

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: P831417

Luminaire Tested: S123DIP-S340D585U940-4F0-1E-UDD-G

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831417  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D585U940-4F0-1E-UDD-G  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 585 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: -

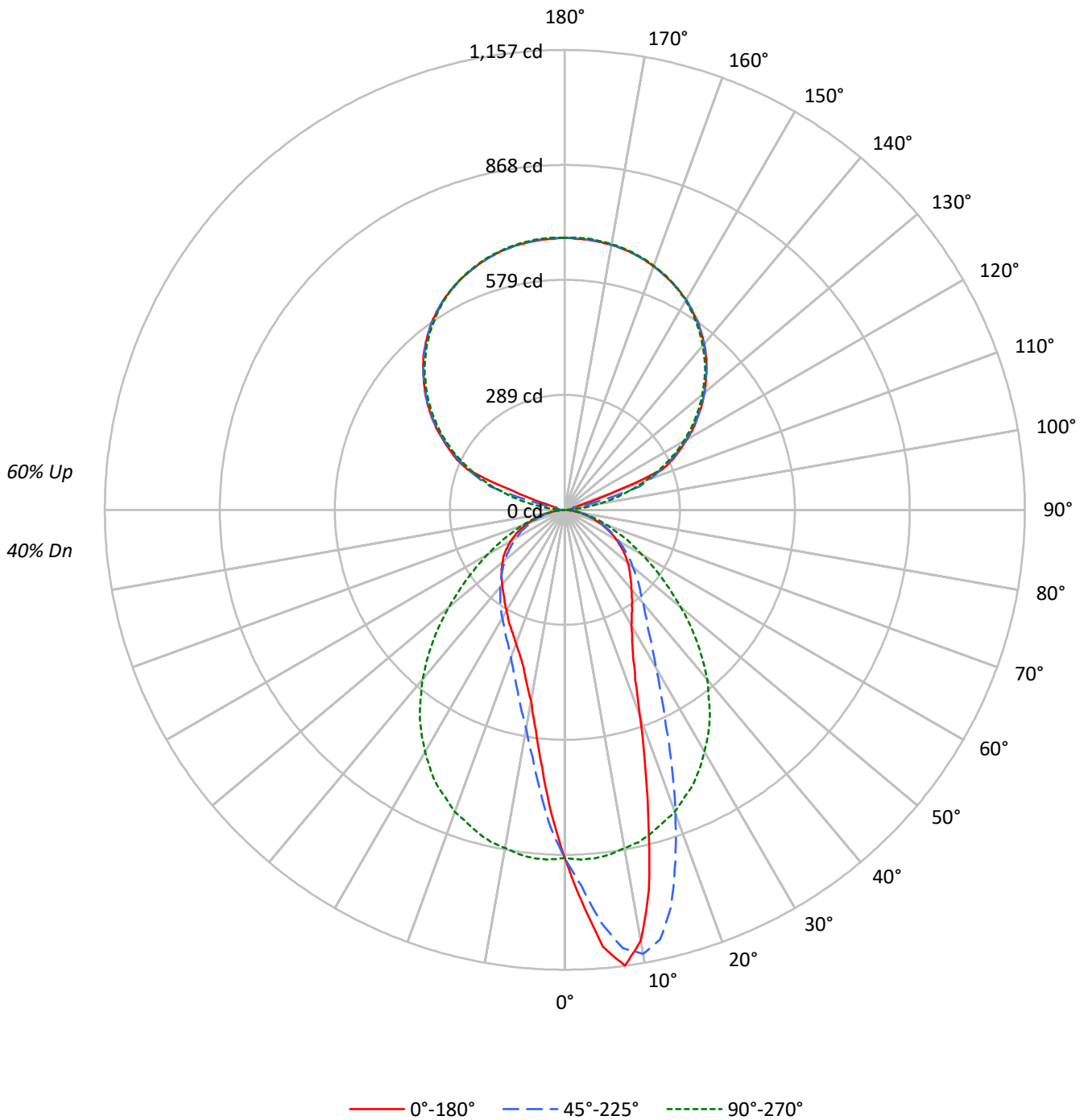
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3495.6 lumens  
Efficiency: N/A  
Efficacy: 126.7 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: General Diffuse  
  
Input Watts (W): 27.6  
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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40				
1	96	92	88	85	87	84	81	78	69	67	65	55	54	52	42	41	41	35				
2	88	81	75	70	80	74	69	65	61	57	54	49	46	44	38	36	35	30				
3	80	71	64	59	73	65	59	55	54	50	46	44	41	38	34	32	30	26				
4	74	64	56	50	67	58	52	47	48	44	40	39	36	33	31	28	27	23				
5	68	57	49	43	62	52	46	40	44	39	35	35	32	29	28	25	24	20				
6	63	51	43	38	57	47	40	35	39	34	31	32	29	26	26	23	21	18				
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	24	21	19	16				
8	54	42	35	30	49	39	32	28	33	28	24	27	23	21	22	19	17	15				
9	50	39	32	27	46	36	29	25	30	25	22	25	21	19	20	18	16	14				
10	47	36	29	24	43	33	27	23	28	23	20	23	20	17	19	16	14	13				

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

	0°	45°	90°	135°	180°
0°	9424	9424	9424	9424	9424
5°	11918	11249	9508	7662	7042
10°	12034	12398	9445	6108	5337
15°	9063	11510	9381	5173	4513
20°	6315	9314	9261	4523	4100
25°	4816	7163	9057	4162	3846
30°	4166	5691	8730	3905	3640
35°	3865	4804	8355	3721	3497
40°	3659	4310	7827	3545	3448
45°	3538	3988	7155	3408	3427
50°	3476	3734	6362	3282	3408
55°	3348	3549	5581	3164	3423
60°	3227	3350	4809	3053	3367
65°	3031	3161	4149	2934	3301
70°	2801	2921	3528	2735	3106
75°	2533	2620	3023	2541	2840
80°	2089	2294	2393	2219	2393
85°	1655	1853	1754	1877	1902

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 8170 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.8	2.4
10°-20°	205.9	5.9
20°-30°	243.8	7.0
30°-40°	245.1	7.0
40°-50°	224.9	6.4
50°-60°	185.6	5.3
60°-70°	131.3	3.8
70°-80°	70.1	2.0
80°-90°	19.1	0.5
90°-100°	24.1	0.7
100°-110°	116.7	3.3
110°-120°	286.0	8.2
120°-130°	363.1	10.4
130°-140°	387.9	11.1
140°-150°	362.7	10.4
150°-160°	292.6	8.4
160°-170°	188.8	5.4
170°-180°	65.1	1.9
0°-30°	532.5	15.2
0°-40°	777.6	22.2
0°-60°	1188.2	34.0
0°-90°	1408.8	40.3
90°-120°	426.8	12.2
90°-150°	1540.4	44.1
90°-180°	2087.0	59.7
0°-180°	3495.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	876	876	876	876	876	
5°	1103	1041	880	709	652	105
15°	813	1033	842	464	405	225
25°	406	603	763	350	324	191
35°	294	366	636	283	266	185
45°	232	262	470	224	225	180
55°	178	189	297	169	182	160
65°	119	124	163	115	130	118
75°	61	63	73	61	68	64
85°	13	15	14	15	15	15
90°	15	12	0	12	15	7
95°	19	16	31	16	19	16
105°	22	111	152	111	22	47
115°	299	292	284	292	299	281
125°	409	407	401	407	409	365
135°	504	504	499	504	504	389
145°	581	580	576	580	581	363
155°	633	634	634	634	633	292
165°	667	667	669	667	667	188
175°	682	682	685	682	682	65
180°	685	685	685	685	685	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	875.5	875.5	875.5	875.5	875.5	875.5	875.5	875.5	875.5	875.5	875.5
2.5°	986.8	985.8	984.8	979.7	974.6	972.2	969.8	962.4	955.1	947.0	938.9
5°	1103.0	1105.9	1108.7	1105.5	1102.2	1092.2	1082.3	1069.1	1055.9	1041.1	1026.2
7.5°	1156.6	1158.3	1159.9	1157.9	1155.8	1153.2	1150.5	1138.8	1127.0	1111.7	1096.5
10°	1101.0	1104.6	1108.3	1116.2	1124.1	1133.1	1142.0	1140.4	1138.8	1134.3	1129.8
12.5°	978.7	983.2	987.6	1003.5	1019.3	1039.6	1059.9	1077.4	1094.9	1107.1	1119.3
15°	813.3	825.7	838.1	852.5	867.0	896.8	926.7	963.5	1000.2	1032.9	1065.6
17.5°	669.9	674.6	679.3	694.7	710.2	747.7	785.3	827.8	870.2	924.5	978.7
20°	551.3	555.6	559.8	580.1	600.5	629.9	659.4	707.1	754.8	813.1	871.4
22.5°	463.1	469.8	476.6	487.9	499.3	527.5	555.8	598.2	640.7	705.1	769.5
25°	405.5	410.3	415.2	422.1	429.0	451.6	474.1	509.1	544.0	603.1	662.2
27.5°	366.0	368.1	370.1	377.0	383.9	398.5	413.2	443.2	473.3	523.5	573.6
30°	335.2	336.6	338.0	344.1	350.2	360.2	370.1	391.8	413.6	457.9	502.1
32.5°	313.6	314.7	315.7	320.3	325.0	332.1	339.2	355.1	370.9	407.5	444.0
35°	294.1	294.7	295.4	298.8	302.3	307.5	312.8	324.8	336.8	365.6	394.5
37.5°	277.1	277.9	278.7	280.7	282.8	287.4	292.1	301.7	311.2	333.3	355.5
40°	260.4	261.8	263.3	264.7	266.1	270.0	273.8	281.1	288.4	306.7	325.0
42.5°	246.2	247.6	249.0	249.7	250.3	252.5	254.7	261.4	268.1	281.7	295.4
45°	232.4	233.0	233.6	234.2	234.8	236.7	238.5	244.4	250.3	262.0	273.8
47.5°	219.8	219.8	219.8	220.2	220.6	222.2	223.9	228.1	232.4	241.5	250.7
50°	207.6	207.6	207.6	207.0	206.4	207.4	208.4	211.7	214.9	223.0	231.2
52.5°	193.0	193.0	193.0	193.2	193.4	193.4	193.4	196.2	199.1	206.4	213.7
55°	178.4	179.2	180.0	179.4	178.8	179.2	179.6	181.4	183.2	189.1	195.0
57.5°	163.7	164.1	164.5	164.3	164.1	164.3	164.5	166.2	167.8	172.3	176.7
60°	149.9	149.9	149.9	149.5	149.1	149.5	149.9	150.7	151.5	155.6	159.7
62.5°	134.5	134.7	134.9	135.1	135.3	134.9	134.5	135.5	136.5	139.6	142.6
65°	119.0	119.2	119.4	120.1	120.7	120.3	119.8	120.9	121.9	124.1	126.3
67.5°	105.2	104.8	104.4	104.6	104.8	105.4	106.0	106.2	106.4	108.9	111.3
70°	89.0	89.4	89.8	89.6	89.4	89.6	89.8	90.4	91.0	92.8	94.7
72.5°	74.3	74.5	74.8	74.8	74.8	75.2	75.6	76.2	76.8	77.8	78.8
75°	60.9	60.9	60.9	61.3	61.8	62.0	62.2	62.2	62.2	63.0	63.8
77.5°	46.3	47.3	48.3	48.1	47.9	48.3	48.8	49.4	50.0	50.4	50.8
80°	33.7	33.7	33.7	33.9	34.1	34.7	35.3	35.8	36.2	37.0	37.8
82.5°	21.5	21.7	21.9	22.5	23.2	23.6	24.0	24.6	25.2	25.2	25.2
85°	13.4	13.0	12.6	13.0	13.4	13.8	14.2	14.4	14.6	15.0	15.4
87.5°	6.5	6.5	6.5	6.5	6.5	6.7	6.9	6.9	6.9	6.9	6.9
90°	15.3	15.0	14.8	14.6	14.4	14.0	13.6	13.1	12.7	12.2	10.7
92.5°	17.3	17.2	17.1	17.0	16.8	16.4	15.6	14.8	14.0	13.2	12.2
95°	19.3	19.3	19.3	19.3	19.3	18.9	18.1	17.3	16.6	15.8	14.5
97.5°	20.9	20.7	20.6	20.5	20.4	19.9	19.0	18.1	17.2	16.3	22.0
100°	21.4	21.2	21.1	21.0	20.9	20.4	19.5	18.6	17.7	16.8	34.4
102.5°	21.9	21.6	21.4	21.2	21.0	22.7	26.4	30.2	33.9	37.6	57.3
105°	22.4	22.2	21.9	21.7	21.5	31.4	51.4	71.4	91.4	111.4	121.6
107.5°	52.9	67.7	82.5	97.3	112.1	128.2	145.6	163.0	180.4	197.8	196.1
110°	139.9	156.0	172.2	188.3	204.5	214.5	218.2	221.9	225.6	229.4	228.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	265.0	265.2	265.4	265.7	265.9	265.5	264.5	263.5	262.4	261.4	260.2
115°	299.1	298.6	298.1	297.7	297.2	296.5	295.3	294.2	293.1	291.9	290.9
117.5°	326.5	326.4	326.3	326.2	326.1	325.6	324.7	323.7	322.8	321.9	321.4
120°	355.0	355.0	355.0	355.0	355.0	354.5	353.6	352.7	351.8	350.9	350.6
122.5°	383.0	382.9	382.7	382.6	382.5	382.2	381.6	381.0	380.5	379.9	379.5
125°	408.9	408.7	408.5	408.2	408.0	407.8	407.6	407.3	407.1	406.9	406.4
127.5°	434.3	434.6	434.8	435.0	435.2	435.2	434.8	434.5	434.2	433.8	433.3
130°	458.7	459.0	459.2	459.4	459.7	459.5	459.1	458.6	458.2	457.7	457.3
132.5°	481.1	481.5	481.8	482.1	482.5	482.4	482.0	481.5	481.1	480.6	480.3
135°	504.0	504.4	504.7	505.0	505.4	505.4	505.0	504.7	504.4	504.0	503.6
137.5°	525.9	526.1	526.3	526.6	526.8	526.6	526.1	525.5	524.9	524.4	524.1
140°	545.2	545.4	545.7	545.9	546.1	546.0	545.5	545.1	544.6	544.2	543.9
142.5°	563.0	563.4	563.7	564.0	564.4	564.4	564.0	563.7	563.4	563.0	562.7
145°	581.3	581.3	581.3	581.3	581.3	581.2	581.0	580.8	580.5	580.3	580.1
147.5°	594.5	595.1	595.7	596.2	596.8	597.0	596.7	596.5	596.3	596.1	595.8
150°	609.8	610.1	610.5	610.8	611.2	611.2	611.0	610.8	610.5	610.3	610.1
152.5°	622.0	622.6	623.1	623.7	624.3	624.3	623.9	623.4	623.0	622.5	622.4
155°	633.2	633.9	634.6	635.2	635.9	636.0	635.4	634.8	634.3	633.7	633.6
157.5°	642.9	643.8	644.7	645.6	646.5	646.6	645.9	645.2	644.6	643.9	644.0
160°	652.0	652.8	653.6	654.4	655.2	655.2	654.6	653.9	653.2	652.5	652.6
162.5°	660.7	661.3	662.0	662.7	663.4	663.3	662.5	661.7	660.9	660.2	660.3
165°	667.3	668.1	668.9	669.6	670.4	670.4	669.5	668.6	667.7	666.8	666.9
167.5°	672.4	673.3	674.2	675.1	676.0	676.0	675.1	674.2	673.3	672.4	672.4
170°	676.9	677.8	678.7	679.6	680.6	680.6	679.6	678.7	677.8	676.9	676.9
172.5°	679.5	680.5	681.5	682.5	683.5	683.6	682.7	681.8	680.9	680.0	679.9
175°	682.0	682.9	683.8	684.7	685.6	685.7	684.9	684.1	683.3	682.5	682.4
177.5°	682.5	683.7	684.8	685.9	687.1	687.2	686.3	685.4	684.5	683.5	683.4
180°	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	875.5	875.5	875.5	875.5	875.5	875.5	875.5	875.5	875.5	875.5	875.5
2.5°	936.4	934.0	925.1	916.1	906.0	895.8	888.3	880.8	869.6	858.4	849.3
5°	1014.9	1003.5	984.6	965.7	940.1	914.5	897.2	880.0	856.8	833.7	815.2
7.5°	1077.0	1057.5	1031.1	1004.7	971.2	937.7	906.0	874.3	838.9	803.6	774.7
10°	1116.6	1103.4	1072.9	1042.5	997.6	952.7	908.4	864.1	818.6	773.1	734.9
12.5°	1120.5	1121.7	1093.7	1065.6	1014.9	964.1	910.2	856.4	799.1	741.8	697.4
15°	1086.6	1107.5	1092.0	1076.6	1025.4	974.2	908.0	841.8	775.8	709.7	658.4
17.5°	1023.6	1068.5	1070.7	1072.9	1021.8	970.6	897.2	823.9	749.2	674.4	620.4
20°	937.7	1003.9	1026.6	1049.4	1007.7	966.1	887.3	808.5	724.8	641.1	584.4
22.5°	849.9	930.3	972.0	1013.6	982.8	951.9	868.0	784.1	695.7	607.4	549.9
25°	750.0	837.7	901.7	965.7	946.8	927.9	845.2	762.6	668.5	574.5	515.8
27.5°	662.8	752.0	829.2	906.4	902.3	898.3	816.2	734.1	637.8	541.6	484.9
30°	585.2	668.3	754.6	841.0	850.9	860.9	781.7	702.4	605.9	509.5	454.8
32.5°	516.6	589.1	681.7	774.3	793.8	813.3	741.8	670.3	574.9	479.4	426.8
35°	460.3	526.1	618.7	711.4	735.7	760.1	698.0	635.8	542.8	449.7	399.6
37.5°	410.5	465.6	556.0	646.4	676.2	706.1	650.4	594.8	507.6	420.5	374.4
40°	369.3	413.6	496.7	579.7	614.3	648.8	602.9	557.0	474.3	391.6	349.2
42.5°	334.8	374.2	449.5	524.9	558.0	591.1	552.3	513.5	440.0	366.5	327.7
45°	305.3	336.8	405.3	473.7	505.2	536.7	503.4	470.0	405.3	340.5	304.3
47.5°	277.7	304.7	363.2	421.7	449.7	477.8	451.8	425.8	370.9	316.1	283.4
50°	252.9	274.6	325.8	377.0	401.4	425.8	402.8	379.9	334.8	289.7	261.2
52.5°	231.4	249.0	291.9	334.8	355.7	376.6	356.9	337.2	301.4	265.7	240.9
55°	210.0	225.1	262.2	299.4	313.6	327.9	312.6	297.4	268.5	239.7	218.8
57.5°	190.1	203.5	234.0	264.5	275.4	286.4	272.6	258.8	237.1	215.3	197.9
60°	170.6	181.6	207.0	232.4	239.1	245.8	234.6	223.4	208.2	193.0	177.3
62.5°	152.6	162.5	181.4	200.3	204.8	209.2	200.7	192.2	180.6	169.0	156.8
65°	133.9	141.4	156.8	172.3	175.1	177.9	170.4	162.9	154.2	145.4	136.5
67.5°	116.6	121.9	134.5	147.1	147.3	147.5	141.4	135.3	130.4	125.5	118.4
70°	99.7	104.8	113.1	121.5	121.7	121.9	117.0	112.1	108.5	104.8	99.5
72.5°	82.5	86.1	92.4	98.7	98.3	97.9	94.9	91.8	89.0	86.1	82.3
75°	66.8	69.9	74.1	78.4	77.2	76.0	74.3	72.7	70.3	67.8	65.4
77.5°	52.6	54.4	56.9	59.3	58.5	57.7	56.3	54.8	53.0	51.2	50.2
80°	38.6	39.4	41.0	42.7	42.3	41.8	40.2	38.6	38.2	37.8	36.4
82.5°	26.2	27.2	27.6	28.0	27.8	27.6	26.4	25.2	24.8	24.4	24.2
85°	15.6	15.8	16.0	16.3	15.6	15.0	14.6	14.2	14.2	14.2	14.0
87.5°	7.1	7.3	7.3	7.3	7.1	6.9	6.5	6.1	6.3	6.5	6.5
90°	9.3	7.8	6.3	5.0	3.9	2.8	1.6	0.5	1.6	2.8	3.9
92.5°	11.2	10.2	9.2	9.0	9.7	10.3	11.0	11.7	11.0	10.3	9.7
95°	13.3	12.0	10.8	12.5	17.1	21.8	26.4	31.0	26.4	21.8	17.1
97.5°	27.8	33.6	39.3	43.8	47.0	50.1	53.3	56.5	53.3	50.1	47.0
100°	52.0	69.7	87.3	95.0	92.7	90.5	88.2	86.0	88.2	90.5	92.7
102.5°	77.0	96.6	116.3	125.4	123.9	122.5	121.0	119.5	121.0	122.5	123.9
105°	131.7	141.9	152.1	156.5	155.3	154.0	152.8	151.6	152.8	154.0	155.3
107.5°	194.5	192.8	191.1	189.7	188.7	187.7	186.7	185.6	186.7	187.7	188.7
110°	226.9	225.6	224.4	223.3	222.4	221.5	220.6	219.7	220.6	221.5	222.4





TEST NUMBER: P831417

CATALOG NUMBER: S123DIP-S340D585U940-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	258.9	257.7	256.4	255.4	254.6	253.8	253.1	252.3	253.1	253.8	254.6
115°	289.9	288.9	287.9	287.0	286.3	285.7	285.0	284.3	285.0	285.7	286.3
117.5°	320.8	320.2	319.7	319.0	318.2	317.4	316.6	315.8	316.6	317.4	318.2
120°	350.3	349.9	349.6	348.9	347.9	346.9	345.8	344.8	345.8	346.9	347.9
122.5°	379.0	378.6	378.1	377.5	376.7	375.9	375.1	374.3	375.1	375.9	376.7
125°	406.0	405.5	405.1	404.4	403.5	402.6	401.7	400.8	401.7	402.6	403.5
127.5°	432.7	432.1	431.6	430.8	429.9	429.0	428.1	427.2	428.1	429.0	429.9
130°	456.8	456.4	455.9	455.2	454.3	453.4	452.5	451.6	452.5	453.4	454.3
132.5°	479.9	479.6	479.3	478.6	477.7	476.8	475.9	475.0	475.9	476.8	477.7
135°	503.1	502.7	502.2	501.6	501.0	500.3	499.6	498.9	499.6	500.3	501.0
137.5°	523.9	523.7	523.5	522.9	522.0	521.1	520.2	519.3	520.2	521.1	522.0
140°	543.5	543.2	542.8	542.3	541.7	541.0	540.3	539.6	540.3	541.0	541.7
142.5°	562.3	562.0	561.7	561.1	560.5	559.8	559.1	558.4	559.1	559.8	560.5
145°	579.9	579.6	579.4	578.9	578.1	577.3	576.5	575.7	576.5	577.3	578.1
147.5°	595.6	595.4	595.2	594.8	594.2	593.6	593.1	592.5	593.1	593.6	594.2
150°	609.9	609.6	609.4	609.1	608.8	608.4	608.1	607.8	608.1	608.4	608.8
152.5°	622.3	622.2	622.1	622.0	621.8	621.7	621.6	621.5	621.6	621.7	621.8
155°	633.5	633.4	633.3	633.3	633.5	633.8	634.0	634.2	634.0	633.8	633.5
157.5°	644.1	644.2	644.3	644.4	644.4	644.4	644.4	644.4	644.4	644.4	644.4
160°	652.7	652.9	653.0	653.1	653.2	653.3	653.4	653.5	653.4	653.3	653.2
162.5°	660.4	660.5	660.6	660.8	661.2	661.5	661.8	662.2	661.8	661.5	661.2
165°	667.0	667.1	667.2	667.4	667.8	668.1	668.5	668.8	668.5	668.1	667.8
167.5°	672.4	672.4	672.4	672.6	673.0	673.5	673.9	674.4	673.9	673.5	673.0
170°	676.9	676.9	676.9	677.2	677.6	678.1	678.5	679.0	678.5	678.1	677.6
172.5°	679.8	679.6	679.5	679.8	680.3	680.9	681.5	682.0	681.5	680.9	680.3
175°	682.3	682.2	682.1	682.3	682.9	683.4	684.0	684.6	684.0	683.4	682.9
177.5°	683.3	683.2	683.1	683.3	683.9	684.5	685.0	685.6	685.0	684.5	683.9
180°	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6



TEST NUMBER: P831417

CATALOG NUMBER: S123DIP-S340D585U940-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	875.5	875.5	875.5	875.5	875.5	875.5	875.5	875.5	875.5	875.5	875.5
2.5°	840.2	832.2	824.3	818.2	812.1	801.8	791.4	789.0	786.5	783.1	779.6
5°	796.7	777.2	757.7	740.2	722.7	709.1	695.5	686.6	677.7	671.2	664.7
7.5°	745.9	716.7	687.4	666.7	646.0	626.3	606.6	600.3	594.0	585.4	576.9
10°	696.7	664.4	632.2	605.1	578.1	558.8	539.5	531.8	524.1	513.3	502.6
12.5°	652.9	617.5	582.2	555.0	527.7	509.1	490.4	479.2	468.0	461.9	455.8
15°	607.0	569.2	531.4	506.2	481.0	464.2	447.3	437.5	427.8	421.9	416.0
17.5°	566.3	529.0	491.6	467.4	443.2	427.8	412.4	403.8	395.3	390.8	386.4
20°	527.7	491.2	454.6	431.0	407.5	394.9	382.3	376.8	371.3	367.7	364.0
22.5°	492.4	456.4	420.5	400.4	380.3	370.1	360.0	356.1	352.2	349.2	346.1
25°	457.0	425.0	392.9	375.8	358.7	350.4	342.1	338.2	334.4	331.3	328.3
27.5°	428.2	397.5	366.9	352.2	337.6	331.1	324.6	321.6	318.5	315.7	312.8
30°	400.2	372.7	345.3	332.7	320.1	314.2	308.4	305.3	302.3	299.6	297.0
32.5°	374.2	350.6	327.0	315.5	303.9	299.0	294.1	290.5	286.8	284.8	282.8
35°	349.4	328.3	307.1	297.6	288.0	283.2	278.3	275.2	272.2	270.6	268.9
37.5°	328.3	309.4	290.5	281.3	272.2	267.5	262.9	260.2	257.6	257.0	256.4
40°	306.7	290.5	274.2	265.3	256.4	252.3	248.2	246.6	245.0	244.6	244.2
42.5°	288.9	273.0	257.2	249.0	240.9	237.5	234.0	233.2	232.4	233.0	233.6
45°	268.1	254.9	241.7	234.2	226.7	223.9	221.0	220.4	219.8	221.0	222.2
47.5°	250.7	238.5	226.3	219.2	212.1	210.0	208.0	207.8	207.6	209.2	210.9
50°	232.8	221.0	209.2	203.5	197.9	196.0	194.2	194.8	195.4	198.1	200.7
52.5°	216.1	205.2	194.2	188.9	183.6	182.4	181.2	182.6	184.0	186.9	189.7
55°	197.9	187.9	177.9	173.9	169.8	168.6	167.4	170.2	173.1	175.7	178.4
57.5°	180.4	171.6	162.9	159.3	155.6	155.4	155.2	157.8	160.5	163.3	166.2
60°	161.7	154.4	147.1	144.2	141.4	141.8	142.2	145.2	148.3	150.5	152.8
62.5°	144.6	138.5	132.4	129.8	127.2	128.2	129.2	132.2	135.3	137.9	140.6
65°	127.6	122.5	117.4	115.6	113.8	115.2	116.6	119.2	121.9	123.7	125.5
67.5°	111.3	107.1	102.8	101.4	99.9	101.4	102.8	105.4	108.1	109.9	111.7
70°	94.3	90.8	87.3	86.3	85.3	86.9	88.6	90.8	93.0	94.9	96.7
72.5°	78.4	75.8	73.1	72.9	72.7	74.1	75.6	77.8	80.0	81.3	82.5
75°	63.0	61.5	60.1	59.9	59.7	61.1	62.6	63.8	65.0	66.0	67.0
77.5°	49.2	47.9	46.7	46.9	47.1	48.1	49.2	50.4	51.6	52.2	52.8
80°	34.9	34.5	34.1	34.5	34.9	35.8	36.6	37.4	38.2	38.6	39.0
82.5°	24.0	23.6	23.2	23.8	24.4	25.0	25.6	26.2	26.8	27.0	27.2
85°	13.8	14.4	15.0	15.0	15.0	15.2	15.4	15.6	15.8	15.6	15.4
87.5°	6.5	6.7	6.9	6.9	6.9	7.1	7.3	7.3	7.3	7.1	6.9
90°	5.0	6.3	7.8	9.3	10.7	12.2	12.7	13.1	13.6	14.0	14.4
92.5°	9.0	9.2	10.2	11.2	12.2	13.2	14.0	14.8	15.6	16.4	16.8
95°	12.5	10.8	12.0	13.3	14.5	15.8	16.6	17.3	18.1	18.9	19.3
97.5°	43.8	39.3	33.6	27.8	22.0	16.3	17.2	18.1	19.0	19.9	20.4
100°	95.0	87.3	69.7	52.0	34.4	16.8	17.7	18.6	19.5	20.4	20.9
102.5°	125.4	116.3	96.6	77.0	57.3	37.6	33.9	30.2	26.4	22.7	21.0
105°	156.5	152.1	141.9	131.7	121.6	111.4	91.4	71.4	51.4	31.4	21.5
107.5°	189.7	191.1	192.8	194.5	196.1	197.8	180.4	163.0	145.6	128.2	112.1
110°	223.3	224.4	225.6	226.9	228.1	229.4	225.6	221.9	218.2	214.5	204.5



TEST NUMBER: P831417

CATALOG NUMBER: S123DIP-S340D585U940-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	255.4	256.4	257.7	258.9	260.2	261.4	262.4	263.5	264.5	265.5	265.9
115°	287.0	287.9	288.9	289.9	290.9	291.9	293.1	294.2	295.3	296.5	297.2
117.5°	319.0	319.7	320.2	320.8	321.4	321.9	322.8	323.7	324.7	325.6	326.1
120°	348.9	349.6	349.9	350.3	350.6	350.9	351.8	352.7	353.6	354.5	355.0
122.5°	377.5	378.1	378.6	379.0	379.5	379.9	380.5	381.0	381.6	382.2	382.5
125°	404.4	405.1	405.5	406.0	406.4	406.9	407.1	407.3	407.6	407.8	408.0
127.5°	430.8	431.6	432.1	432.7	433.3	433.8	434.2	434.5	434.8	435.2	435.2
130°	455.2	455.9	456.4	456.8	457.3	457.7	458.2	458.6	459.1	459.5	459.7
132.5°	478.6	479.3	479.6	479.9	480.3	480.6	481.1	481.5	482.0	482.4	482.5
135°	501.6	502.2	502.7	503.1	503.6	504.0	504.4	504.7	505.0	505.4	505.4
137.5°	522.9	523.5	523.7	523.9	524.1	524.4	524.9	525.5	526.1	526.6	526.8
140°	542.3	542.8	543.2	543.5	543.9	544.2	544.6	545.1	545.5	546.0	546.1
142.5°	561.1	561.7	562.0	562.3	562.7	563.0	563.4	563.7	564.0	564.4	564.4
145°	578.9	579.4	579.6	579.9	580.1	580.3	580.5	580.8	581.0	581.2	581.3
147.5°	594.8	595.2	595.4	595.6	595.8	596.1	596.3	596.5	596.7	597.0	596.8
150°	609.1	609.4	609.6	609.9	610.1	610.3	610.5	610.8	611.0	611.2	611.2
152.5°	622.0	622.1	622.2	622.3	622.4	622.5	623.0	623.4	623.9	624.3	624.3
155°	633.3	633.3	633.4	633.5	633.6	633.7	634.3	634.8	635.4	636.0	635.9
157.5°	644.4	644.3	644.2	644.1	644.0	643.9	644.6	645.2	645.9	646.6	646.5
160°	653.1	653.0	652.9	652.7	652.6	652.5	653.2	653.9	654.6	655.2	655.2
162.5°	660.8	660.6	660.5	660.4	660.3	660.2	660.9	661.7	662.5	663.3	663.4
165°	667.4	667.2	667.1	667.0	666.9	666.8	667.7	668.6	669.5	670.4	670.4
167.5°	672.6	672.4	672.4	672.4	672.4	672.4	673.3	674.2	675.1	676.0	676.0
170°	677.2	676.9	676.9	676.9	676.9	676.9	677.8	678.7	679.6	680.6	680.6
172.5°	679.8	679.5	679.6	679.8	679.9	680.0	680.9	681.8	682.7	683.6	683.5
175°	682.3	682.1	682.2	682.3	682.4	682.5	683.3	684.1	684.9	685.7	685.6
177.5°	683.3	683.1	683.2	683.3	683.4	683.5	684.5	685.4	686.3	687.2	687.1
180°	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6



TEST NUMBER: P831417

CATALOG NUMBER: S123DIP-S340D585U940-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	875.5	875.5	875.5	875.5
2.5°	778.2	776.8	771.1	765.4
5°	659.8	654.9	653.3	651.7
7.5°	576.5	576.1	567.6	559.0
10°	503.2	503.8	496.1	488.3
12.5°	450.8	445.7	445.1	444.5
15°	411.3	406.7	405.9	405.0
17.5°	383.5	380.7	379.9	379.0
20°	362.4	360.8	359.3	357.9
22.5°	344.1	342.1	340.9	339.6
25°	326.4	324.6	324.2	323.8
27.5°	310.6	308.4	308.4	308.4
30°	295.6	294.1	293.5	292.9
32.5°	281.5	280.3	280.3	280.3
35°	268.3	267.7	266.9	266.1
37.5°	256.4	256.4	255.9	255.5
40°	244.8	245.4	245.4	245.4
42.5°	234.2	234.8	234.8	234.8
45°	223.2	224.3	224.7	225.1
47.5°	212.5	214.1	214.5	214.9
50°	201.9	203.1	203.3	203.5
52.5°	191.1	192.6	193.6	194.6
55°	179.8	181.2	181.8	182.4
57.5°	167.6	169.0	169.2	169.4
60°	154.2	155.6	156.0	156.4
62.5°	141.4	142.2	142.6	143.0
65°	126.8	128.0	128.8	129.6
67.5°	112.7	113.8	113.8	113.8
70°	97.1	97.5	98.1	98.7
72.5°	82.7	82.9	82.9	82.9
75°	67.4	67.8	68.0	68.3
77.5°	53.0	53.2	53.2	53.2
80°	38.8	38.6	38.6	38.6
82.5°	26.6	26.0	26.0	26.0
85°	15.2	15.0	15.2	15.4
87.5°	6.9	6.9	6.9	6.9
90°	14.6	14.8	15.0	15.3
92.5°	17.0	17.1	17.2	17.3
95°	19.3	19.3	19.3	19.3
97.5°	20.5	20.6	20.7	20.9
100°	21.0	21.1	21.2	21.4
102.5°	21.2	21.4	21.6	21.9
105°	21.7	21.9	22.2	22.4
107.5°	97.3	82.5	67.7	52.9
110°	188.3	172.2	156.0	139.9



TEST NUMBER: P831417

CATALOG NUMBER: S123DIP-S340D585U940-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	265.7	265.4	265.2	265.0
115°	297.7	298.1	298.6	299.1
117.5°	326.2	326.3	326.4	326.5
120°	355.0	355.0	355.0	355.0
122.5°	382.6	382.7	382.9	383.0
125°	408.2	408.5	408.7	408.9
127.5°	435.0	434.8	434.6	434.3
130°	459.4	459.2	459.0	458.7
132.5°	482.1	481.8	481.5	481.1
135°	505.0	504.7	504.4	504.0
137.5°	526.6	526.3	526.1	525.9
140°	545.9	545.7	545.4	545.2
142.5°	564.0	563.7	563.4	563.0
145°	581.3	581.3	581.3	581.3
147.5°	596.2	595.7	595.1	594.5
150°	610.8	610.5	610.1	609.8
152.5°	623.7	623.1	622.6	622.0
155°	635.2	634.6	633.9	633.2
157.5°	645.6	644.7	643.8	642.9
160°	654.4	653.6	652.8	652.0
162.5°	662.7	662.0	661.3	660.7
165°	669.6	668.9	668.1	667.3
167.5°	675.1	674.2	673.3	672.4
170°	679.6	678.7	677.8	676.9
172.5°	682.5	681.5	680.5	679.5
175°	684.7	683.8	682.9	682.0
177.5°	685.9	684.8	683.7	682.5
180°	684.6	684.6	684.6	684.6



TEST NUMBER: P831417

CATALOG NUMBER: S123DIP-S340D585U940-4F0-1E-UDD-G

**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	10.38	11.14	11.43	12.18	13.59	12.62	13.37	13.66	14.42	15.82
	3H	12.02	12.70	13.07	13.75	15.17	14.04	14.71	15.09	15.76	17.19
	4H	12.59	13.23	13.66	14.29	15.72	14.48	15.12	15.54	16.17	17.61
	6H	12.96	13.55	14.03	14.60	16.05	14.75	15.34	15.82	16.40	17.84
	8H	13.05	13.61	14.13	14.69	16.12	14.81	15.37	15.89	16.44	17.88
	12H	13.09	13.62	14.18	14.69	16.15	14.83	15.36	15.91	16.42	17.89
4H	2H	10.94	11.58	12.02	12.64	14.07	12.77	13.41	13.84	14.46	15.90
	3H	12.76	13.30	13.84	14.38	15.82	14.38	14.91	15.46	15.99	17.44
	4H	13.46	13.95	14.54	15.02	16.48	14.96	15.45	16.04	16.52	17.99
	6H	13.93	14.34	15.02	15.44	16.90	15.36	15.78	16.45	16.87	18.33
	8H	14.06	14.45	15.15	15.54	17.02	15.47	15.86	16.56	16.95	18.42
	12H	14.12	14.48	15.23	15.58	17.06	15.51	15.86	16.62	16.96	18.44
8H	4H	13.72	14.11	14.81	15.19	16.67	15.06	15.45	16.15	16.53	18.01
	6H	14.30	14.62	15.41	15.75	17.23	15.56	15.88	16.67	17.01	18.48
	8H	14.51	14.79	15.63	15.90	17.39	15.73	16.02	16.85	17.13	18.62
	12H	14.63	14.87	15.75	15.98	17.51	15.83	16.08	16.95	17.19	18.72
12H	4H	13.71	14.07	14.82	15.17	16.65	15.03	15.38	16.13	16.48	17.96
	6H	14.35	14.63	15.47	15.74	17.24	15.57	15.85	16.69	16.96	18.46
	8H	14.58	14.83	15.70	15.94	17.47	15.76	16.01	16.89	17.12	18.65