

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: P831402

Luminaire Tested: S123DIP-S340D585U840-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831402
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-S340D585U840-4F0-1E-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

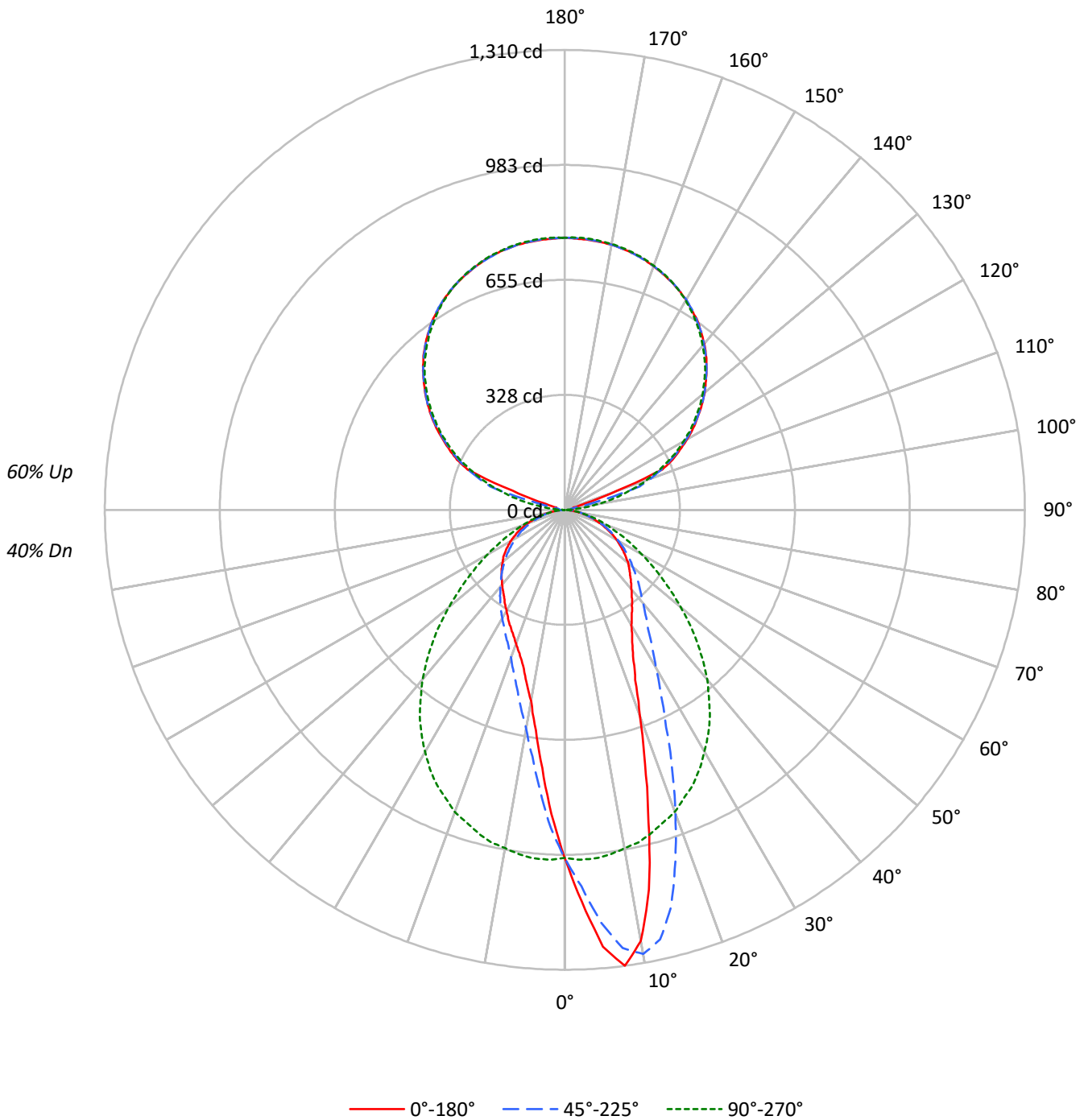
Lumens per Lamp: N/A
Luminaire Lumens: 3958.8 lumens
Efficiency: N/A
Efficacy: 143.4 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

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°	10672	10672	10672	10672	10672
5°	13498	12739	10768	8678	7974
10°	13629	14041	10696	6918	6044
15°	10264	13036	10623	5858	5112
20°	7152	10549	10488	5123	4643
25°	5454	8112	10257	4713	4355
30°	4718	6444	9887	4424	4123
35°	4377	5441	9462	4214	3960
40°	4144	4881	8864	4014	3905
45°	4007	4518	8103	3859	3880
50°	3937	4230	7204	3718	3860
55°	3791	4020	6320	3582	3877
60°	3655	3793	5449	3457	3813
65°	3433	3581	4699	3321	3739
70°	3172	3308	3997	3100	3519
75°	2870	2965	3427	2878	3215
80°	2368	2597	2709	2510	2709
85°	1877	2100	1988	2137	2161

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 9252 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.7	2.4
10°-20°	233.2	5.9
20°-30°	276.1	7.0
30°-40°	277.6	7.0
40°-50°	254.7	6.4
50°-60°	210.2	5.3
60°-70°	148.7	3.8
70°-80°	79.4	2.0
80°-90°	21.7	0.5
90°-100°	27.3	0.7
100°-110°	132.1	3.3
110°-120°	323.9	8.2
120°-130°	411.2	10.4
130°-140°	439.3	11.1
140°-150°	410.8	10.4
150°-160°	331.3	8.4
160°-170°	213.8	5.4
170°-180°	73.7	1.9
0°-30°	603.1	15.2
0°-40°	880.7	22.2
0°-60°	1345.6	34.0
0°-90°	1595.4	40.3
90°-120°	483.4	12.2
90°-150°	1744.6	44.1
90°-180°	2363.0	59.7
0°-180°	3958.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	992	992	992	992	992	
5°	1249	1179	997	803	738	119
15°	921	1170	953	526	459	254
25°	459	683	864	397	367	217
35°	333	414	720	321	301	209
45°	263	297	532	254	255	204
55°	202	214	337	191	207	181
65°	135	141	184	130	147	134
75°	69	71	82	69	77	73
85°	15	17	16	17	18	17
90°	17	14	1	14	17	8
95°	22	18	35	18	22	18
105°	25	126	172	126	25	53
115°	339	331	322	331	339	319
125°	463	461	454	461	463	414
135°	571	571	565	571	571	440
145°	658	657	652	657	658	411
155°	717	718	718	718	717	331
165°	756	755	757	755	756	213
175°	772	773	775	773	772	74
180°	775	775	775	775	775	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5
2.5°	1117.6	1116.4	1115.3	1109.5	1103.8	1101.0	1098.3	1090.0	1081.7	1072.5	1063.3
5°	1249.2	1252.4	1255.6	1251.9	1248.2	1237.0	1225.7	1210.7	1195.8	1179.0	1162.2
7.5°	1309.9	1311.7	1313.6	1311.3	1309.0	1306.0	1303.0	1289.7	1276.3	1259.1	1241.8
10°	1246.9	1251.0	1255.1	1264.1	1273.1	1283.2	1293.3	1291.5	1289.7	1284.6	1279.5
12.5°	1108.4	1113.4	1118.5	1136.4	1154.4	1177.4	1200.4	1220.2	1240.0	1253.8	1267.6
15°	921.1	935.1	949.2	965.5	981.8	1015.7	1049.5	1091.1	1132.8	1169.8	1206.8
17.5°	758.7	764.0	769.3	786.8	804.3	846.8	889.4	937.4	985.5	1047.0	1108.4
20°	624.4	629.2	634.0	657.0	680.0	713.4	746.7	800.8	854.9	920.9	986.9
22.5°	524.5	532.1	539.7	552.6	565.5	597.4	629.4	677.5	725.6	798.5	871.4
25°	459.2	464.7	470.2	478.0	485.9	511.4	536.9	576.5	616.1	683.0	750.0
27.5°	414.5	416.8	419.1	427.0	434.8	451.4	467.9	502.0	536.0	592.8	649.7
30°	379.6	381.2	382.8	389.7	396.6	407.9	419.1	443.8	468.4	518.5	568.7
32.5°	355.2	356.3	357.5	362.8	368.1	376.1	384.2	402.1	420.1	461.5	502.9
35°	333.1	333.8	334.5	338.4	342.3	348.3	354.3	367.8	381.4	414.1	446.8
37.5°	313.8	314.7	315.6	317.9	320.2	325.5	330.8	341.6	352.4	377.5	402.6
40°	294.9	296.5	298.1	299.8	301.4	305.7	310.1	318.4	326.7	347.4	368.1
42.5°	278.8	280.4	282.0	282.7	283.4	286.0	288.5	296.1	303.7	319.1	334.5
45°	263.2	263.9	264.6	265.2	265.9	268.0	270.1	276.7	283.4	296.8	310.1
47.5°	248.9	248.9	248.9	249.4	249.8	251.7	253.5	258.3	263.2	273.5	283.9
50°	235.1	235.1	235.1	234.4	233.7	234.9	236.0	239.7	243.4	252.6	261.8
52.5°	218.5	218.5	218.5	218.8	219.0	219.0	219.0	222.2	225.4	233.7	242.0
55°	202.0	202.9	203.8	203.1	202.4	202.9	203.4	205.4	207.5	214.2	220.8
57.5°	185.4	185.9	186.3	186.1	185.9	186.1	186.3	188.2	190.0	195.1	200.1
60°	169.8	169.8	169.8	169.3	168.9	169.3	169.8	170.7	171.6	176.2	180.8
62.5°	152.3	152.5	152.8	153.0	153.2	152.8	152.3	153.4	154.6	158.0	161.5
65°	134.8	135.0	135.3	136.0	136.6	136.2	135.7	136.9	138.0	140.6	143.1
67.5°	119.2	118.7	118.2	118.5	118.7	119.4	120.1	120.3	120.5	123.3	126.1
70°	100.8	101.2	101.7	101.5	101.2	101.5	101.7	102.4	103.1	105.1	107.2
72.5°	84.2	84.4	84.7	84.7	84.7	85.1	85.6	86.3	87.0	88.1	89.3
75°	69.0	69.0	69.0	69.5	69.9	70.2	70.4	70.4	70.4	71.3	72.2
77.5°	52.5	53.6	54.8	54.5	54.3	54.8	55.2	55.9	56.6	57.1	57.5
80°	38.2	38.2	38.2	38.4	38.6	39.3	40.0	40.5	40.9	41.9	42.8
82.5°	24.4	24.6	24.8	25.5	26.2	26.7	27.1	27.8	28.5	28.5	28.5
85°	15.2	14.7	14.3	14.7	15.2	15.6	16.1	16.3	16.6	17.0	17.5
87.5°	7.4	7.4	7.4	7.4	7.4	7.6	7.8	7.8	7.8	7.8	7.8
90°	17.3	17.0	16.8	16.5	16.3	15.9	15.4	14.8	14.3	13.8	12.2
92.5°	19.6	19.5	19.3	19.2	19.1	18.6	17.7	16.8	15.9	15.0	13.8
95°	21.9	21.9	21.9	21.9	21.9	21.4	20.5	19.6	18.8	17.9	16.4
97.5°	23.6	23.5	23.4	23.2	23.1	22.5	21.5	20.5	19.5	18.4	25.0
100°	24.2	24.1	23.9	23.8	23.7	23.1	22.1	21.1	20.0	19.0	39.0
102.5°	24.8	24.5	24.3	24.0	23.7	25.7	30.0	34.2	38.4	42.6	64.9
105°	25.3	25.1	24.8	24.6	24.3	35.5	58.2	80.8	103.5	126.1	137.7
107.5°	59.9	76.7	93.4	110.2	127.0	145.2	164.9	184.6	204.3	224.1	222.1
110°	158.4	176.7	195.0	213.3	231.6	242.9	247.1	251.3	255.5	259.8	258.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	300.1	300.3	300.6	300.9	301.1	300.7	299.5	298.4	297.2	296.1	294.6
115°	338.7	338.2	337.7	337.1	336.6	335.7	334.5	333.2	331.9	330.6	329.5
117.5°	369.8	369.7	369.5	369.4	369.3	368.7	367.7	366.6	365.6	364.6	364.0
120°	402.0	402.0	402.0	402.0	402.0	401.5	400.5	399.5	398.5	397.4	397.0
122.5°	433.7	433.6	433.5	433.3	433.2	432.8	432.2	431.5	430.9	430.3	429.7
125°	463.1	462.8	462.6	462.3	462.1	461.8	461.6	461.3	461.0	460.8	460.3
127.5°	491.9	492.1	492.4	492.7	492.9	492.8	492.5	492.1	491.7	491.3	490.7
130°	519.5	519.8	520.0	520.3	520.6	520.4	519.9	519.4	518.9	518.4	517.9
132.5°	544.9	545.3	545.6	546.0	546.4	546.4	545.8	545.3	544.8	544.3	543.9
135°	570.8	571.2	571.6	572.0	572.3	572.3	572.0	571.6	571.2	570.8	570.3
137.5°	595.6	595.8	596.1	596.3	596.6	596.4	595.8	595.1	594.5	593.8	593.6
140°	617.5	617.7	618.0	618.2	618.5	618.3	617.8	617.3	616.8	616.3	615.9
142.5°	637.6	638.0	638.4	638.8	639.1	639.1	638.8	638.4	638.0	637.6	637.2
145°	658.3	658.3	658.3	658.3	658.3	658.2	658.0	657.7	657.5	657.2	656.9
147.5°	673.3	674.0	674.6	675.2	675.9	676.1	675.8	675.6	675.3	675.1	674.8
150°	690.6	691.0	691.4	691.8	692.1	692.2	691.9	691.7	691.4	691.2	690.9
152.5°	704.4	705.1	705.7	706.3	707.0	707.1	706.5	706.0	705.5	705.0	704.9
155°	717.1	717.9	718.6	719.4	720.2	720.2	719.6	719.0	718.3	717.7	717.5
157.5°	728.0	729.1	730.1	731.1	732.1	732.3	731.5	730.7	730.0	729.2	729.3
160°	738.4	739.3	740.2	741.1	742.0	742.1	741.3	740.5	739.8	739.0	739.1
162.5°	748.2	749.0	749.7	750.5	751.3	751.2	750.3	749.4	748.5	747.6	747.8
165°	755.7	756.6	757.5	758.4	759.3	759.2	758.2	757.2	756.1	755.1	755.2
167.5°	761.4	762.5	763.5	764.5	765.5	765.5	764.5	763.5	762.5	761.4	761.4
170°	766.6	767.7	768.7	769.7	770.7	770.7	769.7	768.7	767.7	766.6	766.6
172.5°	769.5	770.7	771.8	773.0	774.1	774.2	773.2	772.1	771.1	770.1	770.0
175°	772.4	773.4	774.4	775.5	776.5	776.6	775.7	774.8	773.9	773.0	772.8
177.5°	773.0	774.2	775.5	776.8	778.1	778.2	777.2	776.2	775.1	774.1	774.0
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5
2.5°	1060.5	1057.8	1047.6	1037.5	1026.0	1014.5	1006.0	997.5	984.8	972.2	961.8
5°	1149.3	1136.4	1115.0	1093.7	1064.7	1035.7	1016.1	996.6	970.3	944.1	923.2
7.5°	1219.7	1197.6	1167.7	1137.8	1099.9	1061.9	1026.0	990.1	950.1	910.1	877.4
10°	1264.6	1249.6	1215.1	1180.6	1129.8	1078.9	1028.8	978.6	927.1	875.6	832.3
12.5°	1269.0	1270.3	1238.6	1206.8	1149.3	1091.8	1030.8	969.9	905.0	840.1	789.8
15°	1230.5	1254.2	1236.7	1219.3	1161.3	1103.3	1028.3	953.3	878.6	803.8	745.6
17.5°	1159.2	1210.1	1212.6	1215.1	1157.1	1099.2	1016.1	933.1	848.4	763.8	702.6
20°	1061.9	1136.9	1162.7	1188.4	1141.3	1094.1	1004.9	915.6	820.8	726.0	661.9
22.5°	962.5	1053.6	1100.8	1147.9	1113.0	1078.0	983.0	888.0	787.9	687.8	622.7
25°	849.3	948.7	1021.2	1093.7	1072.3	1050.9	957.2	863.6	757.1	650.6	584.1
27.5°	750.7	851.6	939.1	1026.5	1021.9	1017.3	924.3	831.4	722.4	613.3	549.1
30°	662.8	756.9	854.6	952.4	963.7	974.9	885.2	795.5	686.2	577.0	515.1
32.5°	585.0	667.1	772.0	876.9	899.0	921.1	840.1	759.2	651.0	542.9	483.3
35°	521.3	595.8	700.7	805.6	833.2	860.8	790.4	720.1	614.7	509.3	452.5
37.5°	464.9	527.3	629.6	732.0	765.8	799.7	736.6	673.6	574.9	476.2	424.0
40°	418.2	468.4	562.5	656.6	695.7	734.8	682.8	630.8	537.2	443.5	395.5
42.5°	379.1	423.8	509.1	594.4	631.9	669.4	625.5	581.6	498.3	415.0	371.1
45°	345.8	381.4	458.9	536.5	572.1	607.8	570.1	532.3	458.9	385.6	344.6
47.5°	314.5	345.1	411.3	477.6	509.3	541.1	511.6	482.2	420.1	358.0	320.9
50°	286.4	311.0	369.0	427.0	454.6	482.2	456.2	430.2	379.1	328.0	295.8
52.5°	262.0	282.0	330.6	379.1	402.8	426.5	404.2	381.9	341.4	300.9	272.8
55°	237.9	254.9	297.0	339.1	355.2	371.3	354.0	336.8	304.1	271.5	247.8
57.5°	215.3	230.5	265.0	299.5	311.9	324.4	308.7	293.1	268.5	243.9	224.1
60°	193.2	205.7	234.4	263.2	270.8	278.4	265.7	253.1	235.8	218.5	200.8
62.5°	172.8	184.0	205.4	226.8	231.9	237.0	227.3	217.6	204.5	191.4	177.6
65°	151.6	160.1	177.6	195.1	198.3	201.5	193.0	184.5	174.6	164.7	154.6
67.5°	132.0	138.0	152.3	166.6	166.8	167.0	160.1	153.2	147.7	142.2	134.1
70°	113.0	118.7	128.1	137.6	137.8	138.0	132.5	127.0	122.8	118.7	112.7
72.5°	93.4	97.5	104.7	111.8	111.3	110.9	107.4	104.0	100.8	97.5	93.2
75°	75.7	79.1	84.0	88.8	87.4	86.0	84.2	82.4	79.6	76.8	74.1
77.5°	59.6	61.7	64.4	67.2	66.3	65.3	63.7	62.1	60.0	58.0	56.8
80°	43.7	44.6	46.5	48.3	47.9	47.4	45.5	43.7	43.2	42.8	41.2
82.5°	29.7	30.8	31.3	31.7	31.5	31.3	29.9	28.5	28.1	27.6	27.4
85°	17.7	17.9	18.2	18.4	17.7	17.0	16.6	16.1	16.1	16.1	15.9
87.5°	8.1	8.3	8.3	8.3	8.1	7.8	7.4	6.9	7.1	7.4	7.4
90°	10.5	8.8	7.2	5.7	4.4	3.1	1.9	0.6	1.9	3.1	4.4
92.5°	12.7	11.5	10.4	10.2	10.9	11.7	12.5	13.2	12.5	11.7	10.9
95°	15.0	13.6	12.2	14.1	19.4	24.6	29.9	35.1	29.9	24.6	19.4
97.5°	31.5	38.0	44.5	49.6	53.2	56.8	60.4	63.9	60.4	56.8	53.2
100°	58.9	78.9	98.9	107.6	105.0	102.5	99.9	97.3	99.9	102.5	105.0
102.5°	87.2	109.4	131.7	142.0	140.3	138.7	137.0	135.4	137.0	138.7	140.3
105°	149.2	160.7	172.2	177.3	175.9	174.5	173.1	171.6	173.1	174.5	175.9
107.5°	220.2	218.3	216.4	214.8	213.7	212.5	211.4	210.2	211.4	212.5	213.7
110°	257.0	255.5	254.1	252.9	251.9	250.9	249.8	248.8	249.8	250.9	251.9



TEST NUMBER: P831402

CATALOG NUMBER: S123DIP-S340D585U840-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	293.2	291.8	290.4	289.3	288.4	287.5	286.6	285.7	286.6	287.5	288.4
115°	328.3	327.2	326.0	325.0	324.3	323.5	322.7	322.0	322.7	323.5	324.3
117.5°	363.3	362.7	362.0	361.3	360.4	359.5	358.6	357.7	358.6	359.5	360.4
120°	396.7	396.3	395.9	395.1	394.0	392.8	391.7	390.5	391.7	392.8	394.0
122.5°	429.2	428.7	428.2	427.5	426.6	425.7	424.8	423.9	424.8	425.7	426.6
125°	459.8	459.3	458.7	458.0	456.9	455.9	454.9	453.9	454.9	455.9	456.9
127.5°	490.0	489.4	488.8	487.9	486.9	485.9	484.8	483.8	484.8	485.9	486.9
130°	517.4	516.8	516.3	515.6	514.5	513.5	512.5	511.5	512.5	513.5	514.5
132.5°	543.5	543.2	542.8	542.1	541.0	540.0	539.0	538.0	539.0	540.0	541.0
135°	569.8	569.3	568.8	568.1	567.3	566.6	565.8	565.0	565.8	566.6	567.3
137.5°	593.3	593.1	592.8	592.2	591.2	590.1	589.1	588.1	589.1	590.1	591.2
140°	615.5	615.1	614.8	614.2	613.4	612.7	611.9	611.1	611.9	612.7	613.4
142.5°	636.8	636.5	636.1	635.5	634.7	634.0	633.2	632.4	633.2	634.0	634.7
145°	656.7	656.4	656.2	655.6	654.7	653.8	652.9	652.0	652.9	653.8	654.7
147.5°	674.5	674.3	674.0	673.6	672.9	672.3	671.7	671.0	671.7	672.3	672.9
150°	690.7	690.4	690.2	689.8	689.5	689.1	688.7	688.3	688.7	689.1	689.5
152.5°	704.7	704.6	704.5	704.4	704.2	704.1	704.0	703.9	704.0	704.1	704.2
155°	717.4	717.3	717.2	717.2	717.5	717.7	718.0	718.3	718.0	717.7	717.5
157.5°	729.4	729.6	729.7	729.8	729.8	729.8	729.8	729.8	729.8	729.8	729.8
160°	739.2	739.4	739.5	739.6	739.8	739.9	740.0	740.1	740.0	739.9	739.8
162.5°	747.9	748.0	748.1	748.4	748.8	749.2	749.5	749.9	749.5	749.2	748.8
165°	755.4	755.5	755.6	755.9	756.3	756.6	757.0	757.4	757.0	756.6	756.3
167.5°	761.4	761.4	761.4	761.7	762.2	762.7	763.2	763.8	763.2	762.7	762.2
170°	766.6	766.6	766.6	766.9	767.4	767.9	768.4	768.9	768.4	767.9	767.4
172.5°	769.8	769.7	769.6	769.8	770.5	771.1	771.8	772.4	771.8	771.1	770.5
175°	772.7	772.6	772.5	772.7	773.4	774.0	774.6	775.3	774.6	774.0	773.4
177.5°	773.9	773.7	773.6	773.9	774.5	775.1	775.8	776.4	775.8	775.1	774.5
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3



TEST NUMBER: P831402

CATALOG NUMBER: S123DIP-S340D585U840-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5
2.5°	951.5	942.5	933.5	926.6	919.7	908.0	896.3	893.5	890.7	886.8	882.9
5°	902.3	880.2	858.1	838.3	818.5	803.1	787.7	777.6	767.4	760.1	752.7
7.5°	844.7	811.6	778.5	755.0	731.6	709.2	686.9	679.8	672.7	663.0	653.3
10°	789.1	752.5	715.9	685.3	654.7	632.9	611.0	602.3	593.5	581.3	569.1
12.5°	739.4	699.3	659.3	628.5	597.7	576.5	555.3	542.7	530.0	523.1	516.2
15°	687.4	644.6	601.8	573.3	544.8	525.7	506.6	495.5	484.5	477.8	471.1
17.5°	641.4	599.0	556.7	529.3	502.0	484.5	467.0	457.3	447.7	442.6	437.6
20°	597.7	556.3	514.8	488.2	461.5	447.2	433.0	426.7	420.5	416.4	412.2
22.5°	557.6	516.9	476.2	453.4	430.7	419.1	407.6	403.3	398.9	395.5	392.0
25°	517.6	481.3	444.9	425.6	406.3	396.8	387.4	383.0	378.7	375.2	371.8
27.5°	484.9	450.2	415.5	398.9	382.3	375.0	367.6	364.2	360.7	357.5	354.3
30°	453.2	422.1	391.1	376.8	362.6	355.9	349.2	345.8	342.3	339.3	336.3
32.5°	423.8	397.1	370.4	357.3	344.2	338.6	333.1	329.0	324.8	322.5	320.2
35°	395.7	371.8	347.8	337.0	326.2	320.7	315.2	311.7	308.3	306.4	304.6
37.5°	371.8	350.4	329.0	318.6	308.3	303.0	297.7	294.7	291.7	291.0	290.3
40°	347.4	329.0	310.6	300.4	290.3	285.7	281.1	279.3	277.4	277.0	276.5
42.5°	327.1	309.2	291.2	282.0	272.8	268.9	265.0	264.1	263.2	263.9	264.6
45°	303.7	288.7	273.8	265.2	256.7	253.5	250.3	249.6	248.9	250.3	251.7
47.5°	283.9	270.1	256.3	248.2	240.2	237.9	235.6	235.3	235.1	237.0	238.8
50°	263.6	250.3	237.0	230.5	224.1	222.0	219.9	220.6	221.3	224.3	227.3
52.5°	244.8	232.3	219.9	213.9	208.0	206.6	205.2	206.8	208.4	211.6	214.9
55°	224.1	212.8	201.5	196.9	192.3	190.9	189.6	192.8	196.0	199.0	202.0
57.5°	204.3	194.4	184.5	180.4	176.2	176.0	175.8	178.7	181.7	185.0	188.2
60°	183.1	174.8	166.6	163.3	160.1	160.6	161.0	164.5	167.9	170.5	173.0
62.5°	163.8	156.9	150.0	147.0	144.0	145.2	146.3	149.8	153.2	156.2	159.2
65°	144.5	138.7	133.0	130.9	128.8	130.4	132.0	135.0	138.0	140.1	142.2
67.5°	126.1	121.2	116.4	114.8	113.2	114.8	116.4	119.4	122.4	124.5	126.5
70°	106.7	102.8	98.9	97.8	96.6	98.5	100.3	102.8	105.4	107.4	109.5
72.5°	88.8	85.8	82.8	82.6	82.4	84.0	85.6	88.1	90.6	92.0	93.4
75°	71.3	69.7	68.1	67.9	67.6	69.2	70.9	72.2	73.6	74.8	75.9
77.5°	55.7	54.3	52.9	53.1	53.4	54.5	55.7	57.1	58.4	59.1	59.8
80°	39.6	39.1	38.6	39.1	39.6	40.5	41.4	42.3	43.2	43.7	44.2
82.5°	27.1	26.7	26.2	26.9	27.6	28.3	29.0	29.7	30.4	30.6	30.8
85°	15.6	16.3	17.0	17.0	17.0	17.3	17.5	17.7	17.9	17.7	17.5
87.5°	7.4	7.6	7.8	7.8	7.8	8.1	8.3	8.3	8.3	8.1	7.8
90°	5.7	7.2	8.8	10.5	12.2	13.8	14.3	14.8	15.4	15.9	16.3
92.5°	10.2	10.4	11.5	12.7	13.8	15.0	15.9	16.8	17.7	18.6	19.1
95°	14.1	12.2	13.6	15.0	16.4	17.9	18.8	19.6	20.5	21.4	21.9
97.5°	49.6	44.5	38.0	31.5	25.0	18.4	19.5	20.5	21.5	22.5	23.1
100°	107.6	98.9	78.9	58.9	39.0	19.0	20.0	21.1	22.1	23.1	23.7
102.5°	142.0	131.7	109.4	87.2	64.9	42.6	38.4	34.2	30.0	25.7	23.7
105°	177.3	172.2	160.7	149.2	137.7	126.1	103.5	80.8	58.2	35.5	24.3
107.5°	214.8	216.4	218.3	220.2	222.1	224.1	204.3	184.6	164.9	145.2	127.0
110°	252.9	254.1	255.5	257.0	258.4	259.8	255.5	251.3	247.1	242.9	231.6



TEST NUMBER: P831402

CATALOG NUMBER: S123DIP-S340D585U840-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	289.3	290.4	291.8	293.2	294.6	296.1	297.2	298.4	299.5	300.7	301.1
115°	325.0	326.0	327.2	328.3	329.5	330.6	331.9	333.2	334.5	335.7	336.6
117.5°	361.3	362.0	362.7	363.3	364.0	364.6	365.6	366.6	367.7	368.7	369.3
120°	395.1	395.9	396.3	396.7	397.0	397.4	398.5	399.5	400.5	401.5	402.0
122.5°	427.5	428.2	428.7	429.2	429.7	430.3	430.9	431.5	432.2	432.8	433.2
125°	458.0	458.7	459.3	459.8	460.3	460.8	461.0	461.3	461.6	461.8	462.1
127.5°	487.9	488.8	489.4	490.0	490.7	491.3	491.7	492.1	492.5	492.8	492.9
130°	515.6	516.3	516.8	517.4	517.9	518.4	518.9	519.4	519.9	520.4	520.6
132.5°	542.1	542.8	543.2	543.5	543.9	544.3	544.8	545.3	545.8	546.4	546.4
135°	568.1	568.8	569.3	569.8	570.3	570.8	571.2	571.6	572.0	572.3	572.3
137.5°	592.2	592.8	593.1	593.3	593.6	593.8	594.5	595.1	595.8	596.4	596.6
140°	614.2	614.8	615.1	615.5	615.9	616.3	616.8	617.3	617.8	618.3	618.5
142.5°	635.5	636.1	636.5	636.8	637.2	637.6	638.0	638.4	638.8	639.1	639.1
145°	655.6	656.2	656.4	656.7	656.9	657.2	657.5	657.7	658.0	658.2	658.3
147.5°	673.6	674.0	674.3	674.5	674.8	675.1	675.3	675.6	675.8	676.1	675.9
150°	689.8	690.2	690.4	690.7	690.9	691.2	691.4	691.7	691.9	692.2	692.1
152.5°	704.4	704.5	704.6	704.7	704.9	705.0	705.5	706.0	706.5	707.1	707.0
155°	717.2	717.2	717.3	717.4	717.5	717.7	718.3	719.0	719.6	720.2	720.2
157.5°	729.8	729.7	729.6	729.4	729.3	729.2	730.0	730.7	731.5	732.3	732.1
160°	739.6	739.5	739.4	739.2	739.1	739.0	739.8	740.5	741.3	742.1	742.0
162.5°	748.4	748.1	748.0	747.9	747.8	747.6	748.5	749.4	750.3	751.2	751.3
165°	755.9	755.6	755.5	755.4	755.2	755.1	756.1	757.2	758.2	759.2	759.3
167.5°	761.7	761.4	761.4	761.4	761.4	761.4	762.5	763.5	764.5	765.5	765.5
170°	766.9	766.6	766.6	766.6	766.6	766.6	767.7	768.7	769.7	770.7	770.7
172.5°	769.8	769.6	769.7	769.8	770.0	770.1	771.1	772.1	773.2	774.2	774.1
175°	772.7	772.5	772.6	772.7	772.8	773.0	773.9	774.8	775.7	776.6	776.5
177.5°	773.9	773.6	773.7	773.9	774.0	774.1	775.1	776.2	777.2	778.2	778.1
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3



TEST NUMBER: P831402

CATALOG NUMBER: S123DIP-S340D585U840-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	991.5	991.5	991.5	991.5
2.5°	881.3	879.7	873.3	866.8
5°	747.2	741.7	739.8	738.0
7.5°	652.9	652.4	642.8	633.1
10°	569.8	570.5	561.8	553.0
12.5°	510.5	504.7	504.0	503.3
15°	465.8	460.6	459.6	458.7
17.5°	434.3	431.1	430.2	429.3
20°	410.4	408.6	407.0	405.3
22.5°	389.7	387.4	386.0	384.6
25°	369.7	367.6	367.2	366.7
27.5°	351.7	349.2	349.2	349.2
30°	334.7	333.1	332.4	331.7
32.5°	318.8	317.5	317.5	317.5
35°	303.9	303.2	302.3	301.4
37.5°	290.3	290.3	289.9	289.4
40°	277.2	277.9	277.9	277.9
42.5°	265.2	265.9	265.9	265.9
45°	252.8	254.0	254.4	254.9
47.5°	240.6	242.5	242.9	243.4
50°	228.7	230.0	230.3	230.5
52.5°	216.5	218.1	219.2	220.4
55°	203.6	205.2	205.9	206.6
57.5°	189.8	191.4	191.6	191.9
60°	174.6	176.2	176.7	177.1
62.5°	160.1	161.0	161.5	162.0
65°	143.6	144.9	145.9	146.8
67.5°	127.7	128.8	128.8	128.8
70°	110.0	110.4	111.1	111.8
72.5°	93.6	93.9	93.9	93.9
75°	76.4	76.8	77.1	77.3
77.5°	60.0	60.3	60.3	60.3
80°	43.9	43.7	43.7	43.7
82.5°	30.1	29.4	29.4	29.4
85°	17.3	17.0	17.3	17.5
87.5°	7.8	7.8	7.8	7.8
90°	16.5	16.8	17.0	17.3
92.5°	19.2	19.3	19.5	19.6
95°	21.9	21.9	21.9	21.9
97.5°	23.2	23.4	23.5	23.6
100°	23.8	23.9	24.1	24.2
102.5°	24.0	24.3	24.5	24.8
105°	24.6	24.8	25.1	25.3
107.5°	110.2	93.4	76.7	59.9
110°	213.3	195.0	176.7	158.4



TEST NUMBER: P831402

CATALOG NUMBER: S123DIP-S340D585U840-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	300.9	300.6	300.3	300.1
115°	337.1	337.7	338.2	338.7
117.5°	369.4	369.5	369.7	369.8
120°	402.0	402.0	402.0	402.0
122.5°	433.3	433.5	433.6	433.7
125°	462.3	462.6	462.8	463.1
127.5°	492.7	492.4	492.1	491.9
130°	520.3	520.0	519.8	519.5
132.5°	546.0	545.6	545.3	544.9
135°	572.0	571.6	571.2	570.8
137.5°	596.3	596.1	595.8	595.6
140°	618.2	618.0	617.7	617.5
142.5°	638.8	638.4	638.0	637.6
145°	658.3	658.3	658.3	658.3
147.5°	675.2	674.6	674.0	673.3
150°	691.8	691.4	691.0	690.6
152.5°	706.3	705.7	705.1	704.4
155°	719.4	718.6	717.9	717.1
157.5°	731.1	730.1	729.1	728.0
160°	741.1	740.2	739.3	738.4
162.5°	750.5	749.7	749.0	748.2
165°	758.4	757.5	756.6	755.7
167.5°	764.5	763.5	762.5	761.4
170°	769.7	768.7	767.7	766.6
172.5°	773.0	771.8	770.7	769.5
175°	775.5	774.4	773.4	772.4
177.5°	776.8	775.5	774.2	773.0
180°	775.3	775.3	775.3	775.3



TEST NUMBER: P831402

CATALOG NUMBER: S123DIP-S340D585U840-4F0-1E-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	10.81	11.57	11.86	12.61	14.02	13.05	13.80	14.09	14.85	16.25
	3H	12.45	13.13	13.51	14.18	15.61	14.47	15.14	15.52	16.19	17.62
	4H	13.03	13.67	14.09	14.72	16.15	14.91	15.55	15.98	16.61	18.04
	6H	13.39	13.98	14.47	15.04	16.48	15.18	15.77	16.26	16.83	18.27
	8H	13.49	14.04	14.56	15.12	16.56	15.24	15.80	16.32	16.88	18.32
	12H	13.53	14.06	14.61	15.13	16.59	15.26	15.79	16.34	16.86	18.32
4H	2H	11.38	12.02	12.45	13.07	14.50	13.20	13.84	14.27	14.90	16.33
	3H	13.20	13.73	14.27	14.81	16.26	14.81	15.34	15.89	16.43	17.87
	4H	13.89	14.38	14.97	15.45	16.92	15.39	15.88	16.47	16.95	18.42
	6H	14.36	14.78	15.45	15.87	17.33	15.79	16.21	16.88	17.30	18.77
	8H	14.49	14.88	15.59	15.97	17.45	15.90	16.29	16.99	17.38	18.85
	12H	14.56	14.91	15.67	16.01	17.49	15.94	16.29	17.05	17.39	18.87
8H	4H	14.15	14.54	15.24	15.63	17.10	15.49	15.88	16.58	16.97	18.44
	6H	14.73	15.06	15.85	16.19	17.66	15.99	16.31	17.10	17.44	18.91
	8H	14.94	15.22	16.06	16.33	17.83	16.17	16.45	17.29	17.56	19.05
	12H	15.06	15.31	16.18	16.42	17.95	16.26	16.51	17.39	17.62	19.15
12H	4H	14.15	14.50	15.25	15.60	17.08	15.46	15.81	16.57	16.91	18.39
	6H	14.78	15.07	15.90	16.18	17.67	16.00	16.28	17.12	17.40	18.89
	8H	15.01	15.26	16.14	16.37	17.90	16.20	16.44	17.32	17.55	19.08