

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: P831397

Luminaire Tested: S123DIP-S340D585U830-4F0-1E-UDD-G1

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831397
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-S340D585U830-4F0-1E-UDD-G1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: -

Summary

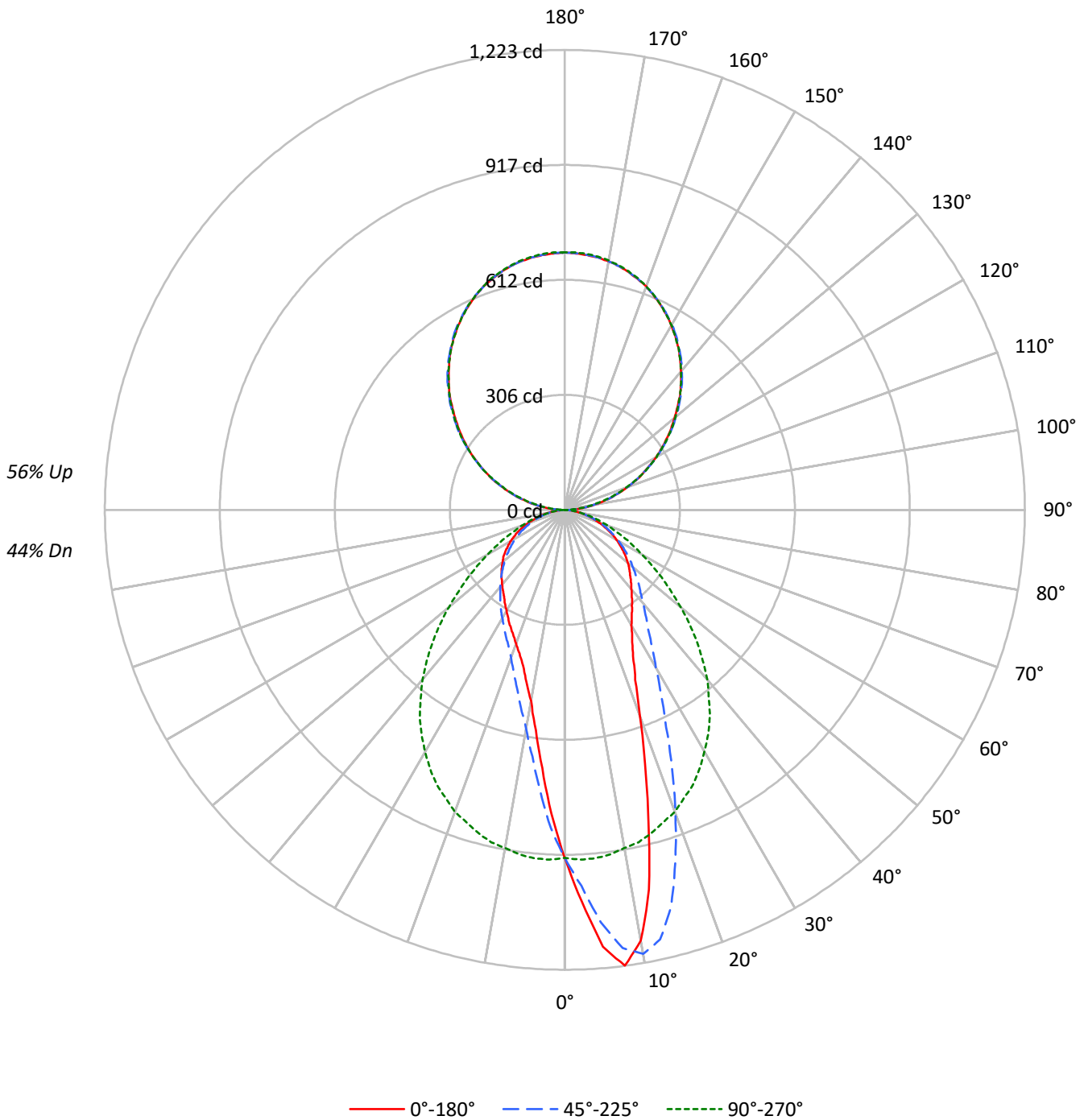
Lumens per Lamp: N/A
Luminaire Lumens: 3385.3 lumens
Efficiency: N/A
Efficacy: 122.7 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

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	0
RCR																		
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44
1	97	93	89	86	89	85	82	79	71	69	67	58	56	55	45	44	44	38
2	89	82	76	71	81	75	70	66	63	59	56	51	49	46	41	39	37	33
3	81	72	65	60	74	66	60	56	56	51	48	46	43	40	36	34	33	28
4	75	64	57	51	68	59	53	48	50	45	41	41	38	35	33	31	29	25
5	69	58	50	44	63	53	46	41	45	40	36	37	33	30	30	27	25	22
6	63	52	44	39	58	48	41	36	41	35	32	34	30	27	28	25	23	20
7	59	47	39	34	54	44	37	32	37	32	28	31	27	24	25	23	20	18
8	55	43	35	30	50	40	33	29	34	29	25	29	25	22	23	21	19	16
9	51	39	32	27	47	37	30	26	31	26	23	26	23	20	22	19	17	15
10	48	36	29	25	44	34	28	23	29	24	21	25	21	18	20	18	16	14

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	2.6
10°-20°	217.7	6.4
20°-30°	257.7	7.6
30°-40°	259.1	7.7
40°-50°	237.7	7.0
50°-60°	196.2	5.8
60°-70°	138.8	4.1
70°-80°	74.1	2.2
80°-90°	20.2	0.6
90°-100°	44.0	1.3
100°-110°	133.3	3.9
110°-120°	227.0	6.7
120°-130°	298.6	8.8
130°-140°	335.7	9.9
140°-150°	330.0	9.7
150°-160°	277.8	8.2
160°-170°	185.0	5.5
170°-180°	64.8	1.9
0°-30°	562.9	16.6
0°-40°	822.0	24.3
0°-60°	1255.9	37.1
0°-90°	1489.1	44.0
90°-120°	404.4	11.9
90°-150°	1368.7	40.4
90°-180°	1896.0	56.0
0°-180°	3385.3	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	0	13	16	9
95°	42	40	32	40	42	42
105°	128	127	121	127	128	136
115°	229	229	228	229	229	227
125°	331	335	334	335	331	296
135°	433	436	434	436	433	333
145°	526	529	526	529	526	329
155°	602	603	603	603	602	277
165°	654	655	656	655	654	185
175°	680	681	683	681	680	65
180°	684	684	684	684	684	



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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°	16.1	15.9	15.7	15.4	15.2	14.8	14.3	13.9	13.4	12.9	11.3
92.5°	23.1	23.4	23.6	23.8	24.1	24.0	23.7	23.3	22.9	22.6	21.9
95°	41.9	41.9	41.9	41.9	41.9	41.7	41.2	40.7	40.3	39.8	38.8
97.5°	60.2	60.3	60.5	60.6	60.7	60.5	59.9	59.3	58.7	58.1	57.3
100°	81.7	81.5	81.2	81.0	80.8	80.5	80.1	79.7	79.4	79.0	78.4
102.5°	103.8	103.9	104.0	104.1	104.2	104.1	103.8	103.4	103.0	102.7	101.8
105°	128.0	127.7	127.5	127.2	127.0	126.9	126.9	126.9	126.9	126.9	125.8
107.5°	152.7	152.8	152.9	153.0	153.2	153.0	152.7	152.3	152.0	151.6	151.1
110°	178.0	178.2	178.4	178.7	178.9	178.8	178.3	177.8	177.4	176.9	176.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	204.8	204.8	204.8	204.8	204.8	204.5	203.9	203.3	202.7	202.1	202.1
115°	229.0	229.1	229.3	229.4	229.5	229.5	229.4	229.3	229.1	229.0	229.3
117.5°	253.8	254.1	254.5	254.8	255.2	255.4	255.4	255.4	255.4	255.4	255.6
120°	280.1	280.3	280.6	280.8	281.1	281.2	281.4	281.5	281.6	281.7	282.3
122.5°	305.4	305.7	306.1	306.4	306.8	307.2	307.5	307.9	308.2	308.6	308.8
125°	330.6	331.1	331.6	332.1	332.5	333.0	333.5	334.0	334.5	334.9	335.2
127.5°	355.9	356.4	356.9	357.3	357.8	358.4	359.1	359.8	360.6	361.3	361.5
130°	380.6	381.5	382.3	383.1	384.0	384.6	385.1	385.6	386.1	386.5	386.9
132.5°	406.4	407.0	407.6	408.2	408.8	409.4	410.0	410.6	411.2	411.8	412.1
135°	433.3	433.6	433.8	434.0	434.3	434.6	435.1	435.6	436.1	436.5	436.7
137.5°	457.0	457.3	457.7	458.1	458.4	458.9	459.5	460.1	460.7	461.3	460.9
140°	480.1	480.9	481.8	482.6	483.4	483.9	484.0	484.2	484.3	484.4	484.3
142.5°	503.7	504.3	504.9	505.5	506.1	506.5	506.6	506.7	506.9	507.0	506.7
145°	526.3	526.8	527.3	527.8	528.2	528.5	528.7	528.8	528.9	529.0	528.7
147.5°	546.8	547.5	548.2	548.9	549.6	550.0	550.0	550.0	550.0	550.0	549.6
150°	566.1	566.8	567.5	568.3	569.0	569.3	569.3	569.3	569.3	569.3	569.1
152.5°	584.9	585.5	586.1	586.7	587.3	587.5	587.3	587.0	586.8	586.5	586.4
155°	601.6	602.4	603.3	604.1	604.9	605.1	604.6	604.2	603.7	603.2	603.1
157.5°	617.2	617.9	618.6	619.3	620.1	620.2	619.7	619.2	618.7	618.3	618.1
160°	632.2	632.7	633.2	633.7	634.1	634.1	633.5	632.9	632.3	631.7	631.7
162.5°	643.5	644.4	645.2	646.0	646.9	647.0	646.4	645.8	645.2	644.6	644.5
165°	654.3	655.1	656.0	656.8	657.6	657.7	657.0	656.3	655.5	654.8	654.8
167.5°	664.0	664.7	665.4	666.1	666.8	666.8	666.1	665.4	664.7	664.0	663.8
170°	670.9	671.8	672.6	673.5	674.3	674.3	673.5	672.6	671.8	670.9	670.9
172.5°	676.3	677.2	678.0	678.8	679.7	679.7	679.0	678.3	677.6	676.9	676.9
175°	680.1	680.9	681.8	682.6	683.4	683.5	682.8	682.1	681.3	680.6	680.6
177.5°	682.2	683.1	683.9	684.7	685.6	685.6	684.9	684.2	683.5	682.8	682.8
180°	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4



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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°	9.8	8.2	6.7	5.3	4.1	2.9	1.7	0.5	1.7	2.9	4.1
92.5°	21.1	20.4	19.7	19.0	18.3	17.6	16.8	16.1	16.8	17.6	18.3
95°	37.9	36.9	36.0	35.1	34.2	33.4	32.6	31.7	32.6	33.4	34.2
97.5°	56.6	55.9	55.2	54.5	53.9	53.3	52.7	52.1	52.7	53.3	53.9
100°	77.8	77.2	76.6	76.0	75.3	74.5	73.8	73.1	73.8	74.5	75.3
102.5°	101.0	100.2	99.3	98.7	98.4	98.0	97.7	97.3	97.7	98.0	98.4
105°	124.7	123.7	122.6	121.9	121.7	121.4	121.2	121.0	121.2	121.4	121.7
107.5°	150.7	150.2	149.7	149.4	149.3	149.2	149.0	148.9	149.0	149.2	149.3
110°	176.4	176.2	175.9	175.7	175.4	175.2	175.0	174.7	175.0	175.2	175.4



TEST NUMBER: P831397

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	202.1	202.1	202.1	202.1	202.0	201.8	201.7	201.6	201.7	201.8	202.0
115°	229.5	229.7	230.0	229.9	229.6	229.2	228.8	228.5	228.8	229.2	229.6
117.5°	255.8	256.1	256.3	256.4	256.3	256.1	256.0	255.9	256.0	256.1	256.3
120°	282.9	283.5	284.1	284.0	283.3	282.6	281.9	281.2	281.9	282.6	283.3
122.5°	309.1	309.3	309.5	309.4	309.0	308.5	308.0	307.5	308.0	308.5	309.0
125°	335.4	335.7	335.9	335.8	335.5	335.1	334.8	334.4	334.8	335.1	335.5
127.5°	361.8	362.0	362.2	362.0	361.3	360.6	359.8	359.1	359.8	360.6	361.3
130°	387.3	387.6	388.0	387.7	386.7	385.8	384.8	383.9	384.8	385.8	386.7
132.5°	412.3	412.5	412.8	412.4	411.5	410.5	409.5	408.6	409.5	410.5	411.5
135°	436.8	436.9	437.0	436.7	436.0	435.3	434.6	433.9	434.6	435.3	436.0
137.5°	460.6	460.2	459.8	459.4	458.8	458.2	457.6	457.0	457.6	458.2	458.8
140°	484.2	484.0	483.9	483.6	483.0	482.4	481.8	481.2	481.8	482.4	483.0
142.5°	506.5	506.3	506.0	505.6	505.0	504.4	503.8	503.2	503.8	504.4	505.0
145°	528.3	527.9	527.6	527.3	527.0	526.8	526.6	526.3	526.6	526.8	527.0
147.5°	549.3	548.9	548.5	548.1	547.7	547.2	546.7	546.2	546.7	547.2	547.7
150°	568.9	568.6	568.4	568.1	567.9	567.7	567.4	567.2	567.4	567.7	567.9
152.5°	586.3	586.2	586.1	585.8	585.5	585.1	584.7	584.4	584.7	585.1	585.5
155°	603.0	602.8	602.7	602.7	602.7	602.7	602.7	602.7	602.7	602.7	602.7
157.5°	618.0	617.9	617.8	617.8	617.9	618.0	618.1	618.3	618.1	618.0	617.9
160°	631.7	631.7	631.7	631.8	632.1	632.3	632.5	632.8	632.5	632.3	632.1
162.5°	644.4	644.2	644.1	644.2	644.6	645.0	645.3	645.7	645.3	645.0	644.6
165°	654.8	654.8	654.8	655.0	655.4	655.7	656.1	656.4	656.1	655.7	655.4
167.5°	663.7	663.6	663.5	663.7	664.1	664.6	665.1	665.6	665.1	664.6	664.1
170°	670.9	670.9	670.9	671.2	671.7	672.1	672.6	673.1	672.6	672.1	671.7
172.5°	676.9	676.9	676.9	677.1	677.6	678.1	678.5	679.0	678.5	678.1	677.6
175°	680.6	680.6	680.6	680.9	681.3	681.8	682.3	682.8	682.3	681.8	681.3
177.5°	682.8	682.8	682.8	683.0	683.5	684.0	684.4	684.9	684.4	684.0	683.5
180°	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4



TEST NUMBER: P831397

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G1

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°	5.3	6.7	8.2	9.8	11.3	12.9	13.4	13.9	14.3	14.8	15.2
92.5°	19.0	19.7	20.4	21.1	21.9	22.6	22.9	23.3	23.7	24.0	24.1
95°	35.1	36.0	36.9	37.9	38.8	39.8	40.3	40.7	41.2	41.7	41.9
97.5°	54.5	55.2	55.9	56.6	57.3	58.1	58.7	59.3	59.9	60.5	60.7
100°	76.0	76.6	77.2	77.8	78.4	79.0	79.4	79.7	80.1	80.5	80.8
102.5°	98.7	99.3	100.2	101.0	101.8	102.7	103.0	103.4	103.8	104.1	104.2
105°	121.9	122.6	123.7	124.7	125.8	126.9	126.9	126.9	126.9	126.9	127.0
107.5°	149.4	149.7	150.2	150.7	151.1	151.6	152.0	152.3	152.7	153.0	153.2
110°	175.7	175.9	176.2	176.4	176.6	176.9	177.4	177.8	178.3	178.8	178.9



TEST NUMBER: P831397

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	202.1	202.1	202.1	202.1	202.1	202.1	202.7	203.3	203.9	204.5	204.8
115°	229.9	230.0	229.7	229.5	229.3	229.0	229.1	229.3	229.4	229.5	229.5
117.5°	256.4	256.3	256.1	255.8	255.6	255.4	255.4	255.4	255.4	255.4	255.2
120°	284.0	284.1	283.5	282.9	282.3	281.7	281.6	281.5	281.4	281.2	281.1
122.5°	309.4	309.5	309.3	309.1	308.8	308.6	308.2	307.9	307.5	307.2	306.8
125°	335.8	335.9	335.7	335.4	335.2	334.9	334.5	334.0	333.5	333.0	332.5
127.5°	362.0	362.2	362.0	361.8	361.5	361.3	360.6	359.8	359.1	358.4	357.8
130°	387.7	388.0	387.6	387.3	386.9	386.5	386.1	385.6	385.1	384.6	384.0
132.5°	412.4	412.8	412.5	412.3	412.1	411.8	411.2	410.6	410.0	409.4	408.8
135°	436.7	437.0	436.9	436.8	436.7	436.5	436.1	435.6	435.1	434.6	434.3
137.5°	459.4	459.8	460.2	460.6	460.9	461.3	460.7	460.1	459.5	458.9	458.4
140°	483.6	483.9	484.0	484.2	484.3	484.4	484.3	484.2	484.0	483.9	483.4
142.5°	505.6	506.0	506.3	506.5	506.7	507.0	506.9	506.7	506.6	506.5	506.1
145°	527.3	527.6	527.9	528.3	528.7	529.0	528.9	528.8	528.7	528.5	528.2
147.5°	548.1	548.5	548.9	549.3	549.6	550.0	550.0	550.0	550.0	550.0	549.6
150°	568.1	568.4	568.6	568.9	569.1	569.3	569.3	569.3	569.3	569.3	569.0
152.5°	585.8	586.1	586.2	586.3	586.4	586.5	586.8	587.0	587.3	587.5	587.3
155°	602.7	602.7	602.8	603.0	603.1	603.2	603.7	604.2	604.6	605.1	604.9
157.5°	617.8	617.8	617.9	618.0	618.1	618.3	618.7	619.2	619.7	620.2	620.1
160°	631.8	631.7	631.7	631.7	631.7	631.7	632.3	632.9	633.5	634.1	634.1
162.5°	644.2	644.1	644.2	644.4	644.5	644.6	645.2	645.8	646.4	647.0	646.9
165°	655.0	654.8	654.8	654.8	654.8	654.8	655.5	656.3	657.0	657.7	657.6
167.5°	663.7	663.5	663.6	663.7	663.8	664.0	664.7	665.4	666.1	666.8	666.8
170°	671.2	670.9	670.9	670.9	670.9	670.9	671.8	672.6	673.5	674.3	674.3
172.5°	677.1	676.9	676.9	676.9	676.9	676.9	677.6	678.3	679.0	679.7	679.7
175°	680.9	680.6	680.6	680.6	680.6	680.6	681.3	682.1	682.8	683.5	683.4
177.5°	683.0	682.8	682.8	682.8	682.8	682.8	683.5	684.2	684.9	685.6	685.6
180°	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4



TEST NUMBER: P831397

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G1

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°	15.4	15.7	15.9	16.1
92.5°	23.8	23.6	23.4	23.1
95°	41.9	41.9	41.9	41.9
97.5°	60.6	60.5	60.3	60.2
100°	81.0	81.2	81.5	81.7
102.5°	104.1	104.0	103.9	103.8
105°	127.2	127.5	127.7	128.0
107.5°	153.0	152.9	152.8	152.7
110°	178.7	178.4	178.2	178.0



TEST NUMBER: P831397

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	204.8	204.8	204.8	204.8
115°	229.4	229.3	229.1	229.0
117.5°	254.8	254.5	254.1	253.8
120°	280.8	280.6	280.3	280.1
122.5°	306.4	306.1	305.7	305.4
125°	332.1	331.6	331.1	330.6
127.5°	357.3	356.9	356.4	355.9
130°	383.1	382.3	381.5	380.6
132.5°	408.2	407.6	407.0	406.4
135°	434.0	433.8	433.6	433.3
137.5°	458.1	457.7	457.3	457.0
140°	482.6	481.8	480.9	480.1
142.5°	505.5	504.9	504.3	503.7
145°	527.8	527.3	526.8	526.3
147.5°	548.9	548.2	547.5	546.8
150°	568.3	567.5	566.8	566.1
152.5°	586.7	586.1	585.5	584.9
155°	604.1	603.3	602.4	601.6
157.5°	619.3	618.6	617.9	617.2
160°	633.7	633.2	632.7	632.2
162.5°	646.0	645.2	644.4	643.5
165°	656.8	656.0	655.1	654.3
167.5°	666.1	665.4	664.7	664.0
170°	673.5	672.6	671.8	670.9
172.5°	678.8	678.0	677.2	676.3
175°	682.6	681.8	680.9	680.1
177.5°	684.7	683.9	683.1	682.2
180°	684.4	684.4	684.4	684.4



TEST NUMBER: P831397

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-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	10.96	11.74	11.98	12.76	14.12	13.20	13.98	14.21	15.00	16.36
	3H	12.60	13.30	13.63	14.33	15.71	14.62	15.32	15.64	16.34	17.72
	4H	13.18	13.84	14.22	14.87	16.25	15.07	15.73	16.10	16.76	18.14
	6H	13.54	14.15	14.59	15.19	16.58	15.34	15.95	16.38	16.98	18.38
	8H	13.64	14.22	14.69	15.27	16.66	15.40	15.98	16.45	17.03	18.42
	12H	13.68	14.23	14.74	15.27	16.69	15.41	15.96	16.47	17.01	18.42
4H	2H	11.53	12.19	12.57	13.22	14.61	13.35	14.01	14.40	15.04	16.43
	3H	13.35	13.90	14.40	14.96	16.36	14.97	15.52	16.02	16.57	17.97
	4H	14.05	14.55	15.10	15.60	17.02	15.55	16.05	16.60	17.10	18.52
	6H	14.52	14.95	15.58	16.02	17.44	15.95	16.38	17.01	17.45	18.87
	8H	14.65	15.05	15.72	16.12	17.55	16.06	16.46	17.12	17.53	18.96
	12H	14.71	15.08	15.80	16.16	17.59	16.10	16.46	17.18	17.54	18.98
8H	4H	14.31	14.71	15.37	15.77	17.21	15.65	16.05	16.71	17.12	18.55
	6H	14.89	15.22	15.98	16.33	17.76	16.15	16.48	17.24	17.59	19.01
	8H	15.10	15.39	16.20	16.48	17.93	16.33	16.62	17.42	17.71	19.16
	12H	15.22	15.48	16.32	16.56	18.05	16.42	16.68	17.52	17.77	19.25
12H	4H	14.30	14.67	15.39	15.75	17.18	15.62	15.98	16.70	17.06	18.50
	6H	14.94	15.23	16.04	16.33	17.77	16.16	16.45	17.26	17.54	18.99
	8H	15.17	15.43	16.27	16.52	18.00	16.36	16.61	17.46	17.70	19.19