

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: P831531

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

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831531  
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-S560D585U830-4F0-1E-UDD-G  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 585 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: -

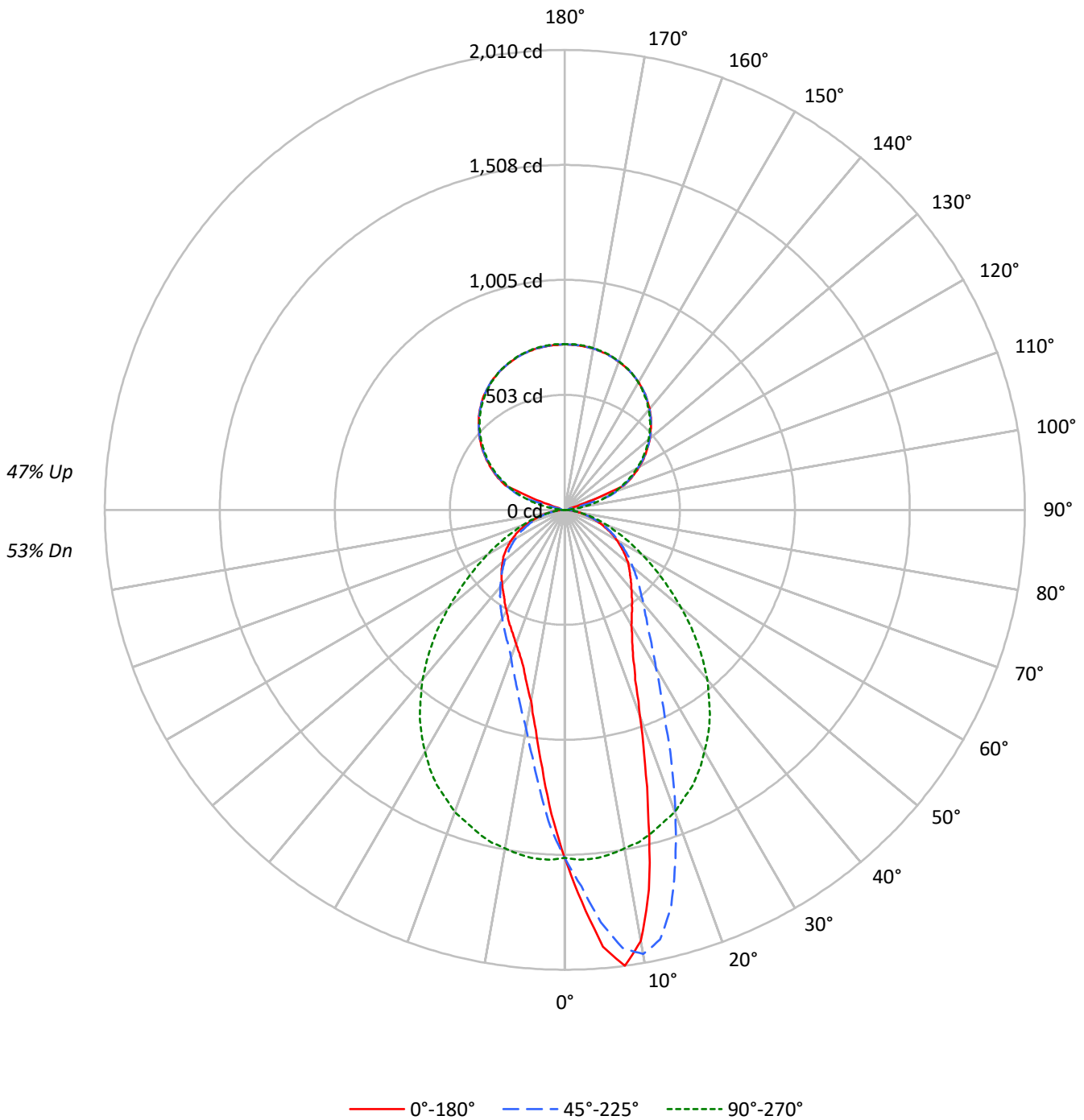
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4652.9 lumens  
Efficiency: N/A  
Efficacy: 133.7 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): 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

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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53				
1	99	95	91	88	91	88	85	82	75	73	71	63	62	60	53	51	50	45				
2	91	83	78	73	84	78	72	68	67	63	60	56	54	51	47	45	43	39				
3	83	74	67	61	77	69	63	58	59	55	51	50	47	44	42	40	38	34				
4	76	66	58	53	71	62	55	50	53	48	44	45	42	38	38	35	33	30				
5	70	59	51	46	65	55	48	43	48	43	38	41	37	34	35	32	29	26				
6	65	53	46	40	60	50	43	38	44	38	34	38	33	30	32	29	26	24				
7	60	49	41	35	56	46	39	34	40	34	30	34	30	27	29	26	24	21				
8	56	44	37	32	52	42	35	30	37	31	27	32	28	24	27	24	22	19				
9	53	41	34	29	49	38	32	27	34	28	25	29	25	22	25	22	20	18				
10	49	38	31	26	46	35	29	25	31	26	23	27	23	20	24	21	18	16				

**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	3.1
10°-20°	357.8	7.7
20°-30°	423.7	9.1
30°-40°	426.0	9.2
40°-50°	390.8	8.4
50°-60°	322.6	6.9
60°-70°	228.2	4.9
70°-80°	121.8	2.6
80°-90°	32.4	0.7
90°-100°	25.5	0.5
100°-110°	123.3	2.7
110°-120°	302.3	6.5
120°-130°	383.8	8.2
130°-140°	410.0	8.8
140°-150°	383.4	8.2
150°-160°	309.2	6.6
160°-170°	199.6	4.3
170°-180°	68.8	1.5
0°-30°	925.3	19.9
0°-40°	1351.3	29.0
0°-60°	2064.7	44.4
0°-90°	2447.1	52.6
90°-120°	451.1	9.7
90°-150°	1628.3	35.0
90°-180°	2206.0	47.4
0°-180°	4652.9	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	8
95°	20	17	33	17	20	17
105°	24	118	160	118	24	49
115°	316	309	300	309	316	297
125°	432	430	424	430	432	386
135°	533	533	527	533	533	411
145°	614	613	608	613	614	384
155°	669	670	670	670	669	309
165°	705	705	707	705	705	199
175°	721	721	724	721	721	69
180°	724	724	724	724	724	



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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	15.6	15.4	15.2	14.8	14.3	13.9	13.4	12.9	11.3
92.5°	18.3	18.2	18.0	17.9	17.8	17.3	16.5	15.6	14.8	14.0	12.9
95°	20.4	20.4	20.4	20.4	20.4	20.0	19.2	18.3	17.5	16.7	15.4
97.5°	22.0	21.9	21.8	21.7	21.6	21.0	20.1	19.1	18.2	17.2	23.3
100°	22.6	22.5	22.3	22.2	22.1	21.6	20.6	19.7	18.7	17.7	36.4
102.5°	23.1	22.9	22.6	22.4	22.2	24.0	28.0	31.9	35.8	39.8	60.6
105°	23.7	23.4	23.2	22.9	22.7	33.2	54.3	75.4	96.6	117.7	128.5
107.5°	55.9	71.6	87.2	102.9	118.5	135.5	153.9	172.3	190.7	209.1	207.3
110°	147.8	164.9	182.0	199.1	216.2	226.7	230.6	234.6	238.5	242.5	241.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	280.1	280.3	280.6	280.8	281.0	280.6	279.5	278.5	277.4	276.3	275.0
115°	316.1	315.6	315.1	314.7	314.2	313.4	312.2	311.0	309.8	308.6	307.5
117.5°	345.1	345.0	344.9	344.8	344.7	344.1	343.2	342.2	341.2	340.3	339.7
120°	375.2	375.2	375.2	375.2	375.2	374.8	373.8	372.8	371.9	370.9	370.6
122.5°	404.8	404.7	404.6	404.4	404.3	404.0	403.4	402.8	402.2	401.6	401.1
125°	432.2	432.0	431.7	431.5	431.3	431.0	430.8	430.5	430.3	430.1	429.6
127.5°	459.1	459.3	459.6	459.8	460.1	460.0	459.6	459.3	458.9	458.6	458.0
130°	484.9	485.1	485.4	485.6	485.9	485.7	485.3	484.8	484.3	483.8	483.3
132.5°	508.6	508.9	509.3	509.6	510.0	509.9	509.5	509.0	508.5	508.0	507.7
135°	532.7	533.1	533.5	533.8	534.2	534.2	533.8	533.5	533.1	532.7	532.3
137.5°	555.9	556.1	556.3	556.6	556.8	556.6	556.0	555.4	554.8	554.2	554.0
140°	576.3	576.5	576.8	577.0	577.2	577.1	576.6	576.2	575.7	575.2	574.9
142.5°	595.1	595.5	595.8	596.2	596.5	596.5	596.2	595.8	595.5	595.1	594.7
145°	614.5	614.5	614.5	614.5	614.5	614.3	614.1	613.9	613.6	613.4	613.1
147.5°	628.4	629.0	629.6	630.2	630.8	631.0	630.8	630.5	630.3	630.0	629.8
150°	644.6	644.9	645.3	645.6	646.0	646.1	645.8	645.6	645.3	645.1	644.9
152.5°	657.5	658.1	658.7	659.3	659.9	659.9	659.4	659.0	658.5	658.0	657.9
155°	669.3	670.0	670.7	671.4	672.2	672.2	671.6	671.0	670.4	669.8	669.7
157.5°	679.5	680.5	681.4	682.4	683.3	683.4	682.7	682.0	681.3	680.6	680.7
160°	689.2	690.0	690.9	691.7	692.5	692.6	691.9	691.2	690.4	689.7	689.8
162.5°	698.3	699.0	699.8	700.5	701.2	701.1	700.3	699.5	698.6	697.8	697.9
165°	705.3	706.1	707.0	707.8	708.7	708.6	707.6	706.7	705.7	704.8	704.9
167.5°	710.7	711.6	712.6	713.6	714.5	714.5	713.6	712.6	711.6	710.7	710.7
170°	715.5	716.5	717.4	718.4	719.3	719.3	718.4	717.4	716.5	715.5	715.5
172.5°	718.2	719.3	720.4	721.4	722.5	722.6	721.6	720.7	719.7	718.8	718.6
175°	720.9	721.9	722.8	723.8	724.7	724.8	723.9	723.1	722.3	721.4	721.3
177.5°	721.4	722.6	723.8	725.0	726.2	726.3	725.4	724.4	723.5	722.5	722.4
180°	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6



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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°	11.8	10.8	9.7	9.5	10.2	10.9	11.6	12.4	11.6	10.9	10.2
95°	14.0	12.7	11.4	13.2	18.1	23.0	27.9	32.8	27.9	23.0	18.1
97.5°	29.4	35.5	41.6	46.3	49.6	53.0	56.3	59.7	56.3	53.0	49.6
100°	55.0	73.6	92.3	100.4	98.0	95.6	93.2	90.9	93.2	95.6	98.0
102.5°	81.4	102.1	122.9	132.5	131.0	129.4	127.9	126.3	127.9	129.4	131.0
105°	139.2	150.0	160.7	165.5	164.1	162.8	161.5	160.2	161.5	162.8	164.1
107.5°	205.5	203.7	202.0	200.5	199.4	198.4	197.3	196.2	197.3	198.4	199.4
110°	239.8	238.5	237.2	236.1	235.1	234.1	233.2	232.2	233.2	234.1	235.1





TEST NUMBER: P831531

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

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	273.7	272.4	271.1	270.0	269.2	268.3	267.5	266.6	267.5	268.3	269.2
115°	306.4	305.3	304.3	303.4	302.7	301.9	301.2	300.5	301.2	301.9	302.7
117.5°	339.1	338.5	337.9	337.2	336.3	335.5	334.7	333.8	334.7	335.5	336.3
120°	370.2	369.9	369.5	368.8	367.7	366.6	365.6	364.5	365.6	366.6	367.7
122.5°	400.6	400.1	399.7	399.0	398.2	397.3	396.5	395.7	396.5	397.3	398.2
125°	429.1	428.6	428.2	427.4	426.5	425.5	424.6	423.6	424.6	425.5	426.5
127.5°	457.4	456.8	456.2	455.4	454.4	453.5	452.5	451.6	452.5	453.5	454.4
130°	482.9	482.4	481.9	481.2	480.2	479.3	478.3	477.4	478.3	479.3	480.2
132.5°	507.3	506.9	506.6	505.9	505.0	504.0	503.1	502.1	503.1	504.0	505.0
135°	531.8	531.3	530.8	530.2	529.5	528.8	528.1	527.4	528.1	528.8	529.5
137.5°	553.8	553.5	553.3	552.7	551.7	550.8	549.8	548.9	549.8	550.8	551.7
140°	574.5	574.1	573.8	573.2	572.5	571.8	571.1	570.4	571.1	571.8	572.5
142.5°	594.4	594.0	593.7	593.1	592.4	591.7	591.0	590.3	591.0	591.7	592.4
145°	612.9	612.7	612.4	611.9	611.1	610.2	609.4	608.5	609.4	610.2	611.1
147.5°	629.6	629.3	629.1	628.7	628.1	627.5	626.9	626.3	626.9	627.5	628.1
150°	644.6	644.4	644.1	643.8	643.5	643.1	642.8	642.4	642.8	643.1	643.5
152.5°	657.8	657.6	657.5	657.4	657.3	657.2	657.0	656.9	657.0	657.2	657.3
155°	669.6	669.5	669.4	669.4	669.7	669.9	670.1	670.4	670.1	669.9	669.7
157.5°	680.8	680.9	681.1	681.1	681.1	681.1	681.1	681.1	681.1	681.1	681.1
160°	690.0	690.1	690.2	690.3	690.4	690.6	690.7	690.8	690.7	690.6	690.4
162.5°	698.0	698.1	698.3	698.5	698.9	699.2	699.6	699.9	699.6	699.2	698.9
165°	705.0	705.1	705.3	705.5	705.8	706.2	706.6	706.9	706.6	706.2	705.8
167.5°	710.7	710.7	710.7	710.9	711.4	711.9	712.4	712.8	712.4	711.9	711.4
170°	715.5	715.5	715.5	715.8	716.2	716.7	717.2	717.7	717.2	716.7	716.2
172.5°	718.5	718.4	718.3	718.5	719.1	719.7	720.3	720.9	720.3	719.7	719.1
175°	721.2	721.1	721.0	721.2	721.8	722.4	723.0	723.6	723.0	722.4	721.8
177.5°	722.3	722.2	722.0	722.3	722.9	723.5	724.1	724.7	724.1	723.5	722.9
180°	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6



TEST NUMBER: P831531

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

**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°	9.5	9.7	10.8	11.8	12.9	14.0	14.8	15.6	16.5	17.3	17.8
95°	13.2	11.4	12.7	14.0	15.4	16.7	17.5	18.3	19.2	20.0	20.4
97.5°	46.3	41.6	35.5	29.4	23.3	17.2	18.2	19.1	20.1	21.0	21.6
100°	100.4	92.3	73.6	55.0	36.4	17.7	18.7	19.7	20.6	21.6	22.1
102.5°	132.5	122.9	102.1	81.4	60.6	39.8	35.8	31.9	28.0	24.0	22.2
105°	165.5	160.7	150.0	139.2	128.5	117.7	96.6	75.4	54.3	33.2	22.7
107.5°	200.5	202.0	203.7	205.5	207.3	209.1	190.7	172.3	153.9	135.5	118.5
110°	236.1	237.2	238.5	239.8	241.1	242.5	238.5	234.6	230.6	226.7	216.2



TEST NUMBER: P831531

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

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	270.0	271.1	272.4	273.7	275.0	276.3	277.4	278.5	279.5	280.6	281.0
115°	303.4	304.3	305.3	306.4	307.5	308.6	309.8	311.0	312.2	313.4	314.2
117.5°	337.2	337.9	338.5	339.1	339.7	340.3	341.2	342.2	343.2	344.1	344.7
120°	368.8	369.5	369.9	370.2	370.6	370.9	371.9	372.8	373.8	374.8	375.2
122.5°	399.0	399.7	400.1	400.6	401.1	401.6	402.2	402.8	403.4	404.0	404.3
125°	427.4	428.2	428.6	429.1	429.6	430.1	430.3	430.5	430.8	431.0	431.3
127.5°	455.4	456.2	456.8	457.4	458.0	458.6	458.9	459.3	459.6	460.0	460.1
130°	481.2	481.9	482.4	482.9	483.3	483.8	484.3	484.8	485.3	485.7	485.9
132.5°	505.9	506.6	506.9	507.3	507.7	508.0	508.5	509.0	509.5	509.9	510.0
135°	530.2	530.8	531.3	531.8	532.3	532.7	533.1	533.5	533.8	534.2	534.2
137.5°	552.7	553.3	553.5	553.8	554.0	554.2	554.8	555.4	556.0	556.6	556.8
140°	573.2	573.8	574.1	574.5	574.9	575.2	575.7	576.2	576.6	577.1	577.2
142.5°	593.1	593.7	594.0	594.4	594.7	595.1	595.5	595.8	596.2	596.5	596.5
145°	611.9	612.4	612.7	612.9	613.1	613.4	613.6	613.9	614.1	614.3	614.5
147.5°	628.7	629.1	629.3	629.6	629.8	630.0	630.3	630.5	630.8	631.0	630.8
150°	643.8	644.1	644.4	644.6	644.9	645.1	645.3	645.6	645.8	646.1	646.0
152.5°	657.4	657.5	657.6	657.8	657.9	658.0	658.5	659.0	659.4	659.9	659.9
155°	669.4	669.4	669.5	669.6	669.7	669.8	670.4	671.0	671.6	672.2	672.2
157.5°	681.1	681.1	680.9	680.8	680.7	680.6	681.3	682.0	682.7	683.4	683.3
160°	690.3	690.2	690.1	690.0	689.8	689.7	690.4	691.2	691.9	692.6	692.5
162.5°	698.5	698.3	698.1	698.0	697.9	697.8	698.6	699.5	700.3	701.1	701.2
165°	705.5	705.3	705.1	705.0	704.9	704.8	705.7	706.7	707.6	708.6	708.7
167.5°	710.9	710.7	710.7	710.7	710.7	710.7	711.6	712.6	713.6	714.5	714.5
170°	715.8	715.5	715.5	715.5	715.5	715.5	716.5	717.4	718.4	719.3	719.3
172.5°	718.5	718.3	718.4	718.5	718.6	718.8	719.7	720.7	721.6	722.6	722.5
175°	721.2	721.0	721.1	721.2	721.3	721.4	722.3	723.1	723.9	724.8	724.7
177.5°	722.3	722.0	722.2	722.3	722.4	722.5	723.5	724.4	725.4	726.3	726.2
180°	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6



TEST NUMBER: P831531

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

**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	15.6	15.9	16.1
92.5°	17.9	18.0	18.2	18.3
95°	20.4	20.4	20.4	20.4
97.5°	21.7	21.8	21.9	22.0
100°	22.2	22.3	22.5	22.6
102.5°	22.4	22.6	22.9	23.1
105°	22.9	23.2	23.4	23.7
107.5°	102.9	87.2	71.6	55.9
110°	199.1	182.0	164.9	147.8



TEST NUMBER: P831531

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

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	280.8	280.6	280.3	280.1
115°	314.7	315.1	315.6	316.1
117.5°	344.8	344.9	345.0	345.1
120°	375.2	375.2	375.2	375.2
122.5°	404.4	404.6	404.7	404.8
125°	431.5	431.7	432.0	432.2
127.5°	459.8	459.6	459.3	459.1
130°	485.6	485.4	485.1	484.9
132.5°	509.6	509.3	508.9	508.6
135°	533.8	533.5	533.1	532.7
137.5°	556.6	556.3	556.1	555.9
140°	577.0	576.8	576.5	576.3
142.5°	596.2	595.8	595.5	595.1
145°	614.5	614.5	614.5	614.5
147.5°	630.2	629.6	629.0	628.4
150°	645.6	645.3	644.9	644.6
152.5°	659.3	658.7	658.1	657.5
155°	671.4	670.7	670.0	669.3
157.5°	682.4	681.4	680.5	679.5
160°	691.7	690.9	690.0	689.2
162.5°	700.5	699.8	699.0	698.3
165°	707.8	707.0	706.1	705.3
167.5°	713.6	712.6	711.6	710.7
170°	718.4	717.4	716.5	715.5
172.5°	721.4	720.4	719.3	718.2
175°	723.8	722.8	721.9	720.9
177.5°	725.0	723.8	722.6	721.4
180°	723.6	723.6	723.6	723.6



TEST NUMBER: P831531

CATALOG NUMBER: S123DIP-S560D585U830-4F0-1E-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	13.52	14.37	14.46	15.32	16.56	15.76	16.60	16.70	17.56	18.79
	3H	15.17	15.93	16.12	16.89	18.15	17.18	17.94	18.14	18.90	20.16
	4H	15.74	16.46	16.71	17.43	18.70	17.63	18.35	18.60	19.31	20.58
	6H	16.11	16.77	17.09	17.75	19.03	17.91	18.57	18.88	19.54	20.82
	8H	16.21	16.84	17.20	17.83	19.11	17.97	18.60	18.95	19.59	20.86
	12H	16.25	16.85	17.24	17.83	19.14	17.99	18.58	18.98	19.57	20.87
4H	2H	14.09	14.81	15.07	15.78	17.05	15.92	16.64	16.89	17.60	18.87
	3H	15.92	16.52	16.90	17.52	18.80	17.54	18.13	18.52	19.13	20.41
	4H	16.62	17.16	17.61	18.15	19.46	18.12	18.67	19.11	19.66	20.96
	6H	17.09	17.56	18.10	18.58	19.88	18.52	18.99	19.53	20.01	21.31
	8H	17.23	17.67	18.23	18.67	19.99	18.64	19.07	19.64	20.08	21.40
	12H	17.30	17.69	18.32	18.71	20.04	18.68	19.07	19.70	20.10	21.42
8H	4H	16.88	17.32	17.89	18.33	19.65	18.23	18.66	19.23	19.67	20.99
	6H	17.47	17.83	18.50	18.88	20.20	18.73	19.09	19.76	20.14	21.45
	8H	17.68	18.00	18.72	19.03	20.37	18.91	19.22	19.94	20.26	21.60
	12H	17.80	18.08	18.84	19.11	20.49	19.01	19.29	20.05	20.32	21.70
12H	4H	16.88	17.28	17.91	18.30	19.63	18.20	18.59	19.22	19.62	20.94
	6H	17.52	17.84	18.56	18.88	20.21	18.74	19.06	19.78	20.09	21.43
	8H	17.76	18.04	18.80	19.06	20.44	18.94	19.22	19.98	20.25	21.63