

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: P831398

Luminaire Tested: S123DIP-S340D585U830-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831398
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-17)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D585U830-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

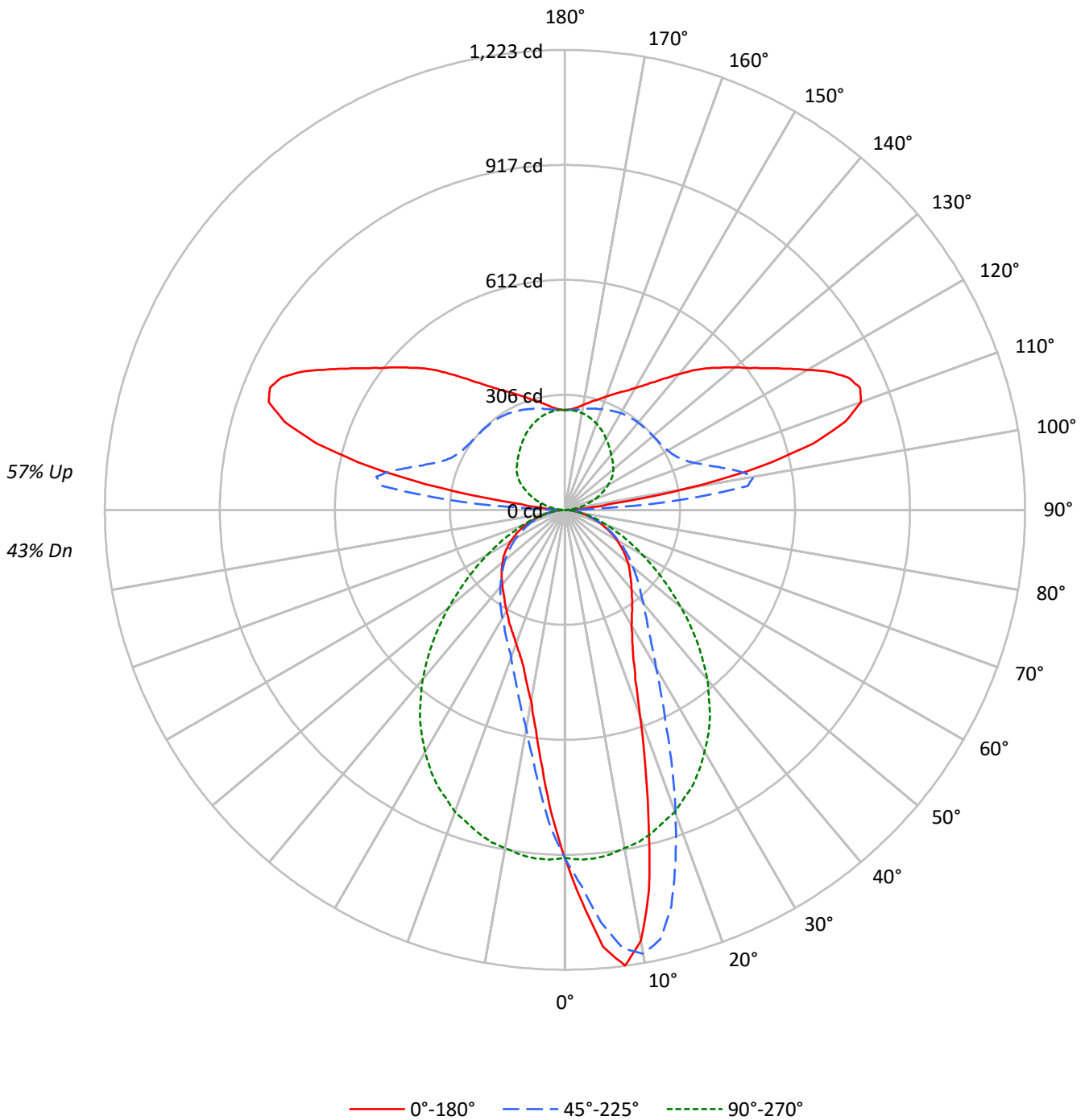
Lumens per Lamp: N/A
Luminaire Lumens: 3486.8 lumens
Efficiency: N/A
Efficacy: 126.3 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

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

TEST NUMBER: P831398

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G4

Luminous Intensity Polar Plot





TEST NUMBER: P831398

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G4

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	96	96	96	96	79	79	79	64	64	64	49	49	49	43				43
1	97	92	89	85	88	85	82	79	70	68	66	57	55	54	44	43	43	37				37
2	88	81	75	71	81	75	70	65	62	58	55	50	48	46	40	38	37	32				32
3	81	72	65	59	74	66	60	55	55	51	47	45	42	39	36	33	32	27				27
4	74	64	56	51	68	59	52	47	49	44	41	40	37	34	32	30	28	24				24
5	68	57	50	44	62	53	46	41	44	39	35	37	33	30	29	27	25	21				21
6	63	52	44	38	58	48	41	36	40	35	31	33	30	27	27	24	22	19				19
7	59	47	39	34	54	43	37	32	37	32	28	31	27	24	25	22	20	17				17
8	54	43	35	30	50	40	33	28	34	29	25	28	24	21	23	20	18	16				16
9	51	39	32	27	47	36	30	26	31	26	22	26	22	19	21	19	17	14				14
10	48	36	29	24	44	33	27	23	29	24	20	24	20	18	20	17	15	13				13

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



TEST NUMBER: P831398

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.5	2.5
10°-20°	217.7	6.2
20°-30°	257.7	7.4
30°-40°	259.1	7.4
40°-50°	237.7	6.8
50°-60°	196.2	5.6
60°-70°	138.8	4.0
70°-80°	74.1	2.1
80°-90°	20.3	0.6
90°-100°	144.1	4.1
100°-110°	421.9	12.1
110°-120°	412.0	11.8
120°-130°	328.1	9.4
130°-140°	258.9	7.4
140°-150°	193.1	5.5
150°-160°	134.7	3.9
160°-170°	79.1	2.3
170°-180°	25.7	0.7
0°-30°	562.9	16.1
0°-40°	822.0	23.6
0°-60°	1255.9	36.0
0°-90°	1489.1	42.7
90°-120°	978.1	28.1
90°-150°	1758.2	50.4
90°-180°	1998.0	57.3
0°-180°	3486.8	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°	16	13	1	13	16	9
95°	62	319	18	319	62	101
105°	684	432	62	432	684	682
115°	832	331	110	331	832	811
125°	656	309	153	309	656	594
135°	532	304	180	304	532	412
145°	416	300	205	300	416	264
155°	345	291	233	291	345	161
165°	300	278	254	278	300	86
175°	270	267	265	267	270	26
180°	266	266	266	266	266	



TEST NUMBER: P831398

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G4

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°	15.6	16.1	15.6	15.1	15.6	14.5	14.0	13.4	12.9	13.4	11.8
92.5°	28.5	29.6	29.0	31.2	32.3	36.0	41.4	53.2	74.7	100.0	110.7
95°	62.4	64.5	68.3	73.1	83.3	102.7	131.2	193.5	258.6	318.8	283.9
97.5°	127.9	133.9	146.8	167.2	203.2	264.5	335.5	444.6	507.0	490.3	366.1
100°	337.1	336.5	357.5	396.8	451.0	527.4	590.3	633.8	615.0	509.1	344.1
102.5°	533.8	549.4	566.1	595.1	634.4	675.8	705.9	696.7	620.4	474.2	311.8
105°	683.8	686.5	703.7	724.1	748.9	762.9	752.6	698.9	586.5	432.2	286.5
107.5°	781.7	787.6	794.6	804.3	807.5	793.0	751.0	666.6	538.1	395.1	268.3
110°	837.6	838.7	839.7	835.4	820.4	782.7	715.0	616.1	493.0	364.5	258.6



TEST NUMBER: P831398

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	848.9	848.3	843.0	827.4	796.7	745.7	667.7	566.1	453.7	344.1	253.2
115°	831.7	829.0	818.2	794.6	754.3	695.7	616.6	523.1	423.6	330.6	252.7
117.5°	794.0	790.3	774.1	747.8	705.9	645.1	572.5	489.8	403.7	321.5	253.2
120°	744.6	741.4	728.5	698.3	655.9	601.6	537.1	464.5	388.7	315.6	255.4
122.5°	698.3	694.0	679.5	653.2	616.6	567.2	508.6	444.6	376.3	311.8	259.1
125°	655.9	652.1	638.7	615.0	580.6	537.6	486.0	427.4	366.1	308.6	262.9
127.5°	619.3	616.1	603.7	583.3	552.1	512.3	465.0	411.8	356.4	307.0	267.2
130°	589.2	584.9	573.6	554.3	525.8	489.2	445.7	397.3	348.9	305.4	271.5
132.5°	559.6	557.0	547.3	527.9	501.6	467.2	427.4	383.8	341.9	304.8	274.7
135°	531.7	527.9	518.2	502.1	475.8	445.1	410.2	372.0	336.0	304.3	277.9
137.5°	502.1	498.9	490.8	474.2	451.6	424.2	393.0	360.7	330.6	303.2	280.1
140°	470.9	471.5	462.9	447.8	427.4	404.3	378.5	351.1	325.8	302.7	282.2
142.5°	441.9	442.4	434.9	422.0	405.4	386.0	364.5	341.9	321.5	301.6	283.9
145°	415.6	414.5	410.2	398.9	385.5	369.9	352.7	334.9	317.7	300.5	284.4
147.5°	393.0	392.4	388.1	380.1	369.3	358.0	343.5	329.0	314.0	298.9	284.4
150°	373.6	373.6	370.4	364.5	356.4	346.2	334.9	322.6	310.2	296.8	284.4
152.5°	357.5	357.5	355.9	350.5	344.6	336.5	326.9	316.6	305.9	294.1	282.8
155°	344.6	344.1	343.0	338.7	333.9	327.4	319.3	310.7	301.6	290.8	281.7
157.5°	332.2	332.2	331.2	327.9	323.6	318.3	311.8	304.3	296.8	288.2	280.1
160°	320.4	320.9	320.9	317.7	314.0	310.2	304.8	298.9	291.9	284.9	279.0
162.5°	309.7	310.2	310.2	307.5	305.4	302.1	297.3	292.5	287.1	281.7	276.9
165°	300.5	300.5	301.1	298.9	296.8	294.1	290.3	287.1	282.8	278.5	274.7
167.5°	291.4	291.4	291.9	290.3	289.2	287.1	284.9	282.2	278.5	275.3	272.6
170°	283.3	283.3	283.9	282.8	282.2	281.2	279.0	277.4	274.7	272.0	270.4
172.5°	275.8	276.3	277.4	276.3	276.3	275.8	274.2	273.1	271.0	269.3	268.8
175°	270.4	271.0	271.5	271.0	271.0	271.0	269.9	269.3	268.3	267.2	267.2
177.5°	266.7	266.7	267.7	267.2	267.7	267.7	267.2	266.7	266.1	265.6	266.1
180°	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6



TEST NUMBER: P831398

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G4

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°	10.2	8.6	7.0	5.9	4.8	3.2	2.2	1.1	2.2	3.2	4.8
92.5°	82.8	54.3	37.1	27.4	22.0	17.2	11.8	8.1	11.8	17.2	22.0
95°	195.7	115.6	69.9	48.9	34.9	25.8	19.9	18.3	19.9	25.8	34.9
97.5°	217.7	124.7	79.6	56.4	42.5	34.4	29.6	29.0	29.6	34.4	42.5
100°	202.7	123.1	85.5	64.5	51.6	44.1	40.3	39.8	40.3	44.1	51.6
102.5°	189.8	125.3	92.5	73.7	62.4	55.4	52.1	51.1	52.1	55.4	62.4
105°	184.9	129.6	100.5	83.9	73.7	67.2	64.0	62.4	64.0	67.2	73.7
107.5°	183.9	136.6	110.7	95.2	85.5	79.0	75.8	74.2	75.8	79.0	85.5
110°	186.5	145.7	121.5	106.4	97.3	91.4	88.7	87.1	88.7	91.4	97.3



TEST NUMBER: P831398

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	191.9	154.8	132.8	118.3	109.1	103.2	100.5	98.9	100.5	103.2	109.1
115°	197.8	165.0	144.6	130.1	121.0	115.6	112.4	110.2	112.4	115.6	121.0
117.5°	205.4	175.8	155.4	141.9	131.7	126.9	124.2	121.5	124.2	126.9	131.7
120°	214.0	186.0	166.7	153.2	143.0	137.6	134.9	133.3	134.9	137.6	143.0
122.5°	222.0	196.8	177.9	163.4	153.8	147.8	145.2	143.5	145.2	147.8	153.8
125°	230.6	207.0	188.2	173.6	163.4	157.5	154.3	153.2	154.3	157.5	163.4
127.5°	237.6	216.1	197.8	183.3	172.0	166.1	162.4	160.7	162.4	166.1	172.0
130°	244.6	224.2	206.4	191.9	180.6	174.2	169.3	167.7	169.3	174.2	180.6
132.5°	251.1	231.2	214.0	200.0	188.7	180.6	175.3	173.1	175.3	180.6	188.7
135°	256.4	238.2	221.5	207.0	195.7	187.6	181.7	179.6	181.7	187.6	195.7
137.5°	260.7	243.0	226.9	213.4	202.1	193.5	187.6	185.5	187.6	193.5	202.1
140°	264.0	247.8	232.2	218.8	208.1	199.5	194.1	191.4	194.1	199.5	208.1
142.5°	267.2	251.6	236.5	224.2	213.4	205.9	200.0	197.8	200.0	205.9	213.4
145°	269.3	254.8	240.8	228.5	219.3	211.3	206.4	204.8	206.4	211.3	219.3
147.5°	271.0	257.5	244.6	233.9	224.7	217.7	212.9	211.8	212.9	217.7	224.7
150°	271.5	260.2	247.8	238.2	230.6	223.6	219.3	218.8	219.3	223.6	230.6
152.5°	272.6	261.8	251.6	242.5	236.0	230.1	225.8	225.8	225.8	230.1	236.0
155°	272.6	264.0	254.8	247.3	241.4	236.0	232.8	232.8	232.8	236.0	241.4
157.5°	273.1	265.0	257.5	251.6	246.2	241.4	238.7	238.2	238.7	241.4	246.2
160°	273.1	266.7	260.2	254.8	251.1	246.8	244.6	244.6	244.6	246.8	251.1
162.5°	272.6	267.2	261.8	257.5	254.3	251.1	249.4	249.4	249.4	251.1	254.3
165°	271.5	267.7	263.4	259.7	257.5	254.8	253.7	254.3	253.7	254.8	257.5
167.5°	271.0	267.7	264.5	261.8	260.2	258.0	257.5	258.0	257.5	258.0	260.2
170°	269.3	267.2	264.5	263.4	262.3	260.7	260.2	261.3	260.2	260.7	262.3
172.5°	268.8	267.2	265.0	264.5	264.0	262.9	262.9	263.4	262.9	262.9	264.0
175°	267.7	266.7	265.6	265.0	265.0	264.0	264.5	265.0	264.5	264.0	265.0
177.5°	267.2	266.1	265.6	265.6	265.6	265.0	265.6	266.1	265.6	265.0	265.6
180°	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6



TEST NUMBER: P831398

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G4

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°	5.9	7.0	8.6	10.2	11.8	13.4	12.9	13.4	14.0	14.5	15.6
92.5°	27.4	37.1	54.3	82.8	110.7	100.0	74.7	53.2	41.4	36.0	32.3
95°	48.9	69.9	115.6	195.7	283.9	318.8	258.6	193.5	131.2	102.7	83.3
97.5°	56.4	79.6	124.7	217.7	366.1	490.3	507.0	444.6	335.5	264.5	203.2
100°	64.5	85.5	123.1	202.7	344.1	509.1	615.0	633.8	590.3	527.4	451.0
102.5°	73.7	92.5	125.3	189.8	311.8	474.2	620.4	696.7	705.9	675.8	634.4
105°	83.9	100.5	129.6	184.9	286.5	432.2	586.5	698.9	752.6	762.9	748.9
107.5°	95.2	110.7	136.6	183.9	268.3	395.1	538.1	666.6	751.0	793.0	807.5
110°	106.4	121.5	145.7	186.5	258.6	364.5	493.0	616.1	715.0	782.7	820.4



TEST NUMBER: P831398

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	118.3	132.8	154.8	191.9	253.2	344.1	453.7	566.1	667.7	745.7	796.7
115°	130.1	144.6	165.0	197.8	252.7	330.6	423.6	523.1	616.6	695.7	754.3
117.5°	141.9	155.4	175.8	205.4	253.2	321.5	403.7	489.8	572.5	645.1	705.9
120°	153.2	166.7	186.0	214.0	255.4	315.6	388.7	464.5	537.1	601.6	655.9
122.5°	163.4	177.9	196.8	222.0	259.1	311.8	376.3	444.6	508.6	567.2	616.6
125°	173.6	188.2	207.0	230.6	262.9	308.6	366.1	427.4	486.0	537.6	580.6
127.5°	183.3	197.8	216.1	237.6	267.2	307.0	356.4	411.8	465.0	512.3	552.1
130°	191.9	206.4	224.2	244.6	271.5	305.4	348.9	397.3	445.7	489.2	525.8
132.5°	200.0	214.0	231.2	251.1	274.7	304.8	341.9	383.8	427.4	467.2	501.6
135°	207.0	221.5	238.2	256.4	277.9	304.3	336.0	372.0	410.2	445.1	475.8
137.5°	213.4	226.9	243.0	260.7	280.1	303.2	330.6	360.7	393.0	424.2	451.6
140°	218.8	232.2	247.8	264.0	282.2	302.7	325.8	351.1	378.5	404.3	427.4
142.5°	224.2	236.5	251.6	267.2	283.9	301.6	321.5	341.9	364.5	386.0	405.4
145°	228.5	240.8	254.8	269.3	284.4	300.5	317.7	334.9	352.7	369.9	385.5
147.5°	233.9	244.6	257.5	271.0	284.4	298.9	314.0	329.0	343.5	358.0	369.3
150°	238.2	247.8	260.2	271.5	284.4	296.8	310.2	322.6	334.9	346.2	356.4
152.5°	242.5	251.6	261.8	272.6	282.8	294.1	305.9	316.6	326.9	336.5	344.6
155°	247.3	254.8	264.0	272.6	281.7	290.8	301.6	310.7	319.3	327.4	333.9
157.5°	251.6	257.5	265.0	273.1	280.1	288.2	296.8	304.3	311.8	318.3	323.6
160°	254.8	260.2	266.7	273.1	279.0	284.9	291.9	298.9	304.8	310.2	314.0
162.5°	257.5	261.8	267.2	272.6	276.9	281.7	287.1	292.5	297.3	302.1	305.4
165°	259.7	263.4	267.7	271.5	274.7	278.5	282.8	287.1	290.3	294.1	296.8
167.5°	261.8	264.5	267.7	271.0	272.6	275.3	278.5	282.2	284.9	287.1	289.2
170°	263.4	264.5	267.2	269.3	270.4	272.0	274.7	277.4	279.0	281.2	282.2
172.5°	264.5	265.0	267.2	268.8	268.8	269.3	271.0	273.1	274.2	275.8	276.3
175°	265.0	265.6	266.7	267.7	267.2	267.2	268.3	269.3	269.9	271.0	271.0
177.5°	265.6	265.6	266.1	267.2	266.1	265.6	266.1	266.7	267.2	267.7	267.7
180°	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6



TEST NUMBER: P831398

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G4

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°	15.1	15.6	16.1	15.6
92.5°	31.2	29.0	29.6	28.5
95°	73.1	68.3	64.5	62.4
97.5°	167.2	146.8	133.9	127.9
100°	396.8	357.5	336.5	337.1
102.5°	595.1	566.1	549.4	533.8
105°	724.1	703.7	686.5	683.8
107.5°	804.3	794.6	787.6	781.7
110°	835.4	839.7	838.7	837.6



TEST NUMBER: P831398

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	827.4	843.0	848.3	848.9
115°	794.6	818.2	829.0	831.7
117.5°	747.8	774.1	790.3	794.0
120°	698.3	728.5	741.4	744.6
122.5°	653.2	679.5	694.0	698.3
125°	615.0	638.7	652.1	655.9
127.5°	583.3	603.7	616.1	619.3
130°	554.3	573.6	584.9	589.2
132.5°	527.9	547.3	557.0	559.6
135°	502.1	518.2	527.9	531.7
137.5°	474.2	490.8	498.9	502.1
140°	447.8	462.9	471.5	470.9
142.5°	422.0	434.9	442.4	441.9
145°	398.9	410.2	414.5	415.6
147.5°	380.1	388.1	392.4	393.0
150°	364.5	370.4	373.6	373.6
152.5°	350.5	355.9	357.5	357.5
155°	338.7	343.0	344.1	344.6
157.5°	327.9	331.2	332.2	332.2
160°	317.7	320.9	320.9	320.4
162.5°	307.5	310.2	310.2	309.7
165°	298.9	301.1	300.5	300.5
167.5°	290.3	291.9	291.4	291.4
170°	282.8	283.9	283.3	283.3
172.5°	276.3	277.4	276.3	275.8
175°	271.0	271.5	271.0	270.4
177.5°	267.2	267.7	266.7	266.7
180°	265.6	265.6	265.6	265.6



TEST NUMBER: P831398

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G4

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	10.83	11.60	11.86	12.63	14.00	13.07	13.84	14.09	14.87	16.24
	3H	12.47	13.16	13.51	14.20	15.59	14.49	15.17	15.52	16.21	17.61
	4H	13.04	13.70	14.09	14.74	16.14	14.93	15.58	15.98	16.62	18.03
	6H	13.41	14.01	14.47	15.05	16.47	15.20	15.80	16.26	16.85	18.26
	8H	13.50	14.08	14.57	15.13	16.54	15.26	15.83	16.32	16.89	18.30
	12H	13.55	14.09	14.61	15.14	16.57	15.28	15.82	16.34	16.87	18.31
4H	2H	11.40	12.05	12.45	13.09	14.49	13.22	13.87	14.27	14.91	16.31
	3H	13.22	13.76	14.28	14.83	16.24	14.83	15.38	15.89	16.44	17.86
	4H	13.91	14.41	14.98	15.47	16.90	15.41	15.91	16.48	16.97	18.40
	6H	14.38	14.81	15.46	15.89	17.32	15.81	16.24	16.89	17.32	18.75
	8H	14.52	14.91	15.59	15.99	17.43	15.92	16.32	17.00	17.39	18.84
	12H	14.58	14.94	15.67	16.03	17.48	15.96	16.32	17.05	17.41	18.86
8H	4H	14.17	14.57	15.25	15.64	17.09	15.51	15.91	16.59	16.98	18.43
	6H	14.76	15.09	15.85	16.20	17.64	16.01	16.34	17.11	17.46	18.90
	8H	14.96	15.25	16.07	16.35	17.81	16.19	16.48	17.29	17.58	19.04
	12H	15.08	15.34	16.19	16.43	17.93	16.29	16.54	17.40	17.63	19.14
12H	4H	14.17	14.53	15.26	15.62	17.07	15.48	15.84	16.57	16.93	18.38
	6H	14.81	15.10	15.91	16.19	17.66	16.02	16.31	17.13	17.41	18.87
	8H	15.04	15.29	16.15	16.38	17.89	16.22	16.47	17.33	17.57	19.07