

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: P831452

Luminaire Tested: S123DIP-S560D1025U830-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831452
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-S560D1025U830-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

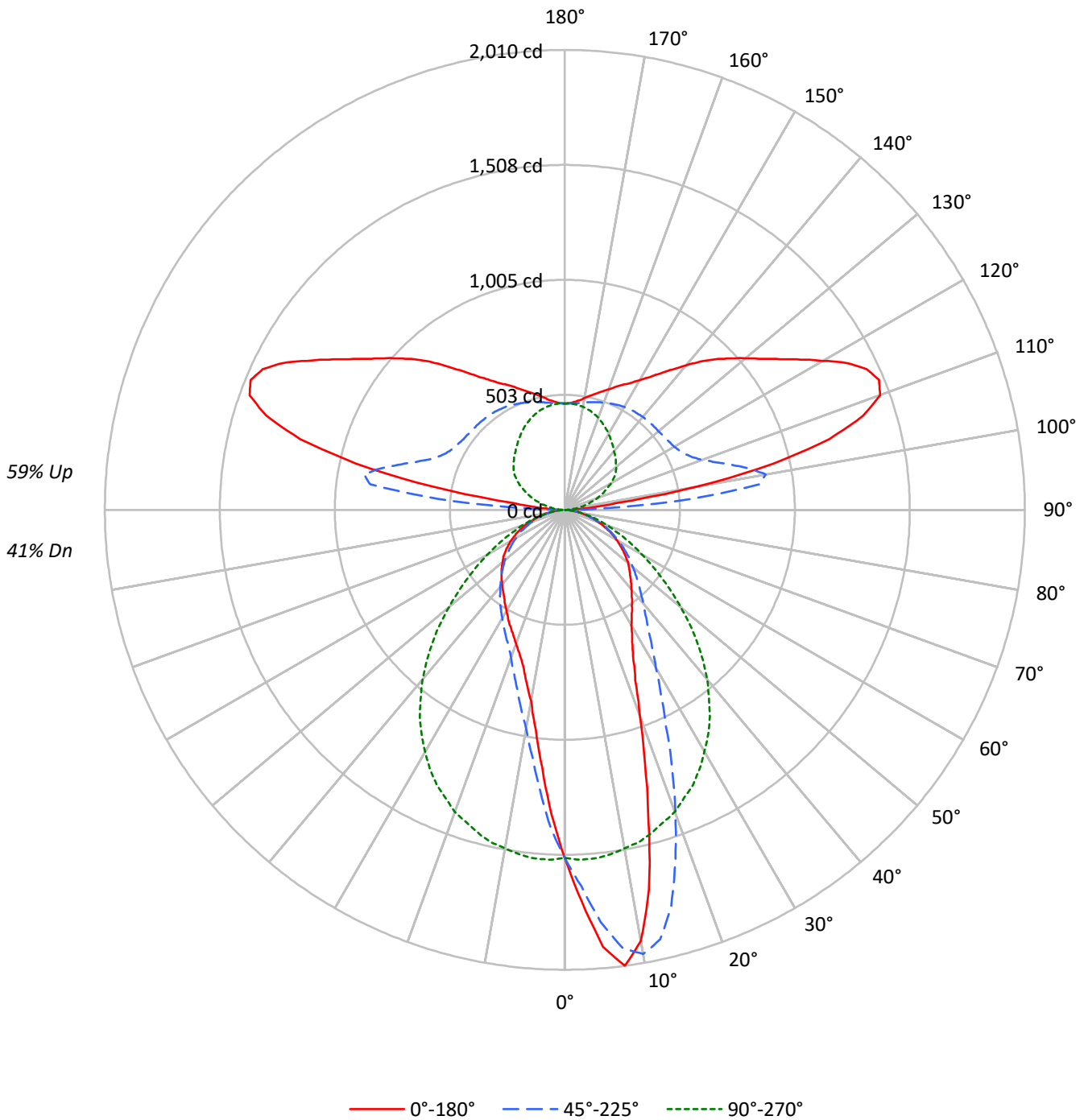
Lumens per Lamp: N/A
Luminaire Lumens: 5944.2 lumens
Efficiency: N/A
Efficacy: 130.6 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 45.5
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: P831452

CATALOG NUMBER: S123DIP-S560D1025U830-4F0-1E-UDD-G4

Luminous Intensity Polar Plot





TEST NUMBER: P831452

CATALOG NUMBER: S123DIP-S560D1025U830-4F0-1E-UDD-G4

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	78	78	78	63	63	63	48	48	48	41				41
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41				36	
2	88	81	75	70	80	74	69	65	61	58	55	49	47	45	38	37	36				30	
3	81	72	65	59	73	66	60	55	54	50	47	44	41	39	35	33	31				26	
4	74	64	56	50	67	59	52	47	49	44	40	40	36	33	31	29	27				23	
5	68	57	49	44	62	52	46	41	44	39	35	36	32	29	28	26	24				21	
6	63	51	44	38	57	47	41	36	40	35	31	33	29	26	26	23	21				18	
7	58	47	39	34	53	43	36	32	36	31	27	30	26	23	24	21	19				17	
8	54	42	35	30	49	39	33	28	33	28	25	28	24	21	22	20	18				15	
9	51	39	32	27	46	36	30	25	31	26	22	25	22	19	21	18	16				14	
10	47	36	29	24	43	33	27	23	28	23	20	24	20	17	19	17	15				13	

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



TEST NUMBER: P831452

CATALOG NUMBER: S123DIP-S560D1025U830-4F0-1E-UDD-G4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.8	2.4
10°-20°	357.8	6.0
20°-30°	423.7	7.1
30°-40°	426.0	7.2
40°-50°	390.8	6.6
50°-60°	322.6	5.4
60°-70°	228.2	3.8
70°-80°	121.8	2.0
80°-90°	33.5	0.6
90°-100°	252.2	4.2
100°-110°	738.4	12.4
110°-120°	721.0	12.1
120°-130°	574.2	9.7
130°-140°	453.1	7.6
140°-150°	338.0	5.7
150°-160°	235.7	4.0
160°-170°	138.4	2.3
170°-180°	45.0	0.8
0°-30°	925.3	15.6
0°-40°	1351.3	22.7
0°-60°	2064.7	34.7
0°-90°	2448.2	41.2
90°-120°	1711.6	28.8
90°-150°	3076.9	51.8
90°-180°	3496.0	58.8
0°-180°	5944.2	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°	27	24	2	24	27	16
95°	109	558	32	558	109	177
105°	1197	756	109	756	1197	1194
115°	1456	579	193	579	1456	1419
125°	1148	540	268	540	1148	1039
135°	930	532	314	532	930	722
145°	727	526	358	526	727	462
155°	603	509	407	509	603	281
165°	526	487	445	487	526	150
175°	473	468	464	468	473	46
180°	465	465	465	465	465	



TEST NUMBER: P831452

CATALOG NUMBER: S123DIP-S560D1025U830-4F0-1E-UDD-G4

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°	27.3	28.2	27.3	26.3	27.3	25.4	24.5	23.5	22.6	23.5	20.7
92.5°	49.9	51.7	50.8	54.6	56.4	63.0	72.4	93.1	130.8	175.0	193.8
95°	109.1	112.9	119.5	128.0	145.8	179.7	229.6	338.7	452.5	557.9	496.8
97.5°	223.9	234.3	256.8	292.6	355.6	462.9	587.1	778.1	887.2	858.0	640.7
100°	589.9	589.0	625.6	694.3	789.4	923.0	1033.0	1109.2	1076.3	891.0	602.1
102.5°	934.2	961.5	990.7	1041.5	1110.2	1182.6	1235.3	1219.3	1085.7	829.8	545.7
105°	1196.7	1201.4	1231.5	1267.3	1310.6	1335.0	1317.2	1223.1	1026.4	756.4	501.5
107.5°	1368.0	1378.3	1390.5	1407.5	1413.1	1387.7	1314.3	1166.6	941.8	691.5	469.5
110°	1465.8	1467.7	1469.6	1462.0	1435.7	1369.8	1251.3	1078.2	862.7	637.9	452.5



TEST NUMBER: P831452

CATALOG NUMBER: S123DIP-S560D1025U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1485.6	1484.6	1475.2	1447.9	1394.3	1304.9	1168.5	990.7	794.1	602.1	443.1
115°	1455.5	1450.8	1431.9	1390.5	1320.0	1217.4	1079.1	915.4	741.4	578.6	442.2
117.5°	1389.6	1383.0	1354.8	1308.7	1235.3	1129.0	1002.0	857.1	706.6	562.6	443.1
120°	1303.0	1297.4	1274.8	1222.1	1147.8	1052.8	939.9	812.9	680.2	552.3	446.9
122.5°	1222.1	1214.6	1189.2	1143.1	1079.1	992.6	890.0	778.1	658.6	545.7	453.5
125°	1147.8	1141.2	1117.7	1076.3	1016.1	940.8	850.5	748.0	640.7	540.0	460.1
127.5°	1083.8	1078.2	1056.5	1020.8	966.2	896.6	813.8	720.7	623.8	537.2	467.6
130°	1031.1	1023.6	1003.9	970.0	920.1	856.2	779.9	695.3	610.6	534.4	475.1
132.5°	979.4	974.7	957.8	923.9	877.8	817.6	748.0	671.7	598.4	533.4	480.8
135°	930.5	923.9	907.0	878.7	832.6	779.0	717.9	651.1	588.0	532.5	486.4
137.5°	878.7	873.1	859.0	829.8	790.3	742.3	687.7	631.3	578.6	530.6	490.2
140°	824.2	825.1	810.1	783.7	748.0	707.5	662.3	614.4	570.1	529.7	493.9
142.5°	773.4	774.3	761.1	738.5	709.4	675.5	637.9	598.4	562.6	527.8	496.8
145°	727.3	725.4	717.9	698.1	674.6	647.3	617.2	586.1	556.0	525.9	497.7
147.5°	687.7	686.8	679.3	665.2	646.3	626.6	601.2	575.8	549.4	523.1	497.7
150°	653.9	653.9	648.2	637.9	623.8	605.9	586.1	564.5	542.9	519.3	497.7
152.5°	625.6	625.6	622.8	613.4	603.1	589.0	572.0	554.1	535.3	514.6	494.9
155°	603.1	602.1	600.2	592.7	584.3	573.0	558.9	543.8	527.8	509.0	493.0
157.5°	581.4	581.4	579.5	573.9	566.4	557.0	545.7	532.5	519.3	504.3	490.2
160°	560.7	561.7	561.7	556.0	549.4	542.9	533.4	523.1	510.9	498.6	488.3
162.5°	541.9	542.9	542.9	538.2	534.4	528.7	520.3	511.8	502.4	493.0	484.5
165°	525.9	525.9	526.9	523.1	519.3	514.6	508.0	502.4	494.9	487.3	480.8
167.5°	509.9	509.9	510.9	508.0	506.2	502.4	498.6	493.9	487.3	481.7	477.0
170°	495.8	495.8	496.8	494.9	493.9	492.1	488.3	485.5	480.8	476.1	473.2
172.5°	482.6	483.6	485.5	483.6	483.6	482.6	479.8	477.9	474.2	471.4	470.4
175°	473.2	474.2	475.1	474.2	474.2	474.2	472.3	471.4	469.5	467.6	467.6
177.5°	466.6	466.6	468.5	467.6	468.5	468.5	467.6	466.6	465.7	464.8	465.7
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8



TEST NUMBER: P831452

CATALOG NUMBER: S123DIP-S560D1025U830-4F0-1E-UDD-G4

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°	17.9	15.1	12.2	10.3	8.5	5.6	3.8	1.9	3.8	5.6	8.5
92.5°	144.9	95.0	64.9	48.0	38.6	30.1	20.7	14.1	20.7	30.1	38.6
95°	342.5	202.3	122.3	85.6	61.2	45.2	34.8	32.0	34.8	45.2	61.2
97.5°	381.0	218.3	139.2	98.8	74.3	60.2	51.7	50.8	51.7	60.2	74.3
100°	354.7	215.4	149.6	112.9	90.3	77.1	70.6	69.6	70.6	77.1	90.3
102.5°	332.1	219.2	161.8	128.9	109.1	96.9	91.3	89.4	91.3	96.9	109.1
105°	323.6	226.7	175.9	146.8	128.9	117.6	112.0	109.1	112.0	117.6	128.9
107.5°	321.8	239.0	193.8	166.5	149.6	138.3	132.7	129.8	132.7	138.3	149.6
110°	326.5	255.0	212.6	186.3	170.3	159.9	155.2	152.4	155.2	159.9	170.3



TEST NUMBER: P831452

CATALOG NUMBER: S123DIP-S560D1025U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	335.9	271.0	232.4	207.0	191.0	180.6	175.9	173.1	175.9	180.6	191.0
115°	346.2	288.8	253.1	227.7	211.7	202.3	196.6	192.9	196.6	202.3	211.7
117.5°	359.4	307.7	271.9	248.4	230.5	222.0	217.3	212.6	217.3	222.0	230.5
120°	374.4	325.5	291.7	268.1	250.3	240.9	236.1	233.3	236.1	240.9	250.3
122.5°	388.6	344.3	311.4	286.0	269.1	258.7	254.0	251.2	254.0	258.7	269.1
125°	403.6	362.2	329.3	303.9	286.0	275.7	270.0	268.1	270.0	275.7	286.0
127.5°	415.8	378.2	346.2	320.8	301.1	290.7	284.1	281.3	284.1	290.7	301.1
130°	428.1	392.3	361.3	335.9	316.1	304.8	296.4	293.5	296.4	304.8	316.1
132.5°	439.4	404.6	374.4	350.0	330.2	316.1	306.7	302.9	306.7	316.1	330.2
135°	448.8	416.8	387.6	362.2	342.5	328.3	318.0	314.2	318.0	328.3	342.5
137.5°	456.3	425.3	397.0	373.5	353.8	338.7	328.3	324.6	328.3	338.7	353.8
140°	461.9	433.7	406.4	382.9	364.1	349.0	339.6	334.9	339.6	349.0	364.1
142.5°	467.6	440.3	414.0	392.3	373.5	360.3	350.0	346.2	350.0	360.3	373.5
145°	471.4	446.0	421.5	399.9	383.9	369.7	361.3	358.5	361.3	369.7	383.9
147.5°	474.2	450.7	428.1	409.3	393.3	381.0	372.6	370.7	372.6	381.0	393.3
150°	475.1	455.4	433.7	416.8	403.6	391.4	383.9	382.9	383.9	391.4	403.6
152.5°	477.0	458.2	440.3	424.3	413.0	402.7	395.1	395.1	395.1	402.7	413.0
155°	477.0	461.9	446.0	432.8	422.4	413.0	407.4	407.4	407.4	413.0	422.4
157.5°	477.9	463.8	450.7	440.3	430.9	422.4	417.7	416.8	417.7	422.4	430.9
160°	477.9	466.6	455.4	446.0	439.4	431.8	428.1	428.1	428.1	431.8	439.4
162.5°	477.0	467.6	458.2	450.7	445.0	439.4	436.5	436.5	436.5	439.4	445.0
165°	475.1	468.5	461.0	454.4	450.7	446.0	444.1	445.0	444.1	446.0	450.7
167.5°	474.2	468.5	462.9	458.2	455.4	451.6	450.7	451.6	450.7	451.6	455.4
170°	471.4	467.6	462.9	461.0	459.1	456.3	455.4	457.2	455.4	456.3	459.1
172.5°	470.4	467.6	463.8	462.9	461.9	460.1	460.1	461.0	460.1	460.1	461.9
175°	468.5	466.6	464.8	463.8	463.8	461.9	462.9	463.8	462.9	461.9	463.8
177.5°	467.6	465.7	464.8	464.8	464.8	463.8	464.8	465.7	464.8	463.8	464.8
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8



TEST NUMBER: P831452

CATALOG NUMBER: S123DIP-S560D1025U830-4F0-1E-UDD-G4

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°	10.3	12.2	15.1	17.9	20.7	23.5	22.6	23.5	24.5	25.4	27.3
92.5°	48.0	64.9	95.0	144.9	193.8	175.0	130.8	93.1	72.4	63.0	56.4
95°	85.6	122.3	202.3	342.5	496.8	557.9	452.5	338.7	229.6	179.7	145.8
97.5°	98.8	139.2	218.3	381.0	640.7	858.0	887.2	778.1	587.1	462.9	355.6
100°	112.9	149.6	215.4	354.7	602.1	891.0	1076.3	1109.2	1033.0	923.0	789.4
102.5°	128.9	161.8	219.2	332.1	545.7	829.8	1085.7	1219.3	1235.3	1182.6	1110.2
105°	146.8	175.9	226.7	323.6	501.5	756.4	1026.4	1223.1	1317.2	1335.0	1310.6
107.5°	166.5	193.8	239.0	321.8	469.5	691.5	941.8	1166.6	1314.3	1387.7	1413.1
110°	186.3	212.6	255.0	326.5	452.5	637.9	862.7	1078.2	1251.3	1369.8	1435.7



TEST NUMBER: P831452

CATALOG NUMBER: S123DIP-S560D1025U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	207.0	232.4	271.0	335.9	443.1	602.1	794.1	990.7	1168.5	1304.9	1394.3
115°	227.7	253.1	288.8	346.2	442.2	578.6	741.4	915.4	1079.1	1217.4	1320.0
117.5°	248.4	271.9	307.7	359.4	443.1	562.6	706.6	857.1	1002.0	1129.0	1235.3
120°	268.1	291.7	325.5	374.4	446.9	552.3	680.2	812.9	939.9	1052.8	1147.8
122.5°	286.0	311.4	344.3	388.6	453.5	545.7	658.6	778.1	890.0	992.6	1079.1
125°	303.9	329.3	362.2	403.6	460.1	540.0	640.7	748.0	850.5	940.8	1016.1
127.5°	320.8	346.2	378.2	415.8	467.6	537.2	623.8	720.7	813.8	896.6	966.2
130°	335.9	361.3	392.3	428.1	475.1	534.4	610.6	695.3	779.9	856.2	920.1
132.5°	350.0	374.4	404.6	439.4	480.8	533.4	598.4	671.7	748.0	817.6	877.8
135°	362.2	387.6	416.8	448.8	486.4	532.5	588.0	651.1	717.9	779.0	832.6
137.5°	373.5	397.0	425.3	456.3	490.2	530.6	578.6	631.3	687.7	742.3	790.3
140°	382.9	406.4	433.7	461.9	493.9	529.7	570.1	614.4	662.3	707.5	748.0
142.5°	392.3	414.0	440.3	467.6	496.8	527.8	562.6	598.4	637.9	675.5	709.4
145°	399.9	421.5	446.0	471.4	497.7	525.9	556.0	586.1	617.2	647.3	674.6
147.5°	409.3	428.1	450.7	474.2	497.7	523.1	549.4	575.8	601.2	626.6	646.3
150°	416.8	433.7	455.4	475.1	497.7	519.3	542.9	564.5	586.1	605.9	623.8
152.5°	424.3	440.3	458.2	477.0	494.9	514.6	535.3	554.1	572.0	589.0	603.1
155°	432.8	446.0	461.9	477.0	493.0	509.0	527.8	543.8	558.9	573.0	584.3
157.5°	440.3	450.7	463.8	477.9	490.2	504.3	519.3	532.5	545.7	557.0	566.4
160°	446.0	455.4	466.6	477.9	488.3	498.6	510.9	523.1	533.4	542.9	549.4
162.5°	450.7	458.2	467.6	477.0	484.5	493.0	502.4	511.8	520.3	528.7	534.4
165°	454.4	461.0	468.5	475.1	480.8	487.3	494.9	502.4	508.0	514.6	519.3
167.5°	458.2	462.9	468.5	474.2	477.0	481.7	487.3	493.9	498.6	502.4	506.2
170°	461.0	462.9	467.6	471.4	473.2	476.1	480.8	485.5	488.3	492.1	493.9
172.5°	462.9	463.8	467.6	470.4	470.4	471.4	474.2	477.9	479.8	482.6	483.6
175°	463.8	464.8	466.6	468.5	467.6	467.6	469.5	471.4	472.3	474.2	474.2
177.5°	464.8	464.8	465.7	467.6	465.7	464.8	465.7	466.6	467.6	468.5	468.5
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8



TEST NUMBER: P831452

CATALOG NUMBER: S123DIP-S560D1025U830-4F0-1E-UDD-G4

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°	26.3	27.3	28.2	27.3
92.5°	54.6	50.8	51.7	49.9
95°	128.0	119.5	112.9	109.1
97.5°	292.6	256.8	234.3	223.9
100°	694.3	625.6	589.0	589.9
102.5°	1041.5	990.7	961.5	934.2
105°	1267.3	1231.5	1201.4	1196.7
107.5°	1407.5	1390.5	1378.3	1368.0
110°	1462.0	1469.6	1467.7	1465.8



TEST NUMBER: P831452

CATALOG NUMBER: S123DIP-S560D1025U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1447.9	1475.2	1484.6	1485.6
115°	1390.5	1431.9	1450.8	1455.5
117.5°	1308.7	1354.8	1383.0	1389.6
120°	1222.1	1274.8	1297.4	1303.0
122.5°	1143.1	1189.2	1214.6	1222.1
125°	1076.3	1117.7	1141.2	1147.8
127.5°	1020.8	1056.5	1078.2	1083.8
130°	970.0	1003.9	1023.6	1031.1
132.5°	923.9	957.8	974.7	979.4
135°	878.7	907.0	923.9	930.5
137.5°	829.8	859.0	873.1	878.7
140°	783.7	810.1	825.1	824.2
142.5°	738.5	761.1	774.3	773.4
145°	698.1	717.9	725.4	727.3
147.5°	665.2	679.3	686.8	687.7
150°	637.9	648.2	653.9	653.9
152.5°	613.4	622.8	625.6	625.6
155°	592.7	600.2	602.1	603.1
157.5°	573.9	579.5	581.4	581.4
160°	556.0	561.7	561.7	560.7
162.5°	538.2	542.9	542.9	541.9
165°	523.1	526.9	525.9	525.9
167.5°	508.0	510.9	509.9	509.9
170°	494.9	496.8	495.8	495.8
172.5°	483.6	485.5	483.6	482.6
175°	474.2	475.1	474.2	473.2
177.5°	467.6	468.5	466.6	466.6
180°	464.8	464.8	464.8	464.8



TEST NUMBER: P831452

CATALOG NUMBER: S123DIP-S560D1025U830-4F0-1E-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	12.40	13.16	13.43	14.19	15.59	14.63	15.39	15.67	16.43	17.83
	3H	14.04	14.72	15.08	15.76	17.18	16.05	16.73	17.10	17.78	19.19
	4H	14.61	15.25	15.67	16.30	17.72	16.50	17.14	17.55	18.19	19.61
	6H	14.98	15.57	16.04	16.62	18.05	16.77	17.36	17.83	18.41	19.85
	8H	15.07	15.63	16.14	16.70	18.13	16.83	17.39	17.90	18.46	19.89
	12H	15.11	15.65	16.19	16.71	18.16	16.84	17.38	17.92	18.44	19.89
4H	2H	12.96	13.60	14.02	14.65	16.07	14.79	15.43	15.85	16.48	17.90
	3H	14.78	15.32	15.85	16.39	17.83	16.40	16.93	17.47	18.01	19.44
	4H	15.47	15.97	16.55	17.03	18.49	16.98	17.47	18.05	18.53	19.99
	6H	15.94	16.37	17.03	17.46	18.91	17.38	17.80	18.46	18.89	20.34
	8H	16.08	16.47	17.16	17.55	19.02	17.48	17.88	18.57	18.96	20.43
	12H	16.14	16.50	17.24	17.59	19.06	17.52	17.88	18.63	18.98	20.45
8H	4H	15.73	16.13	16.82	17.21	18.67	17.07	17.47	18.16	18.55	20.02
	6H	16.32	16.64	17.43	17.77	19.23	17.57	17.90	18.68	19.02	20.48
	8H	16.52	16.81	17.64	17.92	19.40	17.75	18.04	18.87	19.14	20.62
	12H	16.64	16.89	17.76	18.00	19.52	17.85	18.10	18.97	19.20	20.72
12H	4H	15.73	16.08	16.83	17.18	18.65	17.04	17.40	18.15	18.50	19.97
	6H	16.37	16.65	17.48	17.76	19.24	17.59	17.87	18.70	18.98	20.46
	8H	16.60	16.85	17.72	17.95	19.47	17.78	18.03	18.90	19.13	20.65