1081.2	1084.3	1087.5	1089.2	1089.6	1090.0	1090.4	1090.8
30°	1058.2	1061.6	1065.0	1067.0	1067.6	1068.2	1068.9	1069.5
32.5°	1034.6	1038.5	1042.5	1044.7	1045.3	1045.9	1046.5	1047.2
35°	997.2	1001.6	1005.9	1008.6	1009.5	1010.4	1011.4	1012.3
37.5°	958.3	962.7	967.0	969.8	970.8	971.8	972.7	973.7
40°	930.8	935.4	940.2	943.1	944.3	945.5	946.8	948.1
42.5°	903.9	909.1	914.2	917.3	918.3	919.3	920.3	921.2
45°	862.2	867.6	872.8	876.3	877.8	879.3	880.9	882.4
47.5°	818.2	823.6	829.2	832.8	834.7	836.6	838.4	840.3
50°	787.3	793.6	799.7	803.8	805.7	807.5	809.3	811.2
52.5°	756.1	762.2	768.5	772.4	774.4	776.2	778.1	779.9
55°	709.1	715.4	721.5	725.6	727.4	729.3	731.1	733.1
57.5°	659.8	667.2	674.6	679.1	680.9	682.7	684.4	686.1
60°	625.8	633.0	640.1	644.9	647.4	649.8	652.4	654.8
62.5°	592.3	599.5	606.6	611.4	613.9	616.3	618.8	621.4
65°	540.5	548.3	556.0	561.2	563.6	566.1	568.6	571.1
67.5°	489.7	497.6	505.4	510.6	513.0	515.4	517.9	520.3
70°	453.7	462.1	470.5	475.8	478.0	480.2	482.3	484.5
72.5°	419.8	427.9	436.1	441.3	443.7	446.2	448.6	451.0
75°	367.8	376.5	385.2	390.9	393.7	396.6	399.3	402.1
77.5°	319.5	328.3	337.1	343.1	346.0	349.0	351.9	355.0
80°	288.1	297.4	306.7	312.6	315.1	317.6	320.0	322.6
82.5°	257.3	266.9	276.4	282.6	285.3	288.0	290.7	293.5
85°	214.1	223.4	232.7	238.9	242.1	245.1	248.2	251.4
87.5°	181.4	190.6	199.8	205.8	208.5	211.4	214.2	216.9
90°	175.7	185.7	195.8	202.3	205.1	207.9	210.8	213.6
92.5°	167.8	177.6	187.4	193.7	196.2	198.7	201.3	203.9
95°	157.7	167.1	176.5	182.8	185.7	188.7	191.7	194.6
97.5°	150.2	158.3	166.6	172.2	175.0	177.8	180.7	183.5
100°	151.7	157.0	162.4	166.3	168.6	171.0	173.4	175.7
102.5°	219.8	195.8	171.7	160.9	163.4	165.8	168.2	170.8
105°	357.2	366.5	375.9	378.6	374.8	370.9	367.1	363.2
107.5°	408.0	416.5	424.9	430.5	433.3	436.3	439.2	442.1
110°	442.8	450.3	457.8	463.0	466.1	469.0	472.0	475.0



TEST NUMBER: P332646-840

CATALOG NUMBER: S124DIP-S1020D810U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	475.6	482.5	489.3	494.2	497.5	500.6	503.7	506.9
115°	525.3	532.5	539.7	544.3	546.5	548.7	550.9	553.0
117.5°	574.7	581.1	587.5	591.9	594.3	596.7	599.2	601.6
120°	604.9	611.4	617.9	622.3	624.5	626.6	628.7	630.9
122.5°	635.0	641.5	647.8	652.0	653.9	655.7	657.6	659.5
125°	677.3	683.7	690.1	694.4	696.4	698.4	700.4	702.6
127.5°	717.9	723.4	728.8	732.6	734.6	736.5	738.5	740.4
130°	742.6	748.3	754.1	757.9	759.7	761.6	763.5	765.4
132.5°	767.3	772.7	778.3	781.9	783.7	785.4	787.1	788.8
135°	799.4	804.7	810.0	813.7	816.0	818.2	820.4	822.6
137.5°	831.3	836.3	841.1	844.3	845.8	847.2	848.7	850.1
140°	851.2	855.9	860.4	863.5	865.3	867.0	868.7	870.4
142.5°	870.5	874.4	878.4	881.0	882.3	883.6	884.9	886.4
145°	898.7	900.7	902.8	904.5	906.2	907.8	909.4	911.0
147.5°	923.6	924.0	924.4	925.2	926.3	927.6	928.8	929.9
150°	941.2	941.2	941.2	941.3	941.5	941.6	941.8	942.0
152.5°	956.9	957.3	957.5	957.6	957.5	957.4	957.3	957.2
155°	978.2	978.9	979.6	979.7	979.1	978.6	978.1	977.5
157.5°	996.4	997.3	998.3	998.3	997.3	996.4	995.5	994.6
160°	1008.0	1009.2	1010.2	1010.2	1009.2	1008.0	1007.0	1005.9
162.5°	1017.5	1018.5	1019.7	1019.6	1018.3	1017.1	1016.0	1014.8
165°	1030.9	1032.3	1033.7	1033.6	1032.0	1030.5	1028.9	1027.2
167.5°	1040.7	1042.2	1043.7	1043.6	1041.9	1040.1	1038.3	1036.6
170°	1046.6	1048.0	1049.5	1049.2	1047.5	1045.8	1044.0	1042.3
172.5°	1050.5	1051.9	1053.3	1053.0	1051.2	1049.2	1047.3	1045.4
175°	1054.9	1056.5	1058.0	1057.8	1055.7	1053.6	1051.5	1049.4
177.5°	1056.7	1057.8	1058.9	1058.6	1056.9	1055.3	1053.6	1051.9
180°	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7

(END OF REPORT)