

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: P831401

Luminaire Tested: S123DIP-S340D585U835-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831401  
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-S340D585U835-4F0-1E-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: -

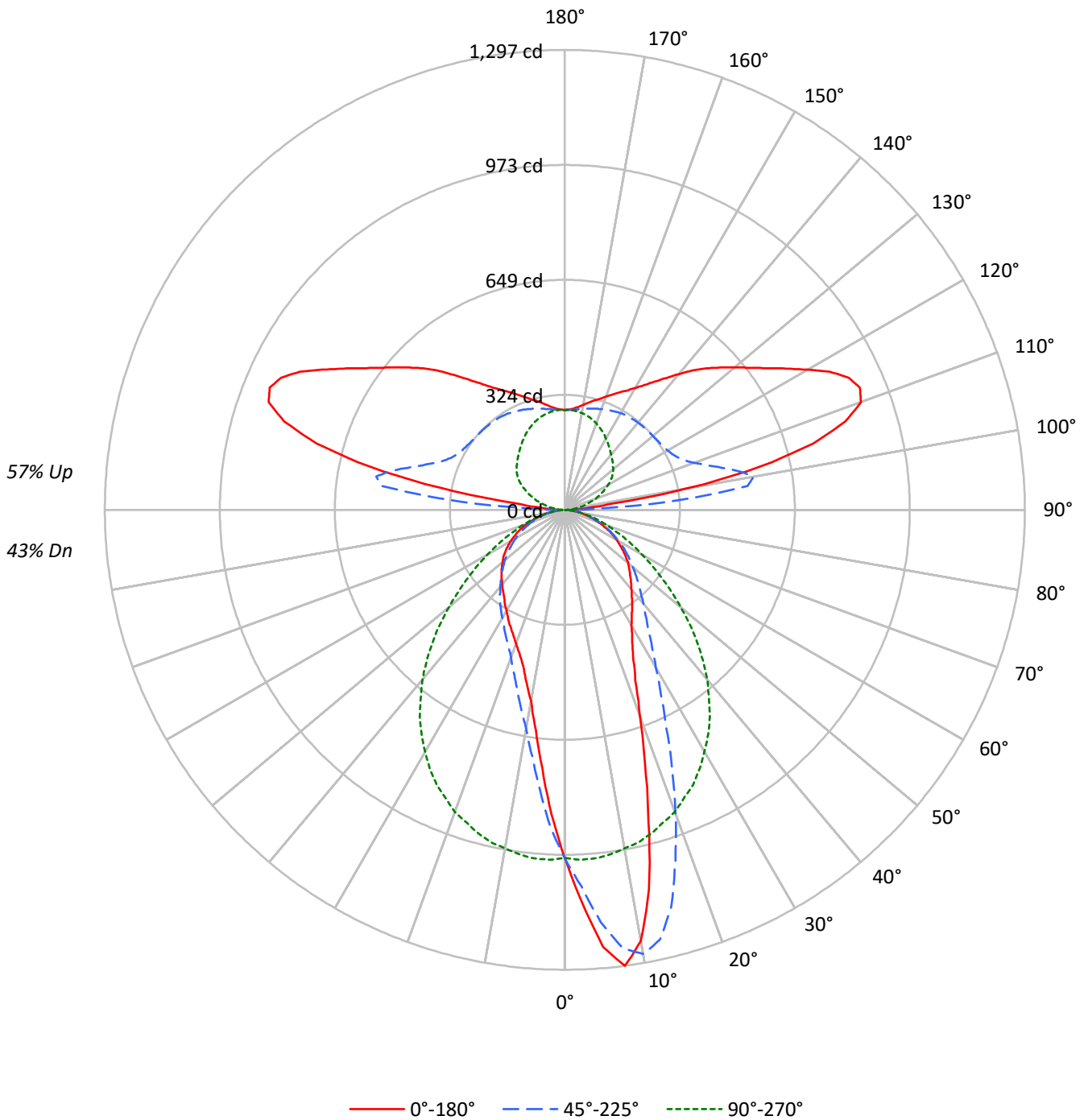
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3699.3 lumens  
Efficiency: N/A  
Efficacy: 134.0 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	96	96	96	96	79	79	79	64	64	64	49	49	49	43				
1	97	92	89	85	88	85	82	79	70	68	66	57	55	54	44	43	43	37				
2	88	81	75	71	81	75	70	65	62	58	55	50	48	46	40	38	37	32				
3	81	72	65	59	74	66	60	55	55	51	47	45	42	39	36	33	32	27				
4	74	64	56	51	68	59	52	47	49	44	41	40	37	34	32	30	28	24				
5	68	57	50	44	62	53	46	41	44	39	35	37	33	30	29	27	25	21				
6	63	52	44	38	58	48	41	36	40	35	31	33	30	27	27	24	22	19				
7	59	47	39	34	54	43	37	32	37	32	28	31	27	24	25	22	20	17				
8	54	43	35	30	50	40	33	28	34	29	25	28	24	21	23	20	18	16				
9	51	39	32	27	47	36	30	26	31	26	22	26	22	19	21	19	17	14				
10	48	36	29	24	44	33	27	23	29	24	20	24	20	18	20	17	15	13				

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

	0°	45°	90°	135°	180°
0°	10568	10568	10568	10568	10568
5°	13366	12615	10662	8593	7896
10°	13495	13903	10592	6850	5985
15°	10164	12909	10520	5800	5061
20°	7082	10446	10386	5072	4598
25°	5400	8032	10157	4668	4312
30°	4672	6382	9790	4380	4083
35°	4335	5388	9369	4173	3921
40°	4103	4834	8776	3975	3867
45°	3967	4474	8024	3821	3842
50°	3898	4188	7134	3681	3823
55°	3753	3980	6259	3549	3840
60°	3619	3757	5395	3423	3776
65°	3400	3545	4653	3291	3701
70°	3141	3276	3956	3068	3484
75°	2840	2936	3394	2853	3182
80°	2343	2572	2684	2486	2684
85°	1853	2087	1964	2112	2137

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 9162 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.8	2.5
10°-20°	230.9	6.2
20°-30°	273.4	7.4
30°-40°	274.9	7.4
40°-50°	252.2	6.8
50°-60°	208.2	5.6
60°-70°	147.3	4.0
70°-80°	78.6	2.1
80°-90°	21.5	0.6
90°-100°	152.9	4.1
100°-110°	447.6	12.1
110°-120°	437.1	11.8
120°-130°	348.1	9.4
130°-140°	274.7	7.4
140°-150°	204.9	5.5
150°-160°	142.9	3.9
160°-170°	83.9	2.3
170°-180°	27.3	0.7
0°-30°	597.2	16.1
0°-40°	872.1	23.6
0°-60°	1332.5	36.0
0°-90°	1579.9	42.7
90°-120°	1037.7	28.1
90°-150°	1865.4	50.4
90°-180°	2119.0	57.3
0°-180°	3699.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	982	982	982	982	982	
5°	1237	1168	987	795	731	118
15°	912	1158	944	520	454	252
25°	455	676	855	393	363	215
35°	330	410	713	318	298	207
45°	261	294	527	251	252	202
55°	200	212	334	189	205	179
65°	134	139	183	129	145	133
75°	68	71	82	69	76	72
85°	15	17	16	17	17	17
90°	16	14	1	14	16	10
95°	66	338	19	338	66	108
105°	726	459	66	459	726	724
115°	882	351	117	351	882	860
125°	696	327	163	327	696	630
135°	564	323	190	323	564	438
145°	441	319	217	319	441	280
155°	366	309	247	309	366	170
165°	319	296	270	296	319	91
175°	287	284	281	284	287	28
180°	282	282	282	282	282	

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8
2.5°	1106.7	1105.5	1104.4	1098.7	1093.0	1090.3	1087.5	1079.3	1071.1	1062.0	1052.9
5°	1237.0	1240.2	1243.3	1239.7	1236.1	1224.9	1213.7	1198.9	1184.1	1167.5	1150.9
7.5°	1297.1	1298.9	1300.7	1298.5	1296.2	1293.2	1290.3	1277.1	1263.8	1246.8	1229.7
10°	1234.7	1238.8	1242.9	1251.8	1260.7	1270.7	1280.7	1278.9	1277.1	1272.0	1267.0
12.5°	1097.5	1102.6	1107.6	1125.3	1143.1	1165.9	1188.7	1208.3	1227.9	1241.5	1255.2
15°	912.1	926.0	939.9	956.1	972.3	1005.7	1039.2	1080.5	1121.7	1158.4	1195.0
17.5°	751.3	756.5	761.8	779.1	796.4	838.5	880.7	928.3	975.9	1036.7	1097.5
20°	618.3	623.0	627.8	650.6	673.4	706.4	739.4	793.0	846.5	911.9	977.3
22.5°	519.4	526.9	534.4	547.2	559.9	591.6	623.3	670.9	718.5	790.7	862.9
25°	454.7	460.2	465.6	473.4	481.1	506.4	531.7	570.9	610.1	676.3	742.6
27.5°	410.5	412.8	415.1	422.8	430.5	446.9	463.3	497.1	530.8	587.0	643.3
30°	375.9	377.5	379.1	385.9	392.7	403.9	415.1	439.4	463.8	513.5	563.1
32.5°	351.7	352.9	354.0	359.2	364.5	372.5	380.4	398.2	416.0	457.0	498.0
35°	329.9	330.5	331.2	335.1	339.0	344.9	350.8	364.3	377.7	410.0	442.4
37.5°	310.7	311.6	312.5	314.8	317.1	322.3	327.6	338.3	349.0	373.8	398.7
40°	292.0	293.6	295.2	296.8	298.4	302.7	307.1	315.3	323.5	344.0	364.5
42.5°	276.1	277.7	279.3	280.0	280.7	283.2	285.7	293.2	300.7	316.0	331.2
45°	260.6	261.3	262.0	262.7	263.3	265.4	267.4	274.0	280.7	293.9	307.1
47.5°	246.5	246.5	246.5	246.9	247.4	249.2	251.0	255.8	260.6	270.9	281.1
50°	232.8	232.8	232.8	232.1	231.4	232.6	233.7	237.4	241.0	250.1	259.2
52.5°	216.4	216.4	216.4	216.6	216.9	216.9	216.9	220.1	223.2	231.4	239.6
55°	200.0	200.9	201.8	201.1	200.5	200.9	201.4	203.4	205.5	212.1	218.7
57.5°	183.6	184.1	184.5	184.3	184.1	184.3	184.5	186.3	188.2	193.2	198.2
60°	168.1	168.1	168.1	167.7	167.2	167.7	168.1	169.0	169.9	174.5	179.1
62.5°	150.8	151.0	151.3	151.5	151.7	151.3	150.8	151.9	153.1	156.5	159.9
65°	133.5	133.7	133.9	134.6	135.3	134.9	134.4	135.5	136.7	139.2	141.7
67.5°	118.0	117.5	117.1	117.3	117.5	118.2	118.9	119.1	119.4	122.1	124.8
70°	99.8	100.2	100.7	100.5	100.2	100.5	100.7	101.4	102.1	104.1	106.2
72.5°	83.4	83.6	83.8	83.8	83.8	84.3	84.7	85.4	86.1	87.2	88.4
75°	68.3	68.3	68.3	68.8	69.3	69.5	69.7	69.7	69.7	70.6	71.5
77.5°	51.9	53.1	54.2	54.0	53.8	54.2	54.7	55.4	56.0	56.5	57.0
80°	37.8	37.8	37.8	38.0	38.3	39.0	39.6	40.1	40.5	41.5	42.4
82.5°	24.1	24.4	24.6	25.3	26.0	26.4	26.9	27.6	28.2	28.2	28.2
85°	15.0	14.6	14.1	14.6	15.0	15.5	15.9	16.2	16.4	16.9	17.3
87.5°	7.3	7.3	7.3	7.3	7.3	7.5	7.7	7.7	7.7	7.7	7.7
90°	16.5	17.1	16.5	16.0	16.5	15.4	14.8	14.3	13.7	14.3	12.5
92.5°	30.2	31.4	30.8	33.1	34.2	38.2	43.9	56.5	79.3	106.1	117.5
95°	66.2	68.4	72.4	77.6	88.4	108.9	139.2	205.3	274.3	338.2	301.2
97.5°	135.7	142.0	155.7	177.4	215.6	280.6	355.9	471.7	537.9	520.2	388.4
100°	357.6	357.1	379.3	420.9	478.5	559.5	626.3	672.5	652.5	540.1	365.0
102.5°	566.4	582.9	600.6	631.4	673.0	717.0	748.9	739.2	658.2	503.1	330.8
105°	725.5	728.4	746.6	768.3	794.5	809.4	798.5	741.5	622.3	458.6	304.0
107.5°	829.3	835.6	843.0	853.3	856.7	841.3	796.8	707.3	570.9	419.2	284.6
110°	888.6	889.8	890.9	886.4	870.4	830.5	758.6	653.6	523.0	386.7	274.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	900.6	900.1	894.3	877.8	845.3	791.1	708.4	600.6	481.4	365.0	268.6
115°	882.4	879.5	868.1	843.0	800.2	738.1	654.2	555.0	449.5	350.8	268.1
117.5°	842.4	838.4	821.3	793.4	748.9	684.4	607.4	519.6	428.4	341.1	268.6
120°	790.0	786.5	772.9	740.9	695.9	638.2	569.8	492.8	412.4	334.8	270.9
122.5°	740.9	736.4	721.0	693.0	654.2	601.7	539.6	471.7	399.3	330.8	274.9
125°	695.9	691.9	677.6	652.5	616.0	570.4	515.6	453.4	388.4	327.4	278.9
127.5°	657.1	653.6	640.5	618.9	585.8	543.6	493.4	436.9	378.2	325.7	283.5
130°	625.1	620.6	608.6	588.1	557.8	519.0	472.8	421.5	370.2	324.0	288.0
132.5°	593.8	590.9	580.6	560.1	532.2	495.7	453.4	407.2	362.8	323.4	291.5
135°	564.1	560.1	549.8	532.7	504.8	472.3	435.2	394.7	356.5	322.8	294.9
137.5°	532.7	529.3	520.8	503.1	479.1	450.0	416.9	382.7	350.8	321.7	297.2
140°	499.6	500.2	491.1	475.1	453.4	428.9	401.5	372.5	345.6	321.1	299.4
142.5°	468.8	469.4	461.4	447.7	430.1	409.5	386.7	362.8	341.1	320.0	301.2
145°	440.9	439.8	435.2	423.2	409.0	392.4	374.2	355.3	337.1	318.8	301.7
147.5°	416.9	416.4	411.8	403.3	391.8	379.9	364.5	349.1	333.1	317.1	301.7
150°	396.4	396.4	393.0	386.7	378.2	367.3	355.3	342.2	329.1	314.8	301.7
152.5°	379.3	379.3	377.6	371.9	365.6	357.1	346.8	336.0	324.5	312.0	300.0
155°	365.6	365.0	363.9	359.3	354.2	347.4	338.8	329.7	320.0	308.6	298.9
157.5°	352.5	352.5	351.4	347.9	343.4	337.7	330.8	322.8	314.8	305.7	297.2
160°	339.9	340.5	340.5	337.1	333.1	329.1	323.4	317.1	309.7	302.3	296.0
162.5°	328.5	329.1	329.1	326.3	324.0	320.6	315.4	310.3	304.6	298.9	293.7
165°	318.8	318.8	319.4	317.1	314.8	312.0	308.0	304.6	300.0	295.5	291.5
167.5°	309.1	309.1	309.7	308.0	306.9	304.6	302.3	299.4	295.5	292.0	289.2
170°	300.6	300.6	301.2	300.0	299.4	298.3	296.0	294.3	291.5	288.6	286.9
172.5°	292.6	293.2	294.3	293.2	293.2	292.6	290.9	289.8	287.5	285.8	285.2
175°	286.9	287.5	288.0	287.5	287.5	287.5	286.3	285.8	284.6	283.5	283.5
177.5°	282.9	282.9	284.0	283.5	284.0	284.0	283.5	282.9	282.3	281.8	282.3
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8
2.5°	1050.2	1047.4	1037.4	1027.4	1016.0	1004.6	996.2	987.7	975.2	962.7	952.4
5°	1138.1	1125.3	1104.2	1083.0	1054.3	1025.6	1006.2	986.8	960.9	934.9	914.2
7.5°	1207.8	1185.9	1156.3	1126.7	1089.1	1051.5	1016.0	980.5	940.8	901.2	868.8
10°	1252.2	1237.4	1203.2	1169.1	1118.7	1068.4	1018.7	969.1	918.0	867.0	824.2
12.5°	1256.6	1257.9	1226.5	1195.0	1138.1	1081.1	1020.8	960.4	896.2	831.9	782.0
15°	1218.5	1242.0	1224.7	1207.3	1149.9	1092.5	1018.3	944.0	870.0	795.9	738.3
17.5°	1147.9	1198.2	1200.7	1203.2	1145.8	1088.4	1006.2	924.0	840.1	756.3	695.7
20°	1051.5	1125.8	1151.3	1176.8	1130.1	1083.4	995.0	906.7	812.8	718.9	655.4
22.5°	953.1	1043.3	1090.0	1136.7	1102.1	1067.5	973.4	879.3	780.2	681.1	616.7
25°	841.0	939.5	1011.2	1083.0	1061.8	1040.6	947.9	855.2	749.7	644.2	578.4
27.5°	743.3	843.3	929.9	1016.5	1011.9	1007.3	915.3	823.3	715.3	607.3	543.8
30°	656.3	749.5	846.3	943.1	954.3	965.4	876.6	787.7	679.5	571.3	510.0
32.5°	579.3	660.6	764.5	868.4	890.2	912.1	831.9	751.7	644.7	537.6	478.6
35°	516.2	590.0	693.9	797.8	825.1	852.4	782.7	713.0	608.7	504.4	448.1
37.5°	460.4	522.1	623.5	724.9	758.4	791.8	729.4	667.0	569.3	471.5	419.8
40°	414.1	463.8	557.0	650.1	688.9	727.6	676.1	624.6	531.9	439.2	391.6
42.5°	375.4	419.6	504.1	588.6	625.8	662.9	619.4	575.9	493.4	411.0	367.4
45°	342.4	377.7	454.5	531.2	566.5	601.9	564.5	527.1	454.5	381.8	341.2
47.5°	311.4	341.7	407.3	472.9	504.4	535.8	506.6	477.5	416.0	354.5	317.8
50°	283.6	308.0	365.4	422.8	450.1	477.5	451.7	426.0	375.4	324.8	293.0
52.5°	259.5	279.3	327.4	375.4	398.9	422.3	400.2	378.2	338.1	298.0	270.2
55°	235.5	252.4	294.1	335.8	351.7	367.7	350.6	333.5	301.2	268.8	245.3
57.5°	213.2	228.3	262.4	296.6	308.9	321.2	305.7	290.2	265.8	241.5	221.9
60°	191.4	203.7	232.1	260.6	268.1	275.6	263.1	250.6	233.5	216.4	198.9
62.5°	171.1	182.2	203.4	224.6	229.6	234.6	225.1	215.5	202.5	189.5	175.9
65°	150.1	158.5	175.9	193.2	196.4	199.6	191.1	182.7	172.9	163.1	153.1
67.5°	130.8	136.7	150.8	164.9	165.2	165.4	158.5	151.7	146.2	140.8	132.8
70°	111.9	117.5	126.9	136.2	136.5	136.7	131.2	125.7	121.6	117.5	111.6
72.5°	92.5	96.6	103.6	110.7	110.3	109.8	106.4	103.0	99.8	96.6	92.3
75°	74.9	78.4	83.1	87.9	86.6	85.2	83.4	81.6	78.8	76.1	73.4
77.5°	59.0	61.1	63.8	66.5	65.6	64.7	63.1	61.5	59.5	57.4	56.3
80°	43.3	44.2	46.0	47.8	47.4	46.9	45.1	43.3	42.8	42.4	40.8
82.5°	29.4	30.5	31.0	31.4	31.2	31.0	29.6	28.2	27.8	27.3	27.1
85°	17.5	17.8	18.0	18.2	17.5	16.9	16.4	15.9	15.9	15.9	15.7
87.5°	8.0	8.2	8.2	8.2	8.0	7.7	7.3	6.8	7.1	7.3	7.3
90°	10.8	9.1	7.4	6.3	5.1	3.4	2.3	1.1	2.3	3.4	5.1
92.5°	87.8	57.6	39.4	29.1	23.4	18.3	12.5	8.6	12.5	18.3	23.4
95°	207.6	122.6	74.1	51.9	37.1	27.4	21.1	19.4	21.1	27.4	37.1
97.5°	231.0	132.3	84.4	59.9	45.1	36.5	31.4	30.8	31.4	36.5	45.1
100°	215.0	130.6	90.7	68.4	54.8	46.8	42.8	42.2	42.8	46.8	54.8
102.5°	201.3	132.9	98.1	78.1	66.2	58.7	55.3	54.2	55.3	58.7	66.2
105°	196.2	137.5	106.7	89.0	78.1	71.3	67.9	66.2	67.9	71.3	78.1
107.5°	195.1	144.9	117.5	101.0	90.7	83.8	80.4	78.7	80.4	83.8	90.7
110°	197.9	154.6	128.9	112.9	103.2	97.0	94.1	92.4	94.1	97.0	103.2





TEST NUMBER: P831401

CATALOG NUMBER: S123DIP-S340D585U835-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	203.6	164.3	140.9	125.5	115.8	109.5	106.7	104.9	106.7	109.5	115.8
115°	209.9	175.1	153.4	138.0	128.3	122.6	119.2	116.9	119.2	122.6	128.3
117.5°	217.9	186.5	164.8	150.6	139.7	134.6	131.8	128.9	131.8	134.6	139.7
120°	227.0	197.3	176.8	162.6	151.7	146.0	143.2	141.5	143.2	146.0	151.7
122.5°	235.6	208.8	188.8	173.4	163.1	156.9	154.0	152.3	154.0	156.9	163.1
125°	244.7	219.6	199.6	184.2	173.4	167.1	163.7	162.6	163.7	167.1	173.4
127.5°	252.1	229.3	209.9	194.5	182.5	176.2	172.3	170.5	172.3	176.2	182.5
130°	259.5	237.8	219.0	203.6	191.6	184.8	179.7	178.0	179.7	184.8	191.6
132.5°	266.4	245.3	227.0	212.2	200.2	191.6	185.9	183.7	185.9	191.6	200.2
135°	272.1	252.7	235.0	219.6	207.6	199.1	192.8	190.5	192.8	199.1	207.6
137.5°	276.6	257.8	240.7	226.4	214.5	205.3	199.1	196.8	199.1	205.3	214.5
140°	280.1	262.9	246.4	232.1	220.7	211.6	205.9	203.1	205.9	211.6	220.7
142.5°	283.5	266.9	251.0	237.8	226.4	218.5	212.2	209.9	212.2	218.5	226.4
145°	285.8	270.4	255.5	242.4	232.7	224.2	219.0	217.3	219.0	224.2	232.7
147.5°	287.5	273.2	259.5	248.1	238.4	231.0	225.9	224.7	225.9	231.0	238.4
150°	288.0	276.1	262.9	252.7	244.7	237.3	232.7	232.1	232.7	237.3	244.7
152.5°	289.2	277.8	266.9	257.2	250.4	244.1	239.6	239.6	239.6	244.1	250.4
155°	289.2	280.1	270.4	262.4	256.1	250.4	247.0	247.0	247.0	250.4	256.1
157.5°	289.8	281.2	273.2	266.9	261.2	256.1	253.2	252.7	253.2	256.1	261.2
160°	289.8	282.9	276.1	270.4	266.4	261.8	259.5	259.5	259.5	261.8	266.4
162.5°	289.2	283.5	277.8	273.2	269.8	266.4	264.7	264.7	264.7	266.4	269.8
165°	288.0	284.0	279.5	275.5	273.2	270.4	269.2	269.8	269.2	270.4	273.2
167.5°	287.5	284.0	280.6	277.8	276.1	273.8	273.2	273.8	273.2	273.8	276.1
170°	285.8	283.5	280.6	279.5	278.3	276.6	276.1	277.2	276.1	276.6	278.3
172.5°	285.2	283.5	281.2	280.6	280.1	278.9	278.9	279.5	278.9	278.9	280.1
175°	284.0	282.9	281.8	281.2	281.2	280.1	280.6	281.2	280.6	280.1	281.2
177.5°	283.5	282.3	281.8	281.8	281.8	281.2	281.8	282.3	281.8	281.2	281.8
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8



TEST NUMBER: P831401

CATALOG NUMBER: S123DIP-S340D585U835-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8
2.5°	942.2	933.3	924.4	917.6	910.8	899.1	887.5	884.8	882.0	878.2	874.3
5°	893.4	871.6	849.7	830.1	810.5	795.3	780.0	770.0	759.9	752.7	745.4
7.5°	836.5	803.7	770.9	747.6	724.4	702.3	680.2	673.2	666.1	656.5	647.0
10°	781.4	745.1	708.9	678.6	648.3	626.7	605.0	596.4	587.7	575.7	563.6
12.5°	732.2	692.5	652.9	622.4	591.8	570.9	549.9	537.4	524.9	518.0	511.2
15°	680.7	638.3	595.9	567.7	539.4	520.5	501.6	490.7	479.8	473.1	466.5
17.5°	635.1	593.2	551.3	524.2	497.1	479.8	462.4	452.9	443.3	438.3	433.3
20°	591.8	550.8	509.8	483.4	457.0	442.8	428.7	422.6	416.4	412.3	408.2
22.5°	552.2	511.9	471.5	449.0	426.4	415.1	403.7	399.3	395.0	391.6	388.2
25°	512.6	476.6	440.6	421.4	402.3	393.0	383.6	379.3	375.0	371.5	368.1
27.5°	480.2	445.8	411.4	395.0	378.6	371.3	364.0	360.6	357.2	354.0	350.8
30°	448.8	418.0	387.3	373.1	359.0	352.4	345.8	342.4	339.0	336.0	333.0
32.5°	419.6	393.2	366.8	353.8	340.8	335.3	329.9	325.8	321.7	319.4	317.1
35°	391.8	368.1	344.4	333.7	323.0	317.6	312.1	308.7	305.3	303.4	301.6
37.5°	368.1	346.9	325.8	315.5	305.3	300.0	294.8	291.8	288.9	288.2	287.5
40°	344.0	325.8	307.5	297.5	287.5	282.9	278.4	276.6	274.7	274.3	273.8
42.5°	323.9	306.2	288.4	279.3	270.2	266.3	262.4	261.5	260.6	261.3	262.0
45°	300.7	285.9	271.1	262.7	254.2	251.0	247.8	247.2	246.5	247.8	249.2
47.5°	281.1	267.4	253.8	245.8	237.8	235.5	233.3	233.0	232.8	234.6	236.5
50°	261.1	247.8	234.6	228.3	221.9	219.8	217.8	218.5	219.1	222.1	225.1
52.5°	242.4	230.1	217.8	211.9	205.9	204.6	203.2	204.8	206.4	209.6	212.8
55°	221.9	210.7	199.6	195.0	190.4	189.1	187.7	190.9	194.1	197.0	200.0
57.5°	202.3	192.5	182.7	178.6	174.5	174.3	174.0	177.0	180.0	183.2	186.3
60°	181.3	173.1	164.9	161.7	158.5	159.0	159.5	162.9	166.3	168.8	171.3
62.5°	162.2	155.4	148.5	145.6	142.6	143.7	144.9	148.3	151.7	154.7	157.6
65°	143.1	137.4	131.7	129.6	127.6	129.2	130.8	133.7	136.7	138.7	140.8
67.5°	124.8	120.1	115.3	113.7	112.1	113.7	115.3	118.2	121.2	123.2	125.3
70°	105.7	101.8	98.0	96.8	95.7	97.5	99.3	101.8	104.3	106.4	108.4
72.5°	87.9	85.0	82.0	81.8	81.6	83.1	84.7	87.2	89.8	91.1	92.5
75°	70.6	69.0	67.4	67.2	67.0	68.6	70.2	71.5	72.9	74.0	75.2
77.5°	55.1	53.8	52.4	52.6	52.8	54.0	55.1	56.5	57.9	58.5	59.2
80°	39.2	38.7	38.3	38.7	39.2	40.1	41.0	41.9	42.8	43.3	43.7
82.5°	26.9	26.4	26.0	26.7	27.3	28.0	28.7	29.4	30.1	30.3	30.5
85°	15.5	16.2	16.9	16.9	16.9	17.1	17.3	17.5	17.8	17.5	17.3
87.5°	7.3	7.5	7.7	7.7	7.7	8.0	8.2	8.2	8.2	8.0	7.7
90°	6.3	7.4	9.1	10.8	12.5	14.3	13.7	14.3	14.8	15.4	16.5
92.5°	29.1	39.4	57.6	87.8	117.5	106.1	79.3	56.5	43.9	38.2	34.2
95°	51.9	74.1	122.6	207.6	301.2	338.2	274.3	205.3	139.2	108.9	88.4
97.5°	59.9	84.4	132.3	231.0	388.4	520.2	537.9	471.7	355.9	280.6	215.6
100°	68.4	90.7	130.6	215.0	365.0	540.1	652.5	672.5	626.3	559.5	478.5
102.5°	78.1	98.1	132.9	201.3	330.8	503.1	658.2	739.2	748.9	717.0	673.0
105°	89.0	106.7	137.5	196.2	304.0	458.6	622.3	741.5	798.5	809.4	794.5
107.5°	101.0	117.5	144.9	195.1	284.6	419.2	570.9	707.3	796.8	841.3	856.7
110°	112.9	128.9	154.6	197.9	274.3	386.7	523.0	653.6	758.6	830.5	870.4



TEST NUMBER: P831401

CATALOG NUMBER: S123DIP-S340D585U835-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	125.5	140.9	164.3	203.6	268.6	365.0	481.4	600.6	708.4	791.1	845.3
115°	138.0	153.4	175.1	209.9	268.1	350.8	449.5	555.0	654.2	738.1	800.2
117.5°	150.6	164.8	186.5	217.9	268.6	341.1	428.4	519.6	607.4	684.4	748.9
120°	162.6	176.8	197.3	227.0	270.9	334.8	412.4	492.8	569.8	638.2	695.9
122.5°	173.4	188.8	208.8	235.6	274.9	330.8	399.3	471.7	539.6	601.7	654.2
125°	184.2	199.6	219.6	244.7	278.9	327.4	388.4	453.4	515.6	570.4	616.0
127.5°	194.5	209.9	229.3	252.1	283.5	325.7	378.2	436.9	493.4	543.6	585.8
130°	203.6	219.0	237.8	259.5	288.0	324.0	370.2	421.5	472.8	519.0	557.8
132.5°	212.2	227.0	245.3	266.4	291.5	323.4	362.8	407.2	453.4	495.7	532.2
135°	219.6	235.0	252.7	272.1	294.9	322.8	356.5	394.7	435.2	472.3	504.8
137.5°	226.4	240.7	257.8	276.6	297.2	321.7	350.8	382.7	416.9	450.0	479.1
140°	232.1	246.4	262.9	280.1	299.4	321.1	345.6	372.5	401.5	428.9	453.4
142.5°	237.8	251.0	266.9	283.5	301.2	320.0	341.1	362.8	386.7	409.5	430.1
145°	242.4	255.5	270.4	285.8	301.7	318.8	337.1	355.3	374.2	392.4	409.0
147.5°	248.1	259.5	273.2	287.5	301.7	317.1	333.1	349.1	364.5	379.9	391.8
150°	252.7	262.9	276.1	288.0	301.7	314.8	329.1	342.2	355.3	367.3	378.2
152.5°	257.2	266.9	277.8	289.2	300.0	312.0	324.5	336.0	346.8	357.1	365.6
155°	262.4	270.4	280.1	289.2	298.9	308.6	320.0	329.7	338.8	347.4	354.2
157.5°	266.9	273.2	281.2	289.8	297.2	305.7	314.8	322.8	330.8	337.7	343.4
160°	270.4	276.1	282.9	289.8	296.0	302.3	309.7	317.1	323.4	329.1	333.1
162.5°	273.2	277.8	283.5	289.2	293.7	298.9	304.6	310.3	315.4	320.6	324.0
165°	275.5	279.5	284.0	288.0	291.5	295.5	300.0	304.6	308.0	312.0	314.8
167.5°	277.8	280.6	284.0	287.5	289.2	292.0	295.5	299.4	302.3	304.6	306.9
170°	279.5	280.6	283.5	285.8	286.9	288.6	291.5	294.3	296.0	298.3	299.4
172.5°	280.6	281.2	283.5	285.2	285.2	285.8	287.5	289.8	290.9	292.6	293.2
175°	281.2	281.8	282.9	284.0	283.5	283.5	284.6	285.8	286.3	287.5	287.5
177.5°	281.8	281.8	282.3	283.5	282.3	281.8	282.3	282.9	283.5	284.0	284.0
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8



TEST NUMBER: P831401

CATALOG NUMBER: S123DIP-S340D585U835-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	981.8	981.8	981.8	981.8
2.5°	872.7	871.1	864.7	858.4
5°	739.9	734.4	732.6	730.8
7.5°	646.5	646.0	636.5	626.9
10°	564.3	564.9	556.3	547.6
12.5°	505.5	499.8	499.1	498.4
15°	461.3	456.1	455.1	454.2
17.5°	430.1	426.9	426.0	425.1
20°	406.4	404.6	403.0	401.4
22.5°	385.9	383.6	382.3	380.9
25°	366.1	364.0	363.6	363.1
27.5°	348.3	345.8	345.8	345.8
30°	331.5	329.9	329.2	328.5
32.5°	315.7	314.4	314.4	314.4
35°	300.9	300.2	299.3	298.4
37.5°	287.5	287.5	287.0	286.6
40°	274.5	275.2	275.2	275.2
42.5°	262.7	263.3	263.3	263.3
45°	250.4	251.5	251.9	252.4
47.5°	238.3	240.1	240.6	241.0
50°	226.4	227.8	228.0	228.3
52.5°	214.4	216.0	217.1	218.2
55°	201.6	203.2	203.9	204.6
57.5°	187.9	189.5	189.8	190.0
60°	172.9	174.5	175.0	175.4
62.5°	158.5	159.5	159.9	160.4
65°	142.1	143.5	144.4	145.3
67.5°	126.4	127.6	127.6	127.6
70°	108.9	109.3	110.0	110.7
72.5°	92.7	92.9	92.9	92.9
75°	75.6	76.1	76.3	76.5
77.5°	59.5	59.7	59.7	59.7
80°	43.5	43.3	43.3	43.3
82.5°	29.8	29.2	29.2	29.2
85°	17.1	16.9	17.1	17.3
87.5°	7.7	7.7	7.7	7.7
90°	16.0	16.5	17.1	16.5
92.5°	33.1	30.8	31.4	30.2
95°	77.6	72.4	68.4	66.2
97.5°	177.4	155.7	142.0	135.7
100°	420.9	379.3	357.1	357.6
102.5°	631.4	600.6	582.9	566.4
105°	768.3	746.6	728.4	725.5
107.5°	853.3	843.0	835.6	829.3
110°	886.4	890.9	889.8	888.6



TEST NUMBER: P831401

CATALOG NUMBER: S123DIP-S340D585U835-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	877.8	894.3	900.1	900.6
115°	843.0	868.1	879.5	882.4
117.5°	793.4	821.3	838.4	842.4
120°	740.9	772.9	786.5	790.0
122.5°	693.0	721.0	736.4	740.9
125°	652.5	677.6	691.9	695.9
127.5°	618.9	640.5	653.6	657.1
130°	588.1	608.6	620.6	625.1
132.5°	560.1	580.6	590.9	593.8
135°	532.7	549.8	560.1	564.1
137.5°	503.1	520.8	529.3	532.7
140°	475.1	491.1	500.2	499.6
142.5°	447.7	461.4	469.4	468.8
145°	423.2	435.2	439.8	440.9
147.5°	403.3	411.8	416.4	416.9
150°	386.7	393.0	396.4	396.4
152.5°	371.9	377.6	379.3	379.3
155°	359.3	363.9	365.0	365.6
157.5°	347.9	351.4	352.5	352.5
160°	337.1	340.5	340.5	339.9
162.5°	326.3	329.1	329.1	328.5
165°	317.1	319.4	318.8	318.8
167.5°	308.0	309.7	309.1	309.1
170°	300.0	301.2	300.6	300.6
172.5°	293.2	294.3	293.2	292.6
175°	287.5	288.0	287.5	286.9
177.5°	283.5	284.0	282.9	282.9
180°	281.8	281.8	281.8	281.8



TEST NUMBER: P831401

CATALOG NUMBER: S123DIP-S340D585U835-4F0-1E-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	11.04	11.81	12.06	12.83	14.21	13.27	14.04	14.30	15.07	16.45
	3H	12.68	13.37	13.71	14.40	15.80	14.69	15.38	15.73	16.42	17.81
	4H	13.25	13.90	14.30	14.94	16.34	15.14	15.79	16.18	16.83	18.23
	6H	13.62	14.22	14.67	15.26	16.67	15.41	16.01	16.47	17.05	18.47
	8H	13.71	14.28	14.77	15.34	16.75	15.47	16.04	16.53	17.10	18.51
	12H	13.75	14.30	14.82	15.35	16.78	15.49	16.03	16.55	17.08	18.51
4H	2H	11.60	12.25	12.65	13.29	14.69	13.43	14.08	14.48	15.12	16.52
	3H	13.42	13.97	14.48	15.03	16.45	15.04	15.58	16.10	16.65	18.06
	4H	14.12	14.62	15.18	15.67	17.11	15.62	16.12	16.68	17.17	18.61
	6H	14.59	15.01	15.66	16.10	17.53	16.02	16.45	17.09	17.53	18.96
	8H	14.72	15.12	15.80	16.19	17.64	16.13	16.53	17.20	17.60	19.05
	12H	14.78	15.14	15.88	16.23	17.68	16.17	16.53	17.26	17.62	19.07
8H	4H	14.38	14.78	15.45	15.85	17.30	15.72	16.12	16.79	17.19	18.64
	6H	14.96	15.29	16.06	16.41	17.85	16.22	16.55	17.31	17.66	19.10
	8H	15.17	15.46	16.27	16.55	18.02	16.40	16.68	17.50	17.78	19.25
	12H	15.29	15.54	16.40	16.63	18.14	16.49	16.75	17.60	17.84	19.34
12H	4H	14.37	14.73	15.47	15.82	17.27	15.69	16.05	16.78	17.14	18.59
	6H	15.01	15.30	16.12	16.40	17.86	16.23	16.52	17.34	17.62	19.08
	8H	15.24	15.49	16.35	16.59	18.09	16.43	16.68	17.53	17.77	19.28