

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: P831505

Luminaire Tested: S123DIP-S560D365U830-4F0-1E-UDD-G1

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831505  
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-S560D365U830-4F0-1E-UDD-G1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: -

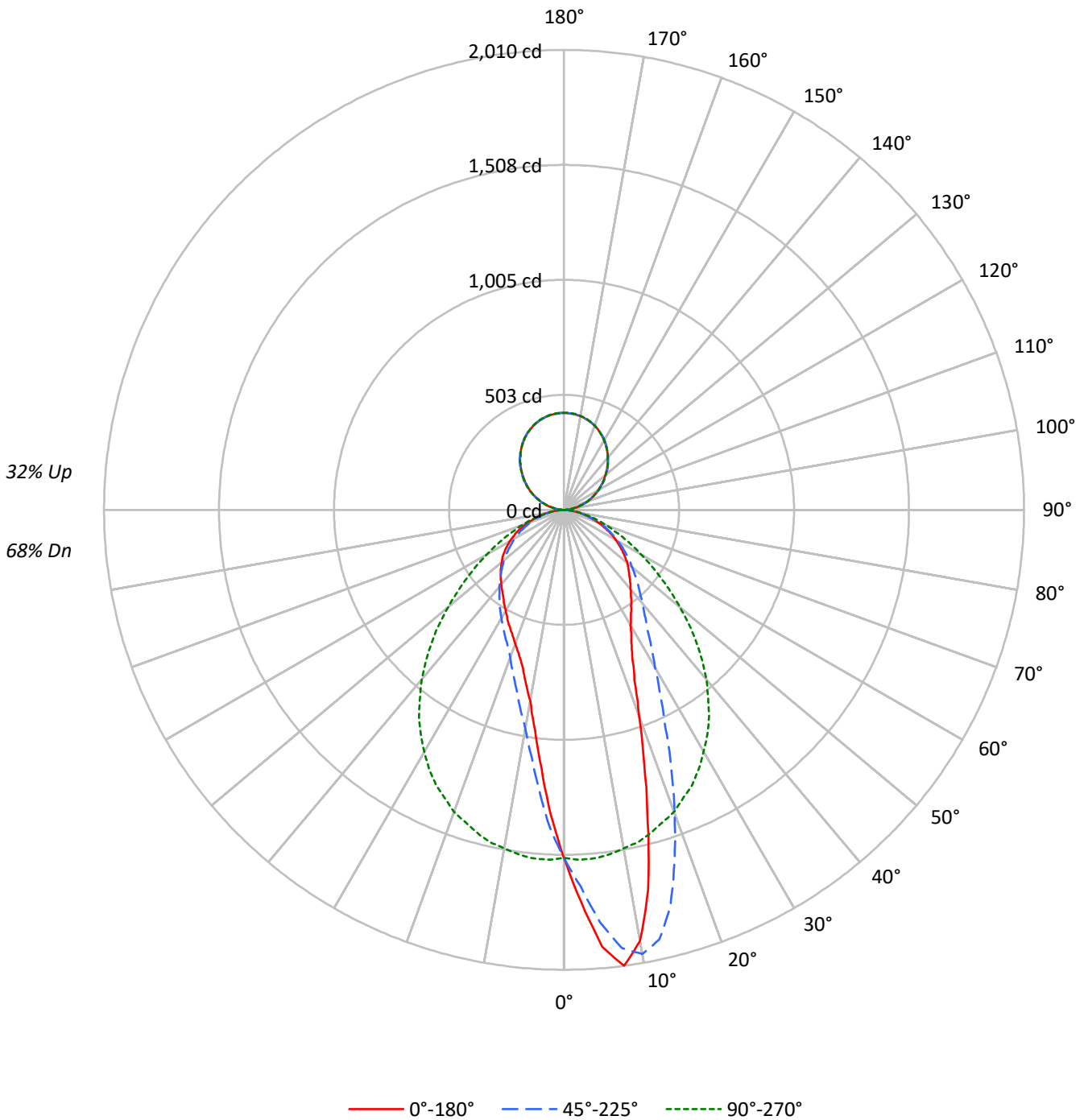
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3621.4 lumens  
Efficiency: N/A  
Efficacy: 122.3 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: Semi-Direct  
  
Input Watts (W): 29.6  
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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	68				
1	102	98	94	91	96	93	90	87	83	80	78	73	72	70	65	64	62	58				
2	94	87	81	76	88	82	77	72	73	69	66	65	62	60	58	56	54	50				
3	86	77	70	64	81	73	67	62	66	61	56	59	55	51	52	49	47	43				
4	79	69	61	55	75	65	58	53	59	53	49	53	49	45	47	44	41	38				
5	73	62	54	48	69	59	52	46	53	48	43	48	43	40	43	39	37	34				
6	68	56	48	43	64	54	46	41	49	43	38	44	39	35	40	36	33	30				
7	63	51	43	38	60	49	42	37	45	39	34	40	36	32	37	33	30	27				
8	59	47	39	34	56	45	38	33	41	35	31	37	33	29	34	30	27	25				
9	55	43	36	31	52	41	35	30	38	32	28	35	30	26	32	28	25	23				
10	52	40	33	28	49	38	32	27	35	30	26	32	28	24	30	26	23	21				

**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	4.0
10°-20°	357.8	9.9
20°-30°	423.7	11.7
30°-40°	426.0	11.8
40°-50°	390.8	10.8
50°-60°	322.6	8.9
60°-70°	228.2	6.3
70°-80°	121.8	3.4
80°-90°	31.8	0.9
90°-100°	27.3	0.8
100°-110°	82.6	2.3
110°-120°	140.6	3.9
120°-130°	185.0	5.1
130°-140°	208.0	5.7
140°-150°	204.5	5.6
150°-160°	172.1	4.8
160°-170°	114.6	3.2
170°-180°	40.1	1.1
0°-30°	925.3	25.6
0°-40°	1351.3	37.3
0°-60°	2064.7	57.0
0°-90°	2446.5	67.6
90°-120°	250.5	6.9
90°-150°	848.0	23.4
90°-180°	1175.0	32.4
0°-180°	3621.4	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°	10	8	0	8	10	6
95°	26	25	20	25	26	26
105°	79	79	75	79	79	84
115°	142	142	142	142	142	141
125°	205	208	207	208	205	183
135°	268	270	269	270	268	207
145°	326	328	326	328	326	204
155°	373	374	373	374	373	172
165°	405	406	407	406	405	114
175°	421	422	423	422	421	40
180°	424	424	424	424	424	



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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°	10.0	9.8	9.7	9.5	9.4	9.2	8.9	8.6	8.3	8.0	7.0
92.5°	14.3	14.5	14.6	14.8	14.9	14.9	14.7	14.4	14.2	14.0	13.5
95°	26.0	26.0	26.0	26.0	26.0	25.8	25.5	25.2	24.9	24.6	24.1
97.5°	37.3	37.4	37.5	37.5	37.6	37.5	37.1	36.7	36.3	36.0	35.5
100°	50.6	50.5	50.3	50.2	50.0	49.9	49.6	49.4	49.2	49.0	48.6
102.5°	64.3	64.4	64.4	64.5	64.6	64.5	64.3	64.1	63.8	63.6	63.1
105°	79.3	79.1	79.0	78.8	78.7	78.6	78.6	78.6	78.6	78.6	77.9
107.5°	94.6	94.7	94.7	94.8	94.9	94.8	94.6	94.4	94.2	93.9	93.6
110°	110.3	110.4	110.5	110.7	110.8	110.8	110.5	110.2	109.9	109.6	109.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	126.9	126.9	126.9	126.9	126.9	126.7	126.4	126.0	125.6	125.2	125.2
115°	141.9	142.0	142.0	142.1	142.2	142.2	142.1	142.0	142.0	141.9	142.0
117.5°	157.2	157.4	157.7	157.9	158.1	158.2	158.2	158.2	158.2	158.2	158.4
120°	173.5	173.7	173.8	174.0	174.1	174.2	174.3	174.4	174.5	174.5	174.9
122.5°	189.2	189.4	189.6	189.9	190.1	190.3	190.5	190.7	191.0	191.2	191.3
125°	204.8	205.1	205.4	205.7	206.0	206.3	206.6	206.9	207.2	207.5	207.7
127.5°	220.5	220.8	221.1	221.4	221.7	222.1	222.5	222.9	223.4	223.8	224.0
130°	235.8	236.3	236.9	237.4	237.9	238.3	238.6	238.9	239.2	239.5	239.7
132.5°	251.8	252.2	252.6	252.9	253.3	253.7	254.0	254.4	254.8	255.1	255.3
135°	268.5	268.6	268.8	268.9	269.1	269.3	269.6	269.9	270.2	270.5	270.5
137.5°	283.1	283.3	283.6	283.8	284.0	284.3	284.7	285.0	285.4	285.8	285.6
140°	297.4	298.0	298.5	299.0	299.5	299.8	299.9	300.0	300.0	300.1	300.0
142.5°	312.1	312.5	312.8	313.2	313.6	313.8	313.9	314.0	314.0	314.1	314.0
145°	326.1	326.4	326.7	327.0	327.3	327.5	327.5	327.6	327.7	327.8	327.5
147.5°	338.7	339.2	339.6	340.1	340.5	340.7	340.7	340.7	340.7	340.7	340.5
150°	350.7	351.2	351.6	352.1	352.5	352.7	352.7	352.7	352.7	352.7	352.6
152.5°	362.4	362.8	363.1	363.5	363.9	364.0	363.8	363.7	363.5	363.4	363.3
155°	372.7	373.2	373.8	374.3	374.8	374.9	374.6	374.3	374.0	373.7	373.6
157.5°	382.4	382.8	383.3	383.7	384.2	384.2	383.9	383.6	383.3	383.0	383.0
160°	391.7	392.0	392.3	392.6	392.9	392.9	392.5	392.1	391.7	391.4	391.4
162.5°	398.7	399.2	399.7	400.3	400.8	400.9	400.5	400.1	399.7	399.4	399.3
165°	405.4	405.9	406.4	406.9	407.4	407.5	407.0	406.6	406.1	405.7	405.7
167.5°	411.4	411.8	412.2	412.7	413.1	413.1	412.7	412.2	411.8	411.4	411.3
170°	415.7	416.2	416.7	417.2	417.8	417.8	417.2	416.7	416.2	415.7	415.7
172.5°	419.0	419.5	420.1	420.6	421.1	421.1	420.7	420.2	419.8	419.4	419.4
175°	421.4	421.9	422.4	422.9	423.4	423.5	423.0	422.6	422.1	421.7	421.7
177.5°	422.7	423.2	423.7	424.2	424.8	424.8	424.4	423.9	423.5	423.0	423.0
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0



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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°	6.1	5.1	4.1	3.3	2.6	1.8	1.1	0.3	1.1	1.8	2.6
92.5°	13.1	12.7	12.2	11.8	11.3	10.9	10.4	10.0	10.4	10.9	11.3
95°	23.5	22.9	22.3	21.7	21.2	20.7	20.2	19.7	20.2	20.7	21.2
97.5°	35.1	34.6	34.2	33.8	33.4	33.0	32.7	32.3	32.7	33.0	33.4
100°	48.2	47.9	47.5	47.1	46.6	46.2	45.7	45.3	45.7	46.2	46.6
102.5°	62.6	62.1	61.5	61.2	61.0	60.7	60.5	60.3	60.5	60.7	61.0
105°	77.3	76.6	75.9	75.5	75.4	75.2	75.1	74.9	75.1	75.2	75.4
107.5°	93.3	93.0	92.7	92.6	92.5	92.4	92.3	92.3	92.3	92.4	92.5
110°	109.3	109.1	109.0	108.8	108.7	108.5	108.4	108.3	108.4	108.5	108.7





TEST NUMBER: P831505

CATALOG NUMBER: S123DIP-S560D365U830-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	125.2	125.2	125.2	125.2	125.1	125.1	125.0	124.9	125.0	125.1	125.1
115°	142.2	142.3	142.5	142.4	142.2	142.0	141.8	141.6	141.8	142.0	142.2
117.5°	158.5	158.7	158.8	158.8	158.8	158.7	158.6	158.5	158.6	158.7	158.8
120°	175.3	175.6	176.0	176.0	175.5	175.1	174.6	174.2	174.6	175.1	175.5
122.5°	191.5	191.6	191.8	191.7	191.4	191.1	190.8	190.5	190.8	191.1	191.4
125°	207.8	208.0	208.1	208.1	207.8	207.6	207.4	207.2	207.4	207.6	207.8
127.5°	224.1	224.3	224.4	224.3	223.8	223.4	222.9	222.5	222.9	223.4	223.8
130°	239.9	240.2	240.4	240.2	239.6	239.0	238.4	237.8	238.4	239.0	239.6
132.5°	255.4	255.6	255.7	255.5	254.9	254.3	253.7	253.1	253.7	254.3	254.9
135°	270.6	270.7	270.8	270.6	270.1	269.7	269.2	268.8	269.2	269.7	270.1
137.5°	285.3	285.1	284.9	284.6	284.2	283.9	283.5	283.1	283.5	283.9	284.2
140°	300.0	299.9	299.8	299.6	299.2	298.9	298.5	298.1	298.5	298.9	299.2
142.5°	313.8	313.7	313.5	313.2	312.9	312.5	312.1	311.8	312.1	312.5	312.9
145°	327.3	327.1	326.9	326.7	326.5	326.4	326.2	326.1	326.2	326.4	326.5
147.5°	340.3	340.1	339.9	339.6	339.3	339.0	338.7	338.4	338.7	339.0	339.3
150°	352.4	352.3	352.1	352.0	351.8	351.7	351.6	351.4	351.6	351.7	351.8
152.5°	363.2	363.2	363.1	363.0	362.7	362.5	362.3	362.1	362.3	362.5	362.7
155°	373.6	373.5	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4
157.5°	382.9	382.8	382.8	382.8	382.8	382.9	383.0	383.0	383.0	382.9	382.8
160°	391.4	391.4	391.4	391.5	391.6	391.7	391.9	392.0	391.9	391.7	391.6
162.5°	399.2	399.1	399.1	399.1	399.4	399.6	399.8	400.0	399.8	399.6	399.4
165°	405.7	405.7	405.7	405.8	406.0	406.3	406.5	406.7	406.5	406.3	406.0
167.5°	411.2	411.1	411.1	411.2	411.5	411.8	412.1	412.4	412.1	411.8	411.5
170°	415.7	415.7	415.7	415.8	416.1	416.4	416.7	417.0	416.7	416.4	416.1
172.5°	419.4	419.4	419.4	419.5	419.8	420.1	420.4	420.7	420.4	420.1	419.8
175°	421.7	421.7	421.7	421.8	422.1	422.4	422.7	423.0	422.7	422.4	422.1
177.5°	423.0	423.0	423.0	423.2	423.5	423.8	424.1	424.4	424.1	423.8	423.5
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0



TEST NUMBER: P831505

CATALOG NUMBER: S123DIP-S560D365U830-4F0-1E-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°	3.3	4.1	5.1	6.1	7.0	8.0	8.3	8.6	8.9	9.2	9.4
92.5°	11.8	12.2	12.7	13.1	13.5	14.0	14.2	14.4	14.7	14.9	14.9
95°	21.7	22.3	22.9	23.5	24.1	24.6	24.9	25.2	25.5	25.8	26.0
97.5°	33.8	34.2	34.6	35.1	35.5	36.0	36.3	36.7	37.1	37.5	37.6
100°	47.1	47.5	47.9	48.2	48.6	49.0	49.2	49.4	49.6	49.9	50.0
102.5°	61.2	61.5	62.1	62.6	63.1	63.6	63.8	64.1	64.3	64.5	64.6
105°	75.5	75.9	76.6	77.3	77.9	78.6	78.6	78.6	78.6	78.6	78.7
107.5°	92.6	92.7	93.0	93.3	93.6	93.9	94.2	94.4	94.6	94.8	94.9
110°	108.8	109.0	109.1	109.3	109.4	109.6	109.9	110.2	110.5	110.8	110.8



TEST NUMBER: P831505

CATALOG NUMBER: S123DIP-S560D365U830-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	125.2	125.2	125.2	125.2	125.2	125.2	125.6	126.0	126.4	126.7	126.9
115°	142.4	142.5	142.3	142.2	142.0	141.9	142.0	142.0	142.1	142.2	142.2
117.5°	158.8	158.8	158.7	158.5	158.4	158.2	158.2	158.2	158.2	158.2	158.1
120°	176.0	176.0	175.6	175.3	174.9	174.5	174.5	174.4	174.3	174.2	174.1
122.5°	191.7	191.8	191.6	191.5	191.3	191.2	191.0	190.7	190.5	190.3	190.1
125°	208.1	208.1	208.0	207.8	207.7	207.5	207.2	206.9	206.6	206.3	206.0
127.5°	224.3	224.4	224.3	224.1	224.0	223.8	223.4	222.9	222.5	222.1	221.7
130°	240.2	240.4	240.2	239.9	239.7	239.5	239.2	238.9	238.6	238.3	237.9
132.5°	255.5	255.7	255.6	255.4	255.3	255.1	254.8	254.4	254.0	253.7	253.3
135°	270.6	270.8	270.7	270.6	270.5	270.5	270.2	269.9	269.6	269.3	269.1
137.5°	284.6	284.9	285.1	285.3	285.6	285.8	285.4	285.0	284.7	284.3	284.0
140°	299.6	299.8	299.9	300.0	300.0	300.1	300.0	300.0	299.9	299.8	299.5
142.5°	313.2	313.5	313.7	313.8	314.0	314.1	314.0	314.0	313.9	313.8	313.6
145°	326.7	326.9	327.1	327.3	327.5	327.8	327.7	327.6	327.5	327.5	327.3
147.5°	339.6	339.9	340.1	340.3	340.5	340.7	340.7	340.7	340.7	340.7	340.5
150°	352.0	352.1	352.3	352.4	352.6	352.7	352.7	352.7	352.7	352.7	352.5
152.5°	363.0	363.1	363.2	363.2	363.3	363.4	363.5	363.7	363.8	364.0	363.9
155°	373.4	373.4	373.5	373.6	373.6	373.7	374.0	374.3	374.6	374.9	374.8
157.5°	382.8	382.8	382.8	382.9	383.0	383.0	383.3	383.6	383.9	384.2	384.2
160°	391.5	391.4	391.4	391.4	391.4	391.4	391.7	392.1	392.5	392.9	392.9
162.5°	399.1	399.1	399.1	399.2	399.3	399.4	399.7	400.1	400.5	400.9	400.8
165°	405.8	405.7	405.7	405.7	405.7	405.7	406.1	406.6	407.0	407.5	407.4
167.5°	411.2	411.1	411.1	411.2	411.3	411.4	411.8	412.2	412.7	413.1	413.1
170°	415.8	415.7	415.7	415.7	415.7	415.7	416.2	416.7	417.2	417.8	417.8
172.5°	419.5	419.4	419.4	419.4	419.4	419.4	419.8	420.2	420.7	421.1	421.1
175°	421.8	421.7	421.7	421.7	421.7	421.7	422.1	422.6	423.0	423.5	423.4
177.5°	423.2	423.0	423.0	423.0	423.0	423.0	423.5	423.9	424.4	424.8	424.8
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0



TEST NUMBER: P831505

CATALOG NUMBER: S123DIP-S560D365U830-4F0-1E-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°	9.5	9.7	9.8	10.0
92.5°	14.8	14.6	14.5	14.3
95°	26.0	26.0	26.0	26.0
97.5°	37.5	37.5	37.4	37.3
100°	50.2	50.3	50.5	50.6
102.5°	64.5	64.4	64.4	64.3
105°	78.8	79.0	79.1	79.3
107.5°	94.8	94.7	94.7	94.6
110°	110.7	110.5	110.4	110.3



TEST NUMBER: P831505

CATALOG NUMBER: S123DIP-S560D365U830-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	126.9	126.9	126.9	126.9
115°	142.1	142.0	142.0	141.9
117.5°	157.9	157.7	157.4	157.2
120°	174.0	173.8	173.7	173.5
122.5°	189.9	189.6	189.4	189.2
125°	205.7	205.4	205.1	204.8
127.5°	221.4	221.1	220.8	220.5
130°	237.4	236.9	236.3	235.8
132.5°	252.9	252.6	252.2	251.8
135°	268.9	268.8	268.6	268.5
137.5°	283.8	283.6	283.3	283.1
140°	299.0	298.5	298.0	297.4
142.5°	313.2	312.8	312.5	312.1
145°	327.0	326.7	326.4	326.1
147.5°	340.1	339.6	339.2	338.7
150°	352.1	351.6	351.2	350.7
152.5°	363.5	363.1	362.8	362.4
155°	374.3	373.8	373.2	372.7
157.5°	383.7	383.3	382.8	382.4
160°	392.6	392.3	392.0	391.7
162.5°	400.3	399.7	399.2	398.7
165°	406.9	406.4	405.9	405.4
167.5°	412.7	412.2	411.8	411.4
170°	417.2	416.7	416.2	415.7
172.5°	420.6	420.1	419.5	419.0
175°	422.9	422.4	421.9	421.4
177.5°	424.2	423.7	423.2	422.7
180°	424.0	424.0	424.0	424.0



TEST NUMBER: P831505

CATALOG NUMBER: S123DIP-S560D365U830-4F0-1E-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	14.78	15.78	15.58	16.59	17.59	17.02	18.01	17.82	18.83	19.83
	3H	16.44	17.33	17.25	18.15	19.18	18.46	19.34	19.27	20.17	21.20
	4H	17.03	17.86	17.85	18.69	19.73	18.91	19.75	19.74	20.58	21.62
	6H	17.40	18.17	18.24	19.01	20.07	19.19	19.97	20.04	20.81	21.86
	8H	17.50	18.24	18.35	19.09	20.15	19.26	19.99	20.11	20.85	21.91
	12H	17.55	18.25	18.41	19.10	20.18	19.28	19.98	20.14	20.83	21.91
4H	2H	15.38	16.21	16.21	17.04	18.08	17.20	18.04	18.03	18.87	19.91
	3H	17.22	17.91	18.06	18.78	19.83	18.83	19.53	19.67	20.39	21.45
	4H	17.92	18.55	18.77	19.42	20.50	19.42	20.05	20.28	20.92	22.00
	6H	18.40	18.95	19.27	19.83	20.92	19.83	20.38	20.70	21.26	22.35
	8H	18.54	19.05	19.41	19.93	21.03	19.94	20.46	20.82	21.34	22.44
	12H	18.61	19.07	19.51	19.97	21.08	20.00	20.45	20.89	21.36	22.46
8H	4H	18.19	18.70	19.07	19.59	20.68	19.53	20.04	20.41	20.93	22.03
	6H	18.79	19.21	19.69	20.13	21.23	20.04	20.46	20.94	21.39	22.49
	8H	18.99	19.37	19.91	20.29	21.40	20.22	20.59	21.14	21.51	22.63
	12H	19.12	19.45	20.04	20.36	21.53	20.33	20.66	21.25	21.57	22.74
12H	4H	18.20	18.66	19.10	19.56	20.67	19.52	19.97	20.41	20.88	21.98
	6H	18.84	19.21	19.75	20.13	21.25	20.06	20.43	20.97	21.35	22.46
	8H	19.08	19.41	19.99	20.32	21.48	20.26	20.59	21.18	21.50	22.67