

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P831316

Luminaire Tested: S123DIP-S340D1025U830-4F0-1E-UDD-G1

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831316  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D1025U830-4F0-1E-UDD-G1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: -

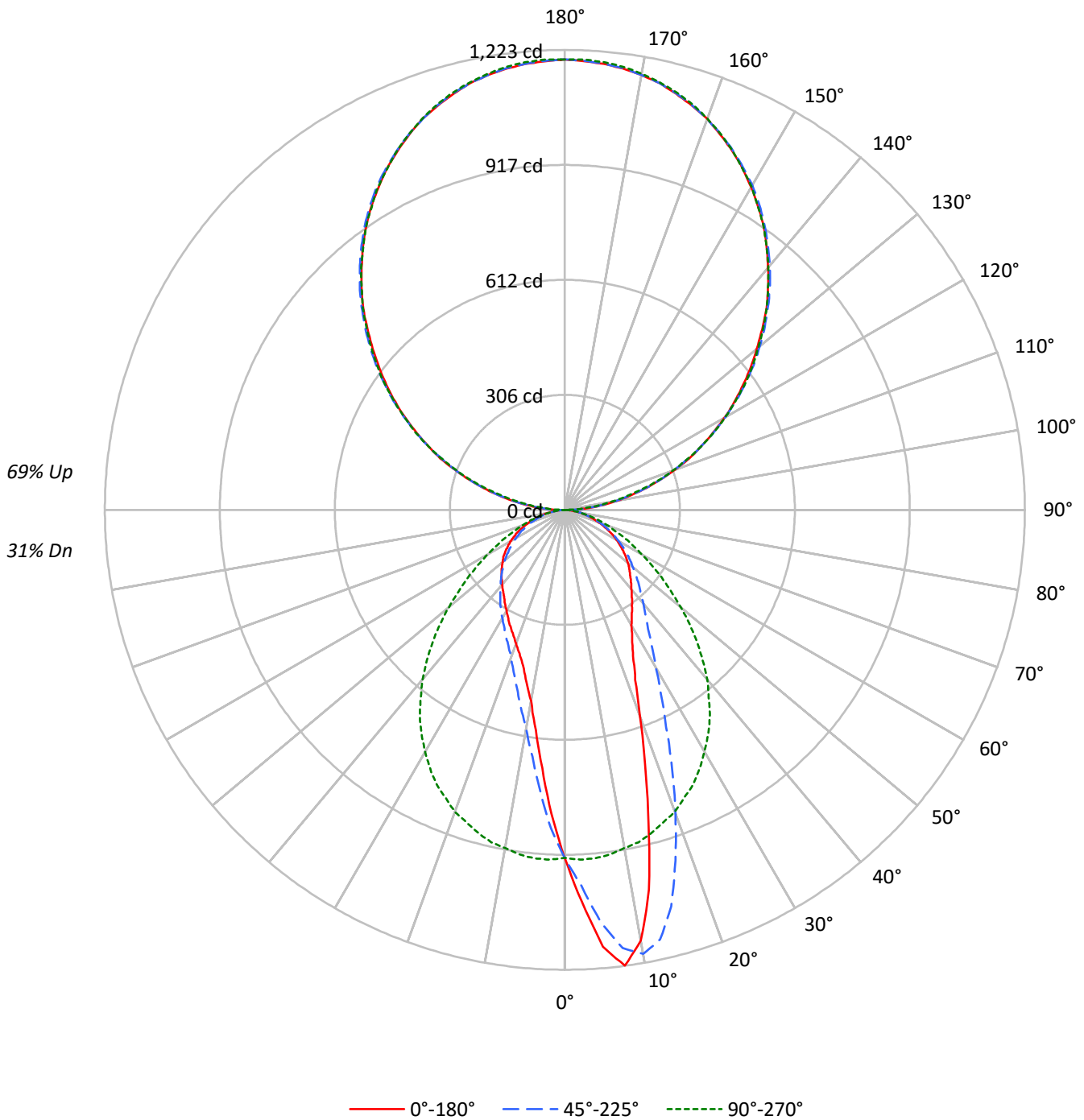
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4808.7 lumens  
Efficiency: N/A  
Efficacy: 125.6 lumens/watt  
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89  
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 38.3  
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: 24 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	50	30	10	0	
RCR																						
0	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39	31	31	31	31	
1	94	90	86	83	84	81	78	75	64	62	60	49	47	46	35	34	33	27	27	27	27	
2	86	79	73	68	77	71	66	62	57	53	50	43	41	39	31	30	28	23	23	23	23	
3	78	69	63	57	70	63	57	52	50	46	43	39	36	34	28	26	25	20	20	20	20	
4	72	62	54	49	64	56	49	45	45	40	37	35	31	29	25	23	22	17	17	17	17	
5	66	55	47	42	59	50	43	38	40	35	32	31	28	25	23	21	19	15	15	15	15	
6	61	49	42	36	55	45	38	33	36	32	28	28	25	22	21	19	17	14	14	14	14	
7	56	45	37	32	51	41	34	29	33	28	25	26	22	20	19	17	15	13	13	13	13	
8	52	41	33	28	47	37	31	26	30	25	22	24	20	18	18	16	14	11	11	11	11	
9	49	37	30	25	44	34	28	23	28	23	20	22	19	16	16	14	13	10	10	10	10	
10	46	34	27	23	41	31	25	21	26	21	18	20	17	15	15	13	12	10	10	10	10	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	9961	9961	9961	9961	9961
5°	12598	11890	10050	8099	7443
10°	12719	13105	9983	6456	5642
15°	9580	12167	9916	5467	4771
20°	6675	9845	9789	4781	4333
25°	5090	7571	9573	4399	4065
30°	4404	6016	9229	4129	3848
35°	4085	5079	8832	3933	3696
40°	3868	4555	8272	3747	3645
45°	3739	4217	7563	3602	3621
50°	3674	3949	6723	3470	3602
55°	3537	3751	5898	3344	3618
60°	3412	3541	5085	3227	3559
65°	3204	3342	4386	3100	3489
70°	2958	3087	3729	2892	3286
75°	2678	2770	3198	2687	2999
80°	2207	2424	2529	2343	2529
85°	1754	1964	1853	1988	2013

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 8636 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.5	1.8
10°-20°	217.7	4.5
20°-30°	257.7	5.4
30°-40°	259.1	5.4
40°-50°	237.7	4.9
50°-60°	196.2	4.1
60°-70°	138.8	2.9
70°-80°	74.1	1.5
80°-90°	21.3	0.4
90°-100°	77.1	1.6
100°-110°	233.4	4.9
110°-120°	397.3	8.3
120°-130°	522.6	10.9
130°-140°	587.5	12.2
140°-150°	577.5	12.0
150°-160°	486.2	10.1
160°-170°	323.7	6.7
170°-180°	113.3	2.4
0°-30°	562.9	11.7
0°-40°	822.0	17.1
0°-60°	1255.9	26.1
0°-90°	1490.1	31.0
90°-120°	707.7	14.7
90°-150°	2395.3	49.8
90°-180°	3319.0	69.0
0°-180°	4808.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	925	925	925	925	925	
5°	1166	1100	930	750	689	111
15°	860	1092	890	491	428	237
25°	429	638	806	370	342	202
35°	311	386	672	299	281	195
45°	246	277	497	237	238	190
55°	188	200	314	178	193	169
65°	126	131	172	122	137	125
75°	64	67	77	65	72	68
85°	14	16	15	16	16	16
90°	28	23	1	23	28	14
95°	73	70	56	70	73	74
105°	224	222	212	222	224	237
115°	401	401	400	401	401	397
125°	579	586	585	586	579	517
135°	758	764	759	764	758	583
145°	921	926	921	926	921	575
155°	1053	1056	1055	1056	1053	485
165°	1145	1146	1149	1146	1145	323
175°	1190	1191	1195	1191	1190	113
180°	1198	1198	1198	1198	1198	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	925.4	925.4	925.4	925.4	925.4	925.4	925.4	925.4	925.4	925.4	925.4
2.5°	1043.1	1042.0	1040.9	1035.6	1030.2	1027.6	1025.0	1017.3	1009.6	1001.0	992.4
5°	1165.9	1168.9	1171.9	1168.5	1165.0	1154.5	1144.0	1130.0	1116.1	1100.4	1084.7
7.5°	1222.6	1224.3	1226.0	1223.9	1221.7	1218.9	1216.1	1203.7	1191.2	1175.1	1159.0
10°	1163.7	1167.6	1171.5	1179.8	1188.2	1197.7	1207.1	1205.4	1203.7	1199.0	1194.2
12.5°	1034.5	1039.2	1043.9	1060.7	1077.4	1098.9	1120.4	1138.8	1157.3	1170.2	1183.1
15°	859.7	872.8	885.9	901.1	916.4	948.0	979.5	1018.4	1057.2	1091.8	1126.4
17.5°	708.1	713.1	718.0	734.3	750.6	790.4	830.1	875.0	919.8	977.2	1034.5
20°	582.7	587.2	591.7	613.2	634.7	665.8	697.0	747.4	797.9	859.5	921.1
22.5°	489.5	496.6	503.7	515.7	527.8	557.6	587.5	632.3	677.2	745.3	813.3
25°	428.6	433.7	438.9	446.2	453.5	477.3	501.1	538.1	575.0	637.5	700.0
27.5°	386.9	389.1	391.2	398.5	405.8	421.3	436.7	468.5	500.3	553.3	606.3
30°	354.3	355.8	357.3	363.7	370.2	380.7	391.2	414.2	437.2	484.0	530.8
32.5°	331.5	332.6	333.7	338.6	343.5	351.1	358.6	375.3	392.1	430.7	469.4
35°	310.9	311.5	312.2	315.8	319.5	325.1	330.7	343.3	356.0	386.5	417.0
37.5°	292.9	293.7	294.6	296.7	298.9	303.8	308.8	318.8	328.9	352.3	375.7
40°	275.3	276.8	278.3	279.8	281.3	285.4	289.4	297.2	304.9	324.2	343.5
42.5°	260.2	261.7	263.2	263.9	264.5	266.9	269.2	276.3	283.4	297.8	312.2
45°	245.6	246.3	246.9	247.6	248.2	250.1	252.1	258.3	264.5	277.0	289.4
47.5°	232.3	232.3	232.3	232.7	233.2	234.9	236.6	241.1	245.6	255.3	265.0
50°	219.4	219.4	219.4	218.8	218.1	219.2	220.3	223.7	227.2	235.8	244.3
52.5°	204.0	204.0	204.0	204.2	204.4	204.4	204.4	207.4	210.4	218.1	225.9
55°	188.5	189.4	190.2	189.6	188.9	189.4	189.8	191.7	193.7	199.9	206.1
57.5°	173.1	173.5	173.9	173.7	173.5	173.7	173.9	175.6	177.4	182.1	186.8
60°	158.5	158.5	158.5	158.0	157.6	158.0	158.5	159.3	160.2	164.5	168.8
62.5°	142.1	142.4	142.6	142.8	143.0	142.6	142.1	143.2	144.3	147.5	150.7
65°	125.8	126.0	126.3	126.9	127.5	127.1	126.7	127.8	128.8	131.2	133.6
67.5°	111.2	110.8	110.4	110.6	110.8	111.4	112.1	112.3	112.5	115.1	117.7
70°	94.0	94.5	94.9	94.7	94.5	94.7	94.9	95.5	96.2	98.1	100.1
72.5°	78.6	78.8	79.0	79.0	79.0	79.4	79.9	80.5	81.2	82.2	83.3
75°	64.4	64.4	64.4	64.8	65.3	65.5	65.7	65.7	65.7	66.6	67.4
77.5°	49.0	50.0	51.1	50.9	50.7	51.1	51.5	52.2	52.8	53.2	53.7
80°	35.6	35.6	35.6	35.9	36.1	36.7	37.4	37.8	38.2	39.1	39.9
82.5°	22.8	23.0	23.2	23.8	24.5	24.9	25.3	26.0	26.6	26.6	26.6
85°	14.2	13.7	13.3	13.7	14.2	14.6	15.0	15.2	15.5	15.9	16.3
87.5°	6.9	6.9	6.9	6.9	6.9	7.1	7.3	7.3	7.3	7.3	7.3
90°	28.2	27.8	27.4	27.0	26.6	25.9	25.1	24.3	23.4	22.6	19.9
92.5°	40.5	40.9	41.3	41.7	42.1	42.0	41.4	40.8	40.1	39.5	38.3
95°	73.4	73.4	73.4	73.4	73.4	73.0	72.1	71.3	70.5	69.6	68.0
97.5°	105.4	105.6	105.8	106.0	106.2	105.8	104.7	103.7	102.7	101.6	100.4
100°	143.0	142.6	142.2	141.8	141.3	140.8	140.2	139.6	138.9	138.3	137.3
102.5°	181.6	181.8	182.0	182.2	182.4	182.2	181.6	181.0	180.3	179.7	178.2
105°	223.9	223.5	223.1	222.7	222.3	222.0	222.0	222.0	222.0	222.0	220.2
107.5°	267.2	267.4	267.6	267.8	268.0	267.8	267.2	266.6	265.9	265.3	264.5
110°	311.4	311.8	312.3	312.7	313.1	312.9	312.0	311.2	310.4	309.5	309.1

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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	358.5	358.5	358.5	358.5	358.5	357.9	356.9	355.9	354.8	353.8	353.8
115°	400.8	401.0	401.2	401.4	401.6	401.6	401.4	401.2	401.0	400.8	401.2
117.5°	444.1	444.7	445.3	446.0	446.6	446.9	446.9	446.9	446.9	446.9	447.3
120°	490.2	490.6	491.0	491.4	491.9	492.2	492.4	492.6	492.8	493.0	494.1
122.5°	534.4	535.0	535.7	536.3	536.9	537.5	538.2	538.8	539.4	540.0	540.5
125°	578.6	579.5	580.3	581.1	582.0	582.8	583.6	584.5	585.3	586.2	586.6
127.5°	622.8	623.7	624.5	625.4	626.2	627.2	628.5	629.7	631.0	632.3	632.7
130°	666.1	667.6	669.1	670.5	672.0	673.1	674.0	674.8	675.6	676.5	677.1
132.5°	711.3	712.3	713.4	714.4	715.5	716.5	717.6	718.6	719.6	720.7	721.1
135°	758.3	758.7	759.2	759.6	760.0	760.6	761.5	762.3	763.1	764.0	764.2
137.5°	799.7	800.4	801.0	801.6	802.2	803.1	804.1	805.2	806.2	807.3	806.6
140°	840.2	841.6	843.1	844.6	846.0	846.9	847.1	847.3	847.5	847.7	847.5
142.5°	881.6	882.6	883.7	884.7	885.8	886.4	886.6	886.8	887.0	887.2	886.8
145°	921.1	921.9	922.8	923.6	924.4	925.0	925.2	925.4	925.6	925.8	925.2
147.5°	956.8	958.1	959.4	960.6	961.9	962.5	962.5	962.5	962.5	962.5	961.9
150°	990.7	992.0	993.2	994.5	995.7	996.4	996.4	996.4	996.4	996.4	995.9
152.5°	1023.6	1024.7	1025.7	1026.8	1027.8	1028.1	1027.7	1027.3	1026.9	1026.5	1026.3
155°	1052.8	1054.3	1055.7	1057.2	1058.7	1059.0	1058.1	1057.3	1056.5	1055.6	1055.4
157.5°	1080.1	1081.4	1082.6	1083.9	1085.1	1085.3	1084.5	1083.7	1082.8	1082.0	1081.8
160°	1106.4	1107.3	1108.1	1109.0	1109.8	1109.7	1108.6	1107.6	1106.5	1105.5	1105.5
162.5°	1126.2	1127.7	1129.1	1130.6	1132.1	1132.3	1131.2	1130.2	1129.1	1128.1	1127.9
165°	1145.0	1146.5	1147.9	1149.4	1150.9	1151.0	1149.7	1148.5	1147.2	1146.0	1146.0
167.5°	1162.0	1163.2	1164.5	1165.7	1167.0	1167.0	1165.7	1164.5	1163.2	1162.0	1161.7
170°	1174.2	1175.6	1177.1	1178.6	1180.0	1180.0	1178.6	1177.1	1175.6	1174.2	1174.2
172.5°	1183.6	1185.1	1186.5	1188.0	1189.4	1189.6	1188.3	1187.0	1185.8	1184.5	1184.5
175°	1190.2	1191.6	1193.1	1194.6	1196.0	1196.1	1194.9	1193.6	1192.4	1191.1	1191.1
177.5°	1193.9	1195.4	1196.9	1198.3	1199.8	1199.9	1198.6	1197.4	1196.1	1194.9	1194.9
180°	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	925.4	925.4	925.4	925.4	925.4	925.4	925.4	925.4	925.4	925.4	925.4
2.5°	989.8	987.2	977.8	968.4	957.6	946.9	938.9	931.0	919.2	907.4	897.7
5°	1072.7	1060.7	1040.7	1020.7	993.7	966.6	948.4	930.1	905.7	881.2	861.6
7.5°	1138.4	1117.8	1089.9	1062.0	1026.5	991.1	957.6	924.1	886.8	849.4	818.9
10°	1180.3	1166.3	1134.1	1101.9	1054.5	1007.0	960.2	913.4	865.3	817.2	776.8
12.5°	1184.4	1185.6	1156.0	1126.4	1072.7	1019.0	962.1	905.2	844.7	784.1	737.1
15°	1148.5	1170.6	1154.3	1138.0	1083.9	1029.8	959.8	889.8	820.0	750.2	695.9
17.5°	1081.9	1129.4	1131.8	1134.1	1080.0	1025.9	948.4	870.9	791.9	712.8	655.7
20°	991.1	1061.1	1085.2	1109.2	1065.2	1021.2	937.9	854.6	766.1	677.6	617.7
22.5°	898.4	983.4	1027.4	1071.4	1038.8	1006.1	917.5	828.8	735.4	642.0	581.2
25°	792.7	885.5	953.1	1020.7	1000.8	980.8	893.4	806.0	706.6	607.2	545.2
27.5°	700.6	794.9	876.5	958.0	953.8	949.5	862.7	776.0	674.2	572.4	512.5
30°	618.6	706.4	797.7	888.9	899.4	910.0	826.2	742.5	640.5	538.5	480.7
32.5°	546.0	622.7	720.6	818.5	839.1	859.7	784.1	708.6	607.6	506.7	451.1
35°	486.5	556.1	654.0	751.9	777.7	803.5	737.8	672.1	573.7	475.4	422.3
37.5°	433.9	492.1	587.7	683.2	714.8	746.3	687.5	628.7	536.6	444.5	395.7
40°	390.3	437.2	525.0	612.8	649.3	685.8	637.3	588.7	501.4	414.0	369.1
42.5°	353.8	395.5	475.2	554.8	589.8	624.8	583.8	542.8	465.1	387.3	346.3
45°	322.7	356.0	428.4	500.7	534.0	567.3	532.1	496.8	428.4	359.9	321.6
47.5°	293.5	322.1	383.9	445.7	475.4	505.0	477.5	450.0	392.1	334.1	299.5
50°	267.3	290.3	344.4	398.5	424.3	450.0	425.8	401.5	353.8	306.2	276.1
52.5°	244.6	263.2	308.5	353.8	376.0	398.1	377.3	356.4	318.6	280.8	254.6
55°	222.0	237.9	277.2	316.5	331.5	346.5	330.4	314.3	283.9	253.4	231.2
57.5°	201.0	215.1	247.3	279.6	291.2	302.7	288.1	273.5	250.6	227.6	209.1
60°	180.4	192.0	218.8	245.6	252.7	259.8	248.0	236.2	220.1	204.0	187.4
62.5°	161.2	171.8	191.7	211.7	216.4	221.2	212.1	203.1	190.9	178.6	165.8
65°	141.5	149.4	165.8	182.1	185.1	188.1	180.1	172.2	163.0	153.7	144.3
67.5°	123.2	128.8	142.1	155.5	155.7	155.9	149.4	143.0	137.8	132.7	125.2
70°	105.4	110.8	119.6	128.4	128.6	128.8	123.7	118.5	114.7	110.8	105.2
72.5°	87.2	91.0	97.7	104.4	103.9	103.5	100.3	97.1	94.0	91.0	87.0
75°	70.6	73.9	78.4	82.9	81.6	80.3	78.6	76.9	74.3	71.7	69.1
77.5°	55.6	57.5	60.1	62.7	61.8	61.0	59.5	58.0	56.0	54.1	53.0
80°	40.8	41.7	43.4	45.1	44.7	44.2	42.5	40.8	40.4	39.9	38.4
82.5°	27.7	28.8	29.2	29.6	29.4	29.2	27.9	26.6	26.2	25.8	25.6
85°	16.5	16.7	17.0	17.2	16.5	15.9	15.5	15.0	15.0	15.0	14.8
87.5°	7.5	7.7	7.7	7.7	7.5	7.3	6.9	6.4	6.7	6.9	6.9
90°	17.1	14.4	11.7	9.3	7.2	5.1	3.0	0.9	3.0	5.1	7.2
92.5°	37.0	35.8	34.5	33.2	32.0	30.7	29.5	28.2	29.5	30.7	32.0
95°	66.3	64.6	62.9	61.4	59.9	58.4	57.0	55.5	57.0	58.4	59.9
97.5°	99.1	97.8	96.6	95.4	94.4	93.4	92.3	91.3	92.3	93.4	94.4
100°	136.2	135.2	134.1	133.0	131.7	130.5	129.2	128.0	129.2	130.5	131.7
102.5°	176.8	175.3	173.8	172.8	172.2	171.5	170.9	170.3	170.9	171.5	172.2
105°	218.3	216.4	214.5	213.4	212.9	212.5	212.1	211.7	212.1	212.5	212.9
107.5°	263.6	262.8	262.0	261.5	261.2	261.0	260.8	260.6	260.8	261.0	261.2
110°	308.7	308.3	307.9	307.5	307.0	306.6	306.2	305.8	306.2	306.6	307.0





TEST NUMBER: P831316

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	353.8	353.8	353.8	353.7	353.4	353.2	353.0	352.8	353.0	353.2	353.4
115°	401.6	402.1	402.5	402.4	401.7	401.1	400.5	399.9	400.5	401.1	401.7
117.5°	447.7	448.2	448.6	448.7	448.5	448.3	448.1	447.8	448.1	448.3	448.5
120°	495.1	496.1	497.2	497.1	495.8	494.6	493.3	492.1	493.3	494.6	495.8
122.5°	540.9	541.3	541.7	541.5	540.7	539.8	539.0	538.2	539.0	539.8	540.7
125°	587.0	587.4	587.8	587.7	587.1	586.5	585.8	585.2	585.8	586.5	587.1
127.5°	633.1	633.5	633.9	633.5	632.3	631.0	629.7	628.5	629.7	631.0	632.3
130°	677.7	678.4	679.0	678.5	676.8	675.1	673.4	671.8	673.4	675.1	676.8
132.5°	721.5	721.9	722.4	721.7	720.1	718.4	716.7	715.0	716.7	718.4	720.1
135°	764.4	764.6	764.8	764.3	763.0	761.8	760.5	759.3	760.5	761.8	763.0
137.5°	806.0	805.4	804.7	803.9	802.9	801.8	800.8	799.7	800.8	801.8	802.9
140°	847.3	847.1	846.9	846.2	845.2	844.2	843.1	842.1	843.1	844.2	845.2
142.5°	886.4	886.0	885.6	884.8	883.8	882.7	881.7	880.6	881.7	882.7	883.8
145°	924.5	923.9	923.3	922.8	922.4	921.9	921.5	921.1	921.5	921.9	922.4
147.5°	961.2	960.6	960.0	959.3	958.4	957.6	956.7	955.9	956.7	957.6	958.4
150°	995.5	995.1	994.7	994.3	993.9	993.4	993.0	992.6	993.0	993.4	993.9
152.5°	1026.1	1025.8	1025.6	1025.2	1024.6	1024.0	1023.3	1022.7	1023.3	1024.0	1024.6
155°	1055.2	1055.0	1054.8	1054.7	1054.7	1054.7	1054.7	1054.7	1054.7	1054.7	1054.7
157.5°	1081.6	1081.4	1081.1	1081.1	1081.4	1081.6	1081.8	1082.0	1081.8	1081.6	1081.4
160°	1105.5	1105.5	1105.5	1105.7	1106.1	1106.5	1107.0	1107.4	1107.0	1106.5	1106.1
162.5°	1127.7	1127.5	1127.2	1127.5	1128.1	1128.7	1129.3	1130.0	1129.3	1128.7	1128.1
165°	1146.0	1146.0	1146.0	1146.3	1146.9	1147.5	1148.2	1148.8	1148.2	1147.5	1146.9
167.5°	1161.5	1161.3	1161.1	1161.4	1162.3	1163.1	1163.9	1164.8	1163.9	1163.1	1162.3
170°	1174.2	1174.2	1174.2	1174.6	1175.4	1176.3	1177.1	1177.9	1177.1	1176.3	1175.4
172.5°	1184.5	1184.5	1184.5	1185.0	1185.8	1186.6	1187.5	1188.3	1187.5	1186.6	1185.8
175°	1191.1	1191.1	1191.1	1191.5	1192.4	1193.2	1194.0	1194.9	1194.0	1193.2	1192.4
177.5°	1194.9	1194.9	1194.9	1195.3	1196.1	1197.0	1197.8	1198.6	1197.8	1197.0	1196.1
180°	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7



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**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	925.4	925.4	925.4	925.4	925.4	925.4	925.4	925.4	925.4	925.4	925.4
2.5°	888.1	879.7	871.3	864.9	858.4	847.5	836.5	833.9	831.4	827.7	824.1
5°	842.1	821.5	800.9	782.4	763.9	749.6	735.2	725.7	716.3	709.4	702.5
7.5°	788.4	757.5	726.6	704.7	682.8	662.0	641.1	634.5	627.8	618.8	609.8
10°	736.5	702.3	668.2	639.6	611.1	590.7	570.3	562.1	554.0	542.6	531.2
12.5°	690.1	652.7	615.4	586.6	557.8	538.1	518.3	506.5	494.7	488.3	481.8
15°	641.6	601.6	561.7	535.1	508.4	490.6	472.8	462.5	452.2	446.0	439.7
17.5°	598.6	559.1	519.6	494.1	468.5	452.2	435.9	426.8	417.8	413.1	408.4
20°	557.8	519.2	480.5	455.6	430.7	417.4	404.1	398.3	392.5	388.6	384.8
22.5°	520.5	482.5	444.5	423.2	401.9	391.2	380.5	376.4	372.3	369.1	365.9
25°	483.1	449.2	415.3	397.2	379.2	370.4	361.6	357.5	353.4	350.2	347.0
27.5°	452.6	420.2	387.8	372.3	356.9	350.0	343.1	339.9	336.7	333.7	330.7
30°	423.0	394.0	365.0	351.7	338.4	332.2	325.9	322.7	319.5	316.7	313.9
32.5°	395.5	370.6	345.7	333.4	321.2	316.1	310.9	307.0	303.2	301.0	298.9
35°	369.3	347.0	324.6	314.6	304.5	299.3	294.2	290.9	287.7	286.0	284.3
37.5°	347.0	327.0	307.0	297.4	287.7	282.8	277.8	275.0	272.3	271.6	271.0
40°	324.2	307.0	289.9	280.4	271.0	266.7	262.4	260.7	258.9	258.5	258.1
42.5°	305.3	288.6	271.8	263.2	254.6	251.0	247.3	246.5	245.6	246.3	246.9
45°	283.4	269.5	255.5	247.6	239.6	236.6	233.6	233.0	232.3	233.6	234.9
47.5°	265.0	252.1	239.2	231.7	224.2	222.0	219.9	219.7	219.4	221.2	222.9
50°	246.1	233.6	221.2	215.1	209.1	207.2	205.3	205.9	206.6	209.3	212.1
52.5°	228.5	216.9	205.3	199.7	194.1	192.8	191.5	193.0	194.5	197.5	200.5
55°	209.1	198.6	188.1	183.8	179.5	178.2	176.9	179.9	182.9	185.7	188.5
57.5°	190.7	181.4	172.2	168.3	164.5	164.3	164.0	166.8	169.6	172.6	175.6
60°	170.9	163.2	155.5	152.4	149.4	149.9	150.3	153.5	156.7	159.1	161.5
62.5°	152.9	146.4	140.0	137.2	134.4	135.5	136.6	139.8	143.0	145.8	148.6
65°	134.8	129.5	124.1	122.2	120.2	121.7	123.2	126.0	128.8	130.8	132.7
67.5°	117.7	113.2	108.6	107.1	105.6	107.1	108.6	111.4	114.2	116.2	118.1
70°	99.6	96.0	92.3	91.3	90.2	91.9	93.6	96.0	98.3	100.3	102.2
72.5°	82.9	80.1	77.3	77.1	76.9	78.4	79.9	82.2	84.6	85.9	87.2
75°	66.6	65.1	63.6	63.3	63.1	64.6	66.1	67.4	68.7	69.8	70.9
77.5°	52.0	50.7	49.4	49.6	49.8	50.9	52.0	53.2	54.5	55.2	55.8
80°	36.9	36.5	36.1	36.5	36.9	37.8	38.6	39.5	40.4	40.8	41.2
82.5°	25.3	24.9	24.5	25.1	25.8	26.4	27.1	27.7	28.3	28.6	28.8
85°	14.6	15.2	15.9	15.9	15.9	16.1	16.3	16.5	16.7	16.5	16.3
87.5°	6.9	7.1	7.3	7.3	7.3	7.5	7.7	7.7	7.7	7.5	7.3
90°	9.3	11.7	14.4	17.1	19.9	22.6	23.4	24.3	25.1	25.9	26.6
92.5°	33.2	34.5	35.8	37.0	38.3	39.5	40.1	40.8	41.4	42.0	42.1
95°	61.4	62.9	64.6	66.3	68.0	69.6	70.5	71.3	72.1	73.0	73.4
97.5°	95.4	96.6	97.8	99.1	100.4	101.6	102.7	103.7	104.7	105.8	106.2
100°	133.0	134.1	135.2	136.2	137.3	138.3	138.9	139.6	140.2	140.8	141.3
102.5°	172.8	173.8	175.3	176.8	178.2	179.7	180.3	181.0	181.6	182.2	182.4
105°	213.4	214.5	216.4	218.3	220.2	222.0	222.0	222.0	222.0	222.0	222.3
107.5°	261.5	262.0	262.8	263.6	264.5	265.3	265.9	266.6	267.2	267.8	268.0
110°	307.5	307.9	308.3	308.7	309.1	309.5	310.4	311.2	312.0	312.9	313.1



TEST NUMBER: P831316

CATALOG NUMBER: S123DIP-S340D1025U830-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	353.7	353.8	353.8	353.8	353.8	353.8	354.8	355.9	356.9	357.9	358.5
115°	402.4	402.5	402.1	401.6	401.2	400.8	401.0	401.2	401.4	401.6	401.6
117.5°	448.7	448.6	448.2	447.7	447.3	446.9	446.9	446.9	446.9	446.9	446.6
120°	497.1	497.2	496.1	495.1	494.1	493.0	492.8	492.6	492.4	492.2	491.9
122.5°	541.5	541.7	541.3	540.9	540.5	540.0	539.4	538.8	538.2	537.5	536.9
125°	587.7	587.8	587.4	587.0	586.6	586.2	585.3	584.5	583.6	582.8	582.0
127.5°	633.5	633.9	633.5	633.1	632.7	632.3	631.0	629.7	628.5	627.2	626.2
130°	678.5	679.0	678.4	677.7	677.1	676.5	675.6	674.8	674.0	673.1	672.0
132.5°	721.7	722.4	721.9	721.5	721.1	720.7	719.6	718.6	717.6	716.5	715.5
135°	764.3	764.8	764.6	764.4	764.2	764.0	763.1	762.3	761.5	760.6	760.0
137.5°	803.9	804.7	805.4	806.0	806.6	807.3	806.2	805.2	804.1	803.1	802.2
140°	846.2	846.9	847.1	847.3	847.5	847.7	847.5	847.3	847.1	846.9	846.0
142.5°	884.8	885.6	886.0	886.4	886.8	887.2	887.0	886.8	886.6	886.4	885.8
145°	922.8	923.3	923.9	924.5	925.2	925.8	925.6	925.4	925.2	925.0	924.4
147.5°	959.3	960.0	960.6	961.2	961.9	962.5	962.5	962.5	962.5	962.5	961.9
150°	994.3	994.7	995.1	995.5	995.9	996.4	996.4	996.4	996.4	996.4	995.7
152.5°	1025.2	1025.6	1025.8	1026.1	1026.3	1026.5	1026.9	1027.3	1027.7	1028.1	1027.8
155°	1054.7	1054.8	1055.0	1055.2	1055.4	1055.6	1056.5	1057.3	1058.1	1059.0	1058.7
157.5°	1081.1	1081.1	1081.4	1081.6	1081.8	1082.0	1082.8	1083.7	1084.5	1085.3	1085.1
160°	1105.7	1105.5	1105.5	1105.5	1105.5	1105.5	1106.5	1107.6	1108.6	1109.7	1109.8
162.5°	1127.5	1127.2	1127.5	1127.7	1127.9	1128.1	1129.1	1130.2	1131.2	1132.3	1132.1
165°	1146.3	1146.0	1146.0	1146.0	1146.0	1146.0	1147.2	1148.5	1149.7	1151.0	1150.9
167.5°	1161.4	1161.1	1161.3	1161.5	1161.7	1162.0	1163.2	1164.5	1165.7	1167.0	1167.0
170°	1174.6	1174.2	1174.2	1174.2	1174.2	1174.2	1175.6	1177.1	1178.6	1180.0	1180.0
172.5°	1185.0	1184.5	1184.5	1184.5	1184.5	1184.5	1185.8	1187.0	1188.3	1189.6	1189.4
175°	1191.5	1191.1	1191.1	1191.1	1191.1	1191.1	1192.4	1193.6	1194.9	1196.1	1196.0
177.5°	1195.3	1194.9	1194.9	1194.9	1194.9	1194.9	1196.1	1197.4	1198.6	1199.9	1199.8
180°	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7



TEST NUMBER: P831316

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**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	925.4	925.4	925.4	925.4
2.5°	822.6	821.1	815.0	809.0
5°	697.4	692.2	690.5	688.8
7.5°	609.4	608.9	599.9	590.9
10°	531.8	532.5	524.3	516.2
12.5°	476.4	471.1	470.4	469.8
15°	434.8	429.9	429.0	428.1
17.5°	405.4	402.4	401.5	400.7
20°	383.0	381.3	379.8	378.3
22.5°	363.7	361.6	360.3	359.0
25°	345.0	343.1	342.7	342.3
27.5°	328.3	325.9	325.9	325.9
30°	312.4	310.9	310.3	309.6
32.5°	297.6	296.3	296.3	296.3
35°	283.6	283.0	282.1	281.3
37.5°	271.0	271.0	270.5	270.1
40°	258.7	259.4	259.4	259.4
42.5°	247.6	248.2	248.2	248.2
45°	236.0	237.0	237.5	237.9
47.5°	224.6	226.3	226.7	227.2
50°	213.4	214.7	214.9	215.1
52.5°	202.0	203.5	204.6	205.7
55°	190.0	191.5	192.2	192.8
57.5°	177.1	178.6	178.9	179.1
60°	163.0	164.5	164.9	165.3
62.5°	149.4	150.3	150.7	151.2
65°	134.0	135.3	136.1	137.0
67.5°	119.2	120.2	120.2	120.2
70°	102.6	103.1	103.7	104.4
72.5°	87.4	87.6	87.6	87.6
75°	71.3	71.7	71.9	72.1
77.5°	56.0	56.3	56.3	56.3
80°	41.0	40.8	40.8	40.8
82.5°	28.1	27.5	27.5	27.5
85°	16.1	15.9	16.1	16.3
87.5°	7.3	7.3	7.3	7.3
90°	27.0	27.4	27.8	28.2
92.5°	41.7	41.3	40.9	40.5
95°	73.4	73.4	73.4	73.4
97.5°	106.0	105.8	105.6	105.4
100°	141.8	142.2	142.6	143.0
102.5°	182.2	182.0	181.8	181.6
105°	222.7	223.1	223.5	223.9
107.5°	267.8	267.6	267.4	267.2
110°	312.7	312.3	311.8	311.4



TEST NUMBER: P831316

CATALOG NUMBER: S123DIP-S340D1025U830-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	358.5	358.5	358.5	358.5
115°	401.4	401.2	401.0	400.8
117.5°	446.0	445.3	444.7	444.1
120°	491.4	491.0	490.6	490.2
122.5°	536.3	535.7	535.0	534.4
125°	581.1	580.3	579.5	578.6
127.5°	625.4	624.5	623.7	622.8
130°	670.5	669.1	667.6	666.1
132.5°	714.4	713.4	712.3	711.3
135°	759.6	759.2	758.7	758.3
137.5°	801.6	801.0	800.4	799.7
140°	844.6	843.1	841.6	840.2
142.5°	884.7	883.7	882.6	881.6
145°	923.6	922.8	921.9	921.1
147.5°	960.6	959.4	958.1	956.8
150°	994.5	993.2	992.0	990.7
152.5°	1026.8	1025.7	1024.7	1023.6
155°	1057.2	1055.7	1054.3	1052.8
157.5°	1083.9	1082.6	1081.4	1080.1
160°	1109.0	1108.1	1107.3	1106.4
162.5°	1130.6	1129.1	1127.7	1126.2
165°	1149.4	1147.9	1146.5	1145.0
167.5°	1165.7	1164.5	1163.2	1162.0
170°	1178.6	1177.1	1175.6	1174.2
172.5°	1188.0	1186.5	1185.1	1183.6
175°	1194.6	1193.1	1191.6	1190.2
177.5°	1198.3	1196.9	1195.4	1193.9
180°	1197.7	1197.7	1197.7	1197.7



TEST NUMBER: P831316

CATALOG NUMBER: S123DIP-S340D1025U830-4F0-1E-UDD-G1

**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	9.45	10.15	10.56	11.25	12.77	11.69	12.38	12.80	13.48	15.01
	3H	11.09	11.71	12.21	12.82	14.36	13.10	13.72	14.22	14.83	16.37
	4H	11.66	12.25	12.79	13.36	14.90	13.54	14.13	14.67	15.24	16.79
	6H	12.02	12.56	13.16	13.67	15.23	13.81	14.35	14.95	15.47	17.02
	8H	12.11	12.63	13.25	13.75	15.30	13.87	14.38	15.01	15.51	17.06
	12H	12.15	12.64	13.29	13.76	15.33	13.88	14.37	15.03	15.49	17.06
4H	2H	10.01	10.60	11.14	11.71	13.25	11.83	12.42	12.97	13.53	15.08
	3H	11.82	12.31	12.96	13.45	15.01	13.44	13.93	14.58	15.06	16.62
	4H	12.51	12.96	13.66	14.09	15.67	14.01	14.47	15.16	15.59	17.17
	6H	12.98	13.37	14.13	14.51	16.08	14.41	14.80	15.56	15.95	17.51
	8H	13.11	13.47	14.26	14.61	16.20	14.52	14.88	15.67	16.02	17.60
	12H	13.17	13.50	14.34	14.65	16.24	14.55	14.88	15.72	16.03	17.62
8H	4H	12.77	13.13	13.92	14.27	15.85	14.11	14.47	15.26	15.61	17.19
	6H	13.35	13.65	14.52	14.83	16.41	14.60	14.90	15.77	16.08	17.66
	8H	13.56	13.82	14.73	14.98	16.58	14.78	15.04	15.96	16.20	17.80
	12H	13.67	13.90	14.85	15.06	16.69	14.88	15.10	16.06	16.26	17.90
12H	4H	12.76	13.09	13.93	14.24	15.83	14.07	14.40	15.24	15.55	17.14
	6H	13.40	13.66	14.58	14.82	16.42	14.62	14.88	15.79	16.04	17.64
	8H	13.63	13.85	14.81	15.01	16.65	14.81	15.04	15.99	16.20	17.83