

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: P831532

Luminaire Tested: S123DIP-S560D585U830-4F0-1E-UDD-G1

Issue Date: 05/03/2024

**Test Information**

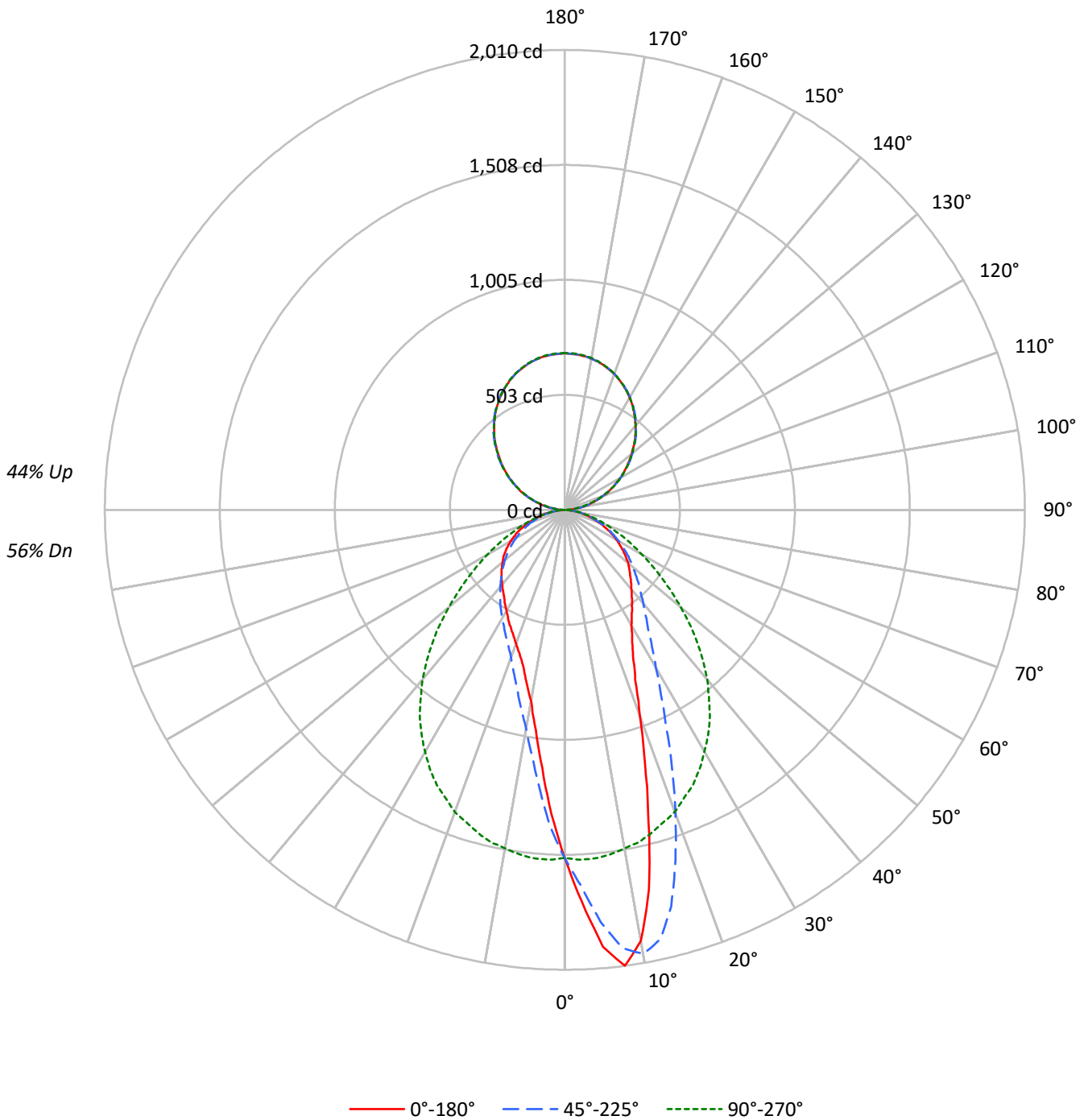
Test Method: LM-79-2019  
Report Number: P831532  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S560D585U830-4F0-1E-UDD-G1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 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: 4343.4 lumens  
Efficiency: N/A  
Efficacy: 124.8 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): 34.8  
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: P831532  
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### Luminous Intensity Polar Plot



TEST NUMBER: P831532

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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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	50	30	10	50	30	10	0																			
RCR																																														
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56	56	56	49	49	49	42	42	42	36																			
1	100	96	92	89	93	89	86	83	77	75	73	66	64	63	56	54	53	49	49	49	42	42	42	36	36	36	30																			
2	91	84	78	73	85	79	74	69	68	64	61	59	56	53	50	48	46	42	42	42	36	36	36	30	30	30	24																			
3	84	75	68	62	78	70	64	59	61	56	52	52	49	46	45	42	40	36	36	36	30	30	30	24	24	24	18																			
4	77	67	59	53	72	62	56	50	55	49	45	47	43	40	41	38	35	32	32	32	24	24	24	18	18	18	12																			
5	71	60	52	46	66	56	49	44	49	44	40	43	39	35	37	34	31	28	28	28	24	24	24	18	18	18	12																			
6	66	54	46	41	61	51	44	39	45	39	35	39	35	31	34	31	28	25	25	25	24	24	24	18	18	18	12																			
7	61	49	42	36	57	46	39	35	41	35	31	36	32	28	31	28	25	23	23	23	24	24	24	18	18	18	12																			
8	57	45	38	32	53	43	36	31	38	32	28	33	29	26	29	26	23	21	21	21	24	24	24	18	18	18	12																			
9	53	41	34	29	50	39	33	28	35	29	26	31	26	23	27	24	21	19	19	19	24	24	24	18	18	18	12																			
10	50	38	31	27	47	36	30	25	32	27	23	29	24	21	25	22	19	17	17	17	24	24	24	18	18	18	12																			

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

	0°	45°	90°	135°	180°
0°	16376	16376	16376	16376	16376
5°	20710	19547	16522	13315	12236
10°	20911	21544	16412	10614	9275
15°	15750	20002	16301	8988	7844
20°	10974	16186	16093	7860	7125
25°	8368	12447	15738	7232	6683
30°	7239	9889	15171	6788	6326
35°	6716	8349	14519	6466	6076
40°	6358	7489	13600	6160	5991
45°	6147	6932	12434	5922	5954
50°	6042	6491	11054	5704	5923
55°	5816	6167	9698	5499	5949
60°	5608	5821	8359	5304	5851
65°	5270	5494	7210	5096	5736
70°	4866	5076	6131	4755	5401
75°	4404	4550	5257	4417	4932
80°	3632	3980	4159	3849	4159
85°	2878	3223	3051	3273	3310

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 14196 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	143.8	3.3
10°-20°	357.8	8.2
20°-30°	423.7	9.8
30°-40°	426.0	9.8
40°-50°	390.8	9.0
50°-60°	322.6	7.4
60°-70°	228.2	5.3
70°-80°	121.8	2.8
80°-90°	32.4	0.7
90°-100°	44.0	1.0
100°-110°	133.3	3.1
110°-120°	227.0	5.2
120°-130°	298.6	6.9
130°-140°	335.7	7.7
140°-150°	330.0	7.6
150°-160°	277.8	6.4
160°-170°	185.0	4.3
170°-180°	64.8	1.5
0°-30°	925.3	21.3
0°-40°	1351.3	31.1
0°-60°	2064.7	47.5
0°-90°	2447.1	56.3
90°-120°	404.4	9.3
90°-150°	1368.7	31.5
90°-180°	1896.0	43.7
0°-180°	4343.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1521	1521	1521	1521	1521	
5°	1917	1809	1529	1232	1132	183
15°	1413	1795	1463	807	704	390
25°	705	1048	1325	609	563	333
35°	511	635	1105	492	462	321
45°	404	455	817	389	391	313
55°	310	329	517	293	317	277
65°	207	216	283	200	225	206
75°	106	109	126	106	119	111
85°	23	26	25	26	27	26
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°	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4
2.5°	1714.8	1713.0	1711.3	1702.5	1693.6	1689.4	1685.2	1672.5	1659.7	1645.6	1631.5
5°	1916.7	1921.7	1926.6	1921.0	1915.3	1898.0	1880.7	1857.8	1834.8	1809.1	1783.3
7.5°	2009.9	2012.7	2015.6	2012.0	2008.5	2003.9	1999.3	1978.8	1958.4	1931.9	1905.4
10°	1913.2	1919.5	1925.9	1939.7	1953.4	1969.0	1984.5	1981.7	1978.8	1971.1	1963.3
12.5°	1700.7	1708.5	1716.2	1743.8	1771.3	1806.6	1841.9	1872.2	1902.6	1923.8	1945.0
15°	1413.4	1434.9	1456.4	1481.5	1506.6	1558.4	1610.3	1674.2	1738.1	1794.9	1851.8
17.5°	1164.2	1172.3	1180.4	1207.2	1234.0	1299.3	1364.7	1438.4	1512.2	1606.4	1700.7
20°	958.0	965.4	972.8	1008.1	1043.4	1094.6	1145.8	1228.8	1311.7	1413.0	1514.3
22.5°	804.8	816.5	828.1	847.9	867.6	916.7	965.8	1039.5	1113.3	1225.2	1337.1
25°	704.6	713.0	721.5	733.5	745.5	784.7	823.9	884.6	945.3	1048.0	1150.7
27.5°	636.1	639.6	643.1	655.1	667.1	692.6	718.0	770.2	822.5	909.6	996.8
30°	582.4	584.9	587.4	598.0	608.6	625.8	643.1	680.9	718.7	795.6	872.6
32.5°	545.0	546.8	548.5	556.7	564.8	577.1	589.5	617.0	644.6	708.1	771.6
35°	511.1	512.2	513.2	519.2	525.2	534.4	543.6	564.4	585.3	635.4	685.5
37.5°	481.5	482.9	484.3	487.8	491.4	499.5	507.6	524.2	540.8	579.3	617.7
40°	452.5	455.0	457.5	459.9	462.4	469.1	475.8	488.5	501.2	533.0	564.8
42.5°	427.8	430.3	432.8	433.8	434.9	438.8	442.6	454.3	465.9	489.6	513.2
45°	403.8	404.9	405.9	407.0	408.1	411.2	414.4	424.6	434.9	455.4	475.8
47.5°	381.9	381.9	381.9	382.6	383.3	386.2	389.0	396.4	403.8	419.7	435.6
50°	360.8	360.8	360.8	359.7	358.6	360.4	362.2	367.8	373.5	387.6	401.7
52.5°	335.3	335.3	335.3	335.7	336.0	336.0	336.0	341.0	345.9	358.6	371.3
55°	309.9	311.3	312.7	311.7	310.6	311.3	312.0	315.2	318.4	328.6	338.9
57.5°	284.5	285.2	285.9	285.6	285.2	285.6	285.9	288.7	291.6	299.3	307.1
60°	260.5	260.5	260.5	259.8	259.1	259.8	260.5	261.9	263.3	270.4	277.4
62.5°	233.7	234.0	234.4	234.7	235.1	234.4	233.7	235.4	237.2	242.5	247.8
65°	206.9	207.2	207.6	208.6	209.7	209.0	208.3	210.0	211.8	215.7	219.6
67.5°	182.8	182.1	181.4	181.8	182.1	183.2	184.3	184.6	185.0	189.2	193.4
70°	154.6	155.3	156.0	155.7	155.3	155.7	156.0	157.1	158.1	161.3	164.5
72.5°	129.2	129.5	129.9	129.9	129.9	130.6	131.3	132.4	133.4	135.2	137.0
75°	105.9	105.9	105.9	106.6	107.3	107.7	108.0	108.0	108.0	109.4	110.8
77.5°	80.5	82.2	84.0	83.7	83.3	84.0	84.7	85.8	86.8	87.5	88.2
80°	58.6	58.6	58.6	58.9	59.3	60.4	61.4	62.1	62.8	64.2	65.7
82.5°	37.4	37.8	38.1	39.2	40.2	40.9	41.7	42.7	43.8	43.8	43.8
85°	23.3	22.6	21.9	22.6	23.3	24.0	24.7	25.1	25.4	26.1	26.8
87.5°	11.3	11.3	11.3	11.3	11.3	11.6	12.0	12.0	12.0	12.0	12.0
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°	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4
2.5°	1627.3	1623.0	1607.5	1592.0	1574.3	1556.7	1543.6	1530.6	1511.1	1491.7	1475.8
5°	1763.5	1743.8	1710.9	1678.1	1633.6	1589.2	1559.1	1529.1	1488.9	1448.7	1416.5
7.5°	1871.5	1837.7	1791.8	1745.9	1687.6	1629.4	1574.3	1519.3	1457.8	1396.4	1346.3
10°	1940.4	1917.4	1864.5	1811.5	1733.5	1655.5	1578.6	1501.6	1422.5	1343.5	1277.1
12.5°	1947.1	1949.2	1900.5	1851.8	1763.5	1675.3	1581.7	1488.2	1388.7	1289.1	1211.8
15°	1888.1	1924.5	1897.7	1870.8	1781.9	1692.9	1577.9	1462.8	1348.1	1233.3	1144.0
17.5°	1778.7	1856.7	1860.6	1864.5	1775.5	1686.6	1559.1	1431.7	1301.8	1171.9	1078.0
20°	1629.4	1744.5	1784.0	1823.5	1751.2	1678.8	1541.9	1404.9	1259.5	1114.0	1015.5
22.5°	1476.9	1616.7	1689.0	1761.4	1707.8	1654.1	1508.3	1362.5	1209.0	1055.4	955.5
25°	1303.2	1455.7	1566.9	1678.1	1645.3	1612.4	1468.8	1325.1	1161.7	998.2	896.2
27.5°	1151.8	1306.8	1440.9	1575.0	1568.0	1560.9	1418.3	1275.7	1108.4	941.1	842.6
30°	1017.0	1161.3	1311.3	1461.4	1478.7	1496.0	1358.3	1220.6	1053.0	885.3	790.3
32.5°	897.6	1023.7	1184.6	1345.6	1379.5	1413.4	1289.1	1164.9	999.0	833.1	741.6
35°	799.9	914.2	1075.2	1236.2	1278.5	1320.9	1212.9	1104.9	943.2	781.5	694.3
37.5°	713.4	809.0	966.1	1123.2	1175.1	1227.0	1130.3	1033.5	882.1	730.7	650.6
40°	641.7	718.7	863.1	1007.4	1067.4	1127.4	1047.7	967.9	824.2	680.6	606.8
42.5°	581.7	650.2	781.2	912.1	969.7	1027.2	959.8	892.4	764.6	636.8	569.4
45°	530.5	585.3	704.2	823.2	877.9	932.6	874.7	816.8	704.2	591.6	528.8
47.5°	482.5	529.5	631.1	732.8	781.5	830.2	785.0	739.9	644.6	549.2	492.4
50°	439.5	477.2	566.2	655.1	697.5	739.9	700.0	660.1	581.7	503.4	453.9
52.5°	402.1	432.8	507.2	581.7	618.1	654.4	620.2	586.0	523.8	461.7	418.6
55°	365.0	391.1	455.7	520.3	545.0	569.7	543.2	516.8	466.6	416.5	380.2
57.5°	330.4	353.7	406.6	459.6	478.7	497.7	473.7	449.7	411.9	374.2	343.8
60°	296.5	315.6	359.7	403.8	415.5	427.1	407.7	388.3	361.8	335.3	308.2
62.5°	265.1	282.4	315.2	348.0	355.8	363.6	348.8	333.9	313.8	293.7	272.5
65°	232.6	245.7	272.5	299.3	304.3	309.2	296.2	283.1	267.9	252.7	237.2
67.5°	202.6	211.8	233.7	255.6	255.9	256.3	245.7	235.1	226.6	218.1	205.8
70°	173.3	182.1	196.6	211.1	211.4	211.8	203.3	194.8	188.5	182.1	173.0
72.5°	143.3	149.7	160.6	171.6	170.8	170.1	164.8	159.6	154.6	149.7	143.0
75°	116.1	121.4	128.8	136.3	134.1	132.0	129.2	126.4	122.1	117.9	113.7
77.5°	91.4	94.6	98.8	103.1	101.7	100.2	97.8	95.3	92.1	89.0	87.2
80°	67.1	68.5	71.3	74.1	73.4	72.7	69.9	67.1	66.4	65.7	63.2
82.5°	45.5	47.3	48.0	48.7	48.4	48.0	45.9	43.8	43.1	42.4	42.0
85°	27.2	27.5	27.9	28.2	27.2	26.1	25.4	24.7	24.7	24.7	24.4
87.5°	12.4	12.7	12.7	12.7	12.4	12.0	11.3	10.6	10.9	11.3	11.3
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: P831532

CATALOG NUMBER: S123DIP-S560D585U830-4F0-1E-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: P831532

CATALOG NUMBER: S123DIP-S560D585U830-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4
2.5°	1460.0	1446.2	1432.4	1421.8	1411.2	1393.2	1375.2	1371.0	1366.8	1360.8	1354.8
5°	1384.4	1350.5	1316.6	1286.3	1255.9	1232.3	1208.6	1193.1	1177.6	1166.3	1155.0
7.5°	1296.2	1245.3	1194.5	1158.5	1122.5	1088.3	1054.0	1043.1	1032.1	1017.3	1002.5
10°	1210.7	1154.6	1098.5	1051.6	1004.6	971.1	937.5	924.1	910.7	892.0	873.3
12.5°	1134.5	1073.1	1011.7	964.4	917.1	884.6	852.1	832.7	813.3	802.7	792.1
15°	1054.7	989.1	923.4	879.6	835.9	806.6	777.3	760.3	743.4	733.2	722.9
17.5°	984.1	919.2	854.2	812.2	770.2	743.4	716.6	701.7	686.9	679.1	671.4
20°	917.1	853.5	790.0	749.0	708.1	686.2	664.3	654.8	645.3	638.9	632.6
22.5°	855.6	793.2	730.7	695.7	660.8	643.1	625.5	618.8	612.1	606.8	601.5
25°	794.2	738.5	682.7	653.0	623.4	608.9	594.4	587.7	581.0	575.7	570.4
27.5°	744.1	690.8	637.5	612.1	586.7	575.4	564.1	558.8	553.5	548.5	543.6
30°	695.4	647.7	600.1	578.2	556.3	546.1	535.8	530.5	525.2	520.7	516.1
32.5°	650.2	609.3	568.3	548.2	528.1	519.6	511.1	504.8	498.4	494.9	491.4
35°	607.1	570.4	533.7	517.1	500.5	492.1	483.6	478.3	473.0	470.2	467.4
37.5°	570.4	537.6	504.8	488.9	473.0	464.9	456.8	452.2	447.6	446.5	445.5
40°	533.0	504.8	476.5	461.0	445.5	438.4	431.4	428.5	425.7	425.0	424.3
42.5°	501.9	474.4	446.9	432.8	418.6	412.6	406.6	405.2	403.8	404.9	405.9
45°	465.9	443.0	420.1	407.0	393.9	389.0	384.1	383.0	381.9	384.1	386.2
47.5°	435.6	414.4	393.2	380.9	368.5	365.0	361.5	361.1	360.8	363.6	366.4
50°	404.5	384.1	363.6	353.7	343.8	340.6	337.5	338.5	339.6	344.2	348.8
52.5°	375.6	356.5	337.5	328.3	319.1	317.0	314.9	317.3	319.8	324.7	329.7
55°	343.8	326.5	309.2	302.2	295.1	293.0	290.9	295.8	300.7	305.3	309.9
57.5°	313.5	298.3	283.1	276.7	270.4	270.0	269.7	274.3	278.9	283.8	288.7
60°	281.0	268.3	255.6	250.6	245.7	246.4	247.1	252.4	257.7	261.6	265.4
62.5°	251.3	240.7	230.1	225.6	221.0	222.7	224.5	229.8	235.1	239.7	244.3
65°	221.7	212.9	204.0	200.8	197.7	200.1	202.6	207.2	211.8	215.0	218.1
67.5°	193.4	186.0	178.6	176.1	173.7	176.1	178.6	183.2	187.8	191.0	194.1
70°	163.8	157.8	151.8	150.0	148.3	151.1	153.9	157.8	161.7	164.8	168.0
72.5°	136.3	131.7	127.1	126.7	126.4	128.8	131.3	135.2	139.1	141.2	143.3
75°	109.4	107.0	104.5	104.1	103.8	106.2	108.7	110.8	113.0	114.7	116.5
77.5°	85.4	83.3	81.2	81.5	81.9	83.7	85.4	87.5	89.7	90.7	91.8
80°	60.7	60.0	59.3	60.0	60.7	62.1	63.5	64.9	66.4	67.1	67.8
82.5°	41.7	40.9	40.2	41.3	42.4	43.4	44.5	45.5	46.6	46.9	47.3
85°	24.0	25.1	26.1	26.1	26.1	26.5	26.8	27.2	27.5	27.2	26.8
87.5°	11.3	11.6	12.0	12.0	12.0	12.4	12.7	12.7	12.7	12.4	12.0
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: P831532

CATALOG NUMBER: S123DIP-S560D585U830-4F0-1E-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: P831532

CATALOG NUMBER: S123DIP-S560D585U830-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1521.4	1521.4	1521.4	1521.4
2.5°	1352.3	1349.8	1339.9	1330.1
5°	1146.5	1138.0	1135.2	1132.4
7.5°	1001.8	1001.1	986.2	971.4
10°	874.4	875.4	862.0	848.6
12.5°	783.3	774.5	773.4	772.3
15°	714.8	706.7	705.3	703.9
17.5°	666.4	661.5	660.1	658.7
20°	629.7	626.9	624.4	622.0
22.5°	598.0	594.4	592.3	590.2
25°	567.3	564.1	563.4	562.7
27.5°	539.7	535.8	535.8	535.8
30°	513.6	511.1	510.1	509.0
32.5°	489.2	487.1	487.1	487.1
35°	466.3	465.2	463.8	462.4
37.5°	445.5	445.5	444.8	444.1
40°	425.4	426.4	426.4	426.4
42.5°	407.0	408.1	408.1	408.1
45°	387.9	389.7	390.4	391.1
47.5°	369.2	372.0	372.8	373.5
50°	350.9	353.0	353.3	353.7
52.5°	332.2	334.6	336.4	338.2
55°	312.4	314.9	315.9	317.0
57.5°	291.2	293.7	294.0	294.4
60°	267.9	270.4	271.1	271.8
62.5°	245.7	247.1	247.8	248.5
65°	220.3	222.4	223.8	225.2
67.5°	195.9	197.7	197.7	197.7
70°	168.7	169.4	170.5	171.6
72.5°	143.7	144.0	144.0	144.0
75°	117.2	117.9	118.3	118.6
77.5°	92.1	92.5	92.5	92.5
80°	67.4	67.1	67.1	67.1
82.5°	46.2	45.2	45.2	45.2
85°	26.5	26.1	26.5	26.8
87.5°	12.0	12.0	12.0	12.0
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: P831532

CATALOG NUMBER: S123DIP-S560D585U830-4F0-1E-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: P831532

CATALOG NUMBER: S123DIP-S560D585U830-4F0-1E-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	13.85	14.73	14.76	15.66	16.84	16.09	16.97	17.00	17.89	19.07
	3H	15.50	16.29	16.42	17.22	18.43	17.52	18.30	18.44	19.24	20.44
	4H	16.08	16.83	17.02	17.76	18.98	17.97	18.71	18.90	19.65	20.86
	6H	16.45	17.14	17.40	18.08	19.31	18.25	18.93	19.19	19.87	21.10
	8H	16.55	17.20	17.50	18.16	19.39	18.31	18.96	19.26	19.92	21.14
	12H	16.60	17.22	17.55	18.17	19.42	18.33	18.95	19.29	19.90	21.15
4H	2H	14.43	15.18	15.37	16.11	17.33	16.26	17.00	17.20	17.94	19.15
	3H	16.26	16.88	17.21	17.85	19.08	17.88	18.50	18.83	19.46	20.69
	4H	16.96	17.53	17.92	18.49	19.74	18.46	19.03	19.42	19.99	21.24
	6H	17.44	17.92	18.41	18.91	20.16	18.87	19.35	19.84	20.34	21.59
	8H	17.57	18.03	18.55	19.01	20.27	18.98	19.43	19.95	20.41	21.68
	12H	17.64	18.05	18.63	19.05	20.32	19.03	19.43	20.02	20.43	21.70
8H	4H	17.23	17.68	18.20	18.66	19.93	18.57	19.02	19.54	20.00	21.27
	6H	17.82	18.19	18.82	19.21	20.48	19.07	19.45	20.07	20.47	21.73
	8H	18.03	18.36	19.03	19.36	20.65	19.25	19.58	20.26	20.59	21.87
	12H	18.15	18.44	19.16	19.44	20.77	19.36	19.65	20.37	20.65	21.98
12H	4H	17.23	17.64	18.22	18.63	19.91	18.54	18.95	19.54	19.95	21.22
	6H	17.87	18.20	18.88	19.21	20.49	19.09	19.42	20.09	20.43	21.71
	8H	18.10	18.39	19.11	19.40	20.73	19.29	19.58	20.30	20.58	21.91