

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: P831494

Luminaire Tested: S123DIP-S560D1195U930-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831494  
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-S560D1195U930-4F0-1E-UDD-G4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: -

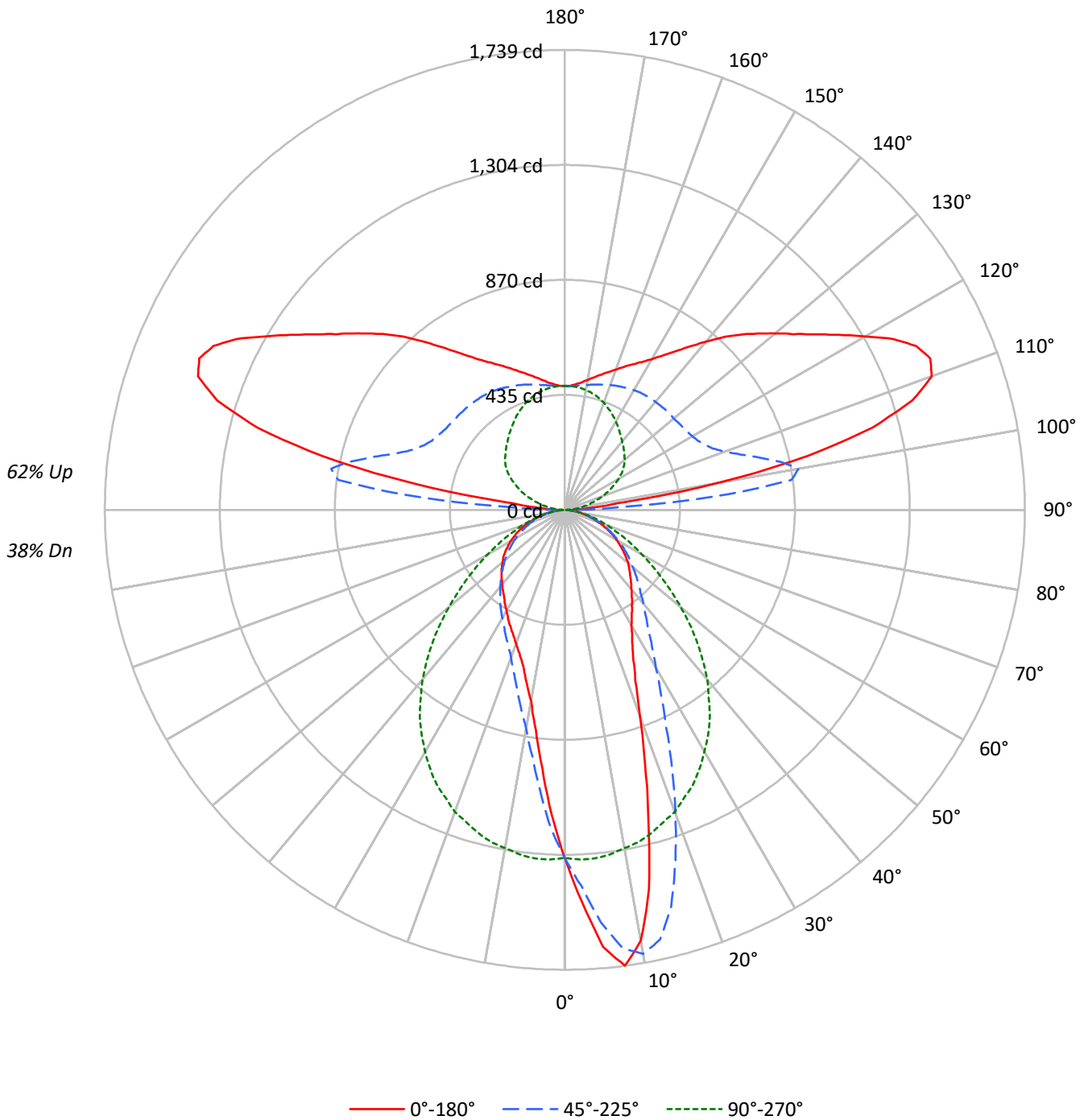
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5638.0 lumens  
Efficiency: N/A  
Efficacy: 111.4 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-Indirect  
  
Input Watts (W): 50.6  
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	0
RCR																		
0	104	104	104	104	95	95	95	95	76	76	76	60	60	60	45	45	45	38
1	95	91	88	84	86	83	80	77	67	65	63	53	52	51	40	39	38	32
2	87	80	74	69	79	73	68	64	60	56	53	47	45	43	36	34	33	28
3	80	71	64	58	72	65	59	54	53	49	45	42	39	37	32	30	29	24
4	73	63	55	50	66	58	51	46	47	43	39	38	35	32	29	27	25	21
5	67	56	49	43	61	52	45	40	43	38	34	34	31	28	26	24	22	19
6	62	51	43	37	56	46	40	35	39	34	30	31	28	25	24	22	20	17
7	58	46	38	33	52	42	36	31	35	30	26	28	25	22	22	20	18	15
8	54	42	34	29	49	38	32	27	32	27	24	26	23	20	21	18	16	14
9	50	38	31	26	45	35	29	25	30	25	21	24	21	18	19	17	15	13
10	47	35	28	24	43	32	26	22	27	23	19	22	19	16	18	15	14	12

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

	0°	45°	90°	135°	180°
0°	14165	14165	14165	14165	14165
5°	17915	16908	14292	11517	10584
10°	18088	18636	14197	9181	8023
15°	13624	17302	14100	7775	6784
20°	9493	14001	13920	6800	6163
25°	7238	10766	13613	6255	5780
30°	6262	8554	13123	5872	5473
35°	5809	7222	12558	5593	5256
40°	5500	6479	11764	5328	5182
45°	5317	5996	10755	5122	5150
50°	5226	5615	9562	4933	5123
55°	5031	5335	8389	4755	5146
60°	4850	5035	7231	4588	5061
65°	4557	4753	6238	4409	4961
70°	4208	4390	5303	4113	4670
75°	3810	3938	4546	3822	4267
80°	3143	3446	3595	3329	3595
85°	2495	2791	2643	2828	2865

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 12280 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.4	2.2
10°-20°	309.5	5.5
20°-30°	366.5	6.5
30°-40°	368.5	6.5
40°-50°	338.1	6.0
50°-60°	279.0	4.9
60°-70°	197.4	3.5
70°-80°	105.4	1.9
80°-90°	29.3	0.5
90°-100°	253.9	4.5
100°-110°	743.4	13.2
110°-120°	726.0	12.9
120°-130°	578.2	10.3
130°-140°	456.2	8.1
140°-150°	340.3	6.0
150°-160°	237.3	4.2
160°-170°	139.4	2.5
170°-180°	45.3	0.8
0°-30°	800.4	14.2
0°-40°	1168.9	20.7
0°-60°	1786.0	31.7
0°-90°	2118.1	37.6
90°-120°	1723.3	30.6
90°-150°	3097.9	54.9
90°-180°	3520.0	62.4
0°-180°	5638.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1316	1316	1316	1316	1316	
5°	1658	1565	1323	1066	980	158
15°	1223	1553	1265	698	609	338
25°	609	906	1146	527	487	288
35°	442	550	956	426	400	278
45°	349	394	706	336	338	271
55°	268	284	447	253	274	240
65°	179	187	245	173	195	178
75°	92	95	109	92	103	96
85°	20	23	21	23	23	23
90°	28	24	2	24	28	16
95°	110	562	32	562	110	179
105°	1205	762	110	762	1205	1202
115°	1465	583	194	583	1465	1429
125°	1156	544	270	544	1156	1046
135°	937	536	316	536	937	727
145°	732	530	361	530	732	465
155°	607	512	410	512	607	283
165°	530	491	448	491	530	151
175°	476	471	467	471	476	46
180°	468	468	468	468	468	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0
2.5°	1483.3	1481.8	1480.3	1472.6	1465.0	1461.3	1457.7	1446.7	1435.7	1423.5	1411.3
5°	1658.0	1662.2	1666.5	1661.6	1656.7	1641.8	1626.8	1607.0	1587.1	1564.8	1542.5
7.5°	1738.6	1741.0	1743.5	1740.4	1737.4	1733.4	1729.4	1711.7	1694.0	1671.1	1648.2
10°	1654.9	1660.4	1665.9	1677.8	1689.7	1703.2	1716.6	1714.1	1711.7	1705.0	1698.3
12.5°	1471.1	1477.8	1484.5	1508.4	1532.2	1562.7	1593.2	1619.5	1645.8	1664.1	1682.4
15°	1222.6	1241.2	1259.8	1281.5	1303.2	1348.0	1392.9	1448.2	1503.5	1552.6	1601.8
17.5°	1007.0	1014.0	1021.0	1044.2	1067.4	1123.9	1180.4	1244.2	1308.1	1389.6	1471.1
20°	828.7	835.1	841.5	872.0	902.6	946.8	991.1	1062.9	1134.6	1222.3	1309.9
22.5°	696.2	706.2	716.3	733.4	750.5	793.0	835.4	899.2	963.0	1059.8	1156.6
25°	609.4	616.8	624.1	634.5	644.9	678.8	712.6	765.2	817.7	906.5	995.4
27.5°	550.2	553.3	556.3	566.7	577.1	599.1	621.0	666.2	711.4	786.8	862.3
30°	503.8	505.9	508.1	517.2	526.4	541.4	556.3	589.0	621.7	688.2	754.8
32.5°	471.4	473.0	474.5	481.5	488.5	499.2	509.9	533.7	557.5	612.5	667.5
35°	442.1	443.0	444.0	449.1	454.3	462.3	470.2	488.2	506.2	549.6	593.0
37.5°	416.5	417.7	418.9	422.0	425.0	432.0	439.1	453.4	467.8	501.1	534.3
40°	391.4	393.6	395.7	397.9	400.0	405.8	411.6	422.6	433.6	461.1	488.5
42.5°	370.1	372.2	374.3	375.3	376.2	379.5	382.9	393.0	403.0	423.5	444.0
45°	349.3	350.2	351.1	352.1	353.0	355.7	358.5	367.3	376.2	393.9	411.6
47.5°	330.4	330.4	330.4	331.0	331.6	334.0	336.5	342.9	349.3	363.0	376.8
50°	312.1	312.1	312.1	311.1	310.2	311.7	313.3	318.2	323.0	335.3	347.5
52.5°	290.1	290.1	290.1	290.4	290.7	290.7	290.7	295.0	299.2	310.2	321.2
55°	268.1	269.3	270.5	269.6	268.7	269.3	269.9	272.7	275.4	284.3	293.1
57.5°	246.1	246.7	247.3	247.0	246.7	247.0	247.3	249.8	252.2	258.9	265.6
60°	225.3	225.3	225.3	224.7	224.1	224.7	225.3	226.6	227.8	233.9	240.0
62.5°	202.1	202.4	202.7	203.0	203.4	202.7	202.1	203.7	205.2	209.8	214.3
65°	178.9	179.2	179.5	180.5	181.4	180.8	180.1	181.7	183.2	186.6	189.9
67.5°	158.2	157.6	156.9	157.2	157.6	158.5	159.4	159.7	160.0	163.7	167.3
70°	133.7	134.3	135.0	134.7	134.3	134.7	135.0	135.9	136.8	139.5	142.3
72.5°	111.8	112.1	112.4	112.4	112.4	113.0	113.6	114.5	115.4	116.9	118.5
75°	91.6	91.6	91.6	92.2	92.8	93.1	93.4	93.4	93.4	94.7	95.9
77.5°	69.6	71.1	72.7	72.4	72.1	72.7	73.3	74.2	75.1	75.7	76.3
80°	50.7	50.7	50.7	51.0	51.3	52.2	53.1	53.7	54.3	55.6	56.8
82.5°	32.4	32.7	33.0	33.9	34.8	35.4	36.0	36.9	37.9	37.9	37.9
85°	20.2	19.5	18.9	19.5	20.2	20.8	21.4	21.7	22.0	22.6	23.2
87.5°	9.8	9.8	9.8	9.8	9.8	10.1	10.4	10.4	10.4	10.4	10.4
90°	27.5	28.4	27.5	26.5	27.5	25.6	24.6	23.7	22.7	23.7	20.8
92.5°	50.2	52.1	51.2	54.9	56.8	63.5	72.9	93.8	131.7	176.2	195.1
95°	109.9	113.7	120.3	128.8	146.8	180.9	231.1	341.0	455.6	561.7	500.1
97.5°	225.4	235.9	258.6	294.6	358.1	466.0	591.1	783.4	893.3	863.9	645.1
100°	593.9	593.0	629.9	699.1	794.7	929.3	1040.1	1116.8	1083.7	897.0	606.2
102.5°	940.6	968.1	997.5	1048.6	1117.8	1190.7	1243.7	1227.6	1093.1	835.5	549.4
105°	1204.9	1209.6	1240.0	1275.9	1319.5	1344.2	1326.2	1231.4	1033.5	761.6	504.9
107.5°	1377.3	1387.7	1400.0	1417.1	1422.8	1397.2	1323.3	1174.6	948.2	696.2	472.7
110°	1475.8	1477.7	1479.6	1472.0	1445.5	1379.2	1259.8	1085.6	868.6	642.2	455.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1495.7	1494.8	1485.3	1457.8	1403.8	1313.8	1176.5	997.5	799.5	606.2	446.2
115°	1465.4	1460.7	1441.7	1400.0	1329.0	1225.7	1086.5	921.7	746.4	582.6	445.2
117.5°	1399.1	1392.5	1364.0	1317.6	1243.7	1136.7	1008.8	862.9	711.4	566.5	446.2
120°	1311.9	1306.3	1283.5	1230.5	1155.6	1060.0	946.3	818.4	684.9	556.0	449.9
122.5°	1230.5	1222.9	1197.3	1150.9	1086.5	999.4	896.1	783.4	663.1	549.4	456.6
125°	1155.6	1149.0	1125.3	1083.7	1023.0	947.3	856.3	753.1	645.1	543.7	463.2
127.5°	1091.2	1085.6	1063.8	1027.8	972.8	902.7	819.4	725.6	628.0	540.9	470.8
130°	1038.2	1030.6	1010.7	976.6	926.4	862.0	785.3	700.0	614.8	538.0	478.4
132.5°	986.1	981.4	964.3	930.2	883.8	823.2	753.1	676.3	602.5	537.1	484.0
135°	936.8	930.2	913.2	884.7	838.3	784.3	722.8	655.5	592.0	536.1	489.7
137.5°	884.7	879.1	864.8	835.5	795.7	747.4	692.4	635.6	582.6	534.3	493.5
140°	829.8	830.7	815.6	789.1	753.1	712.3	666.9	618.6	574.0	533.3	497.3
142.5°	778.6	779.6	766.3	743.6	714.2	680.1	642.2	602.5	566.5	531.4	500.1
145°	732.2	730.3	722.8	702.9	679.2	651.7	621.4	590.1	559.8	529.5	501.1
147.5°	692.4	691.5	683.9	669.7	650.8	630.9	605.3	579.7	553.2	526.7	501.1
150°	658.3	658.3	652.7	642.2	628.0	610.0	590.1	568.4	546.6	522.9	501.1
152.5°	629.9	629.9	627.1	617.6	607.2	593.0	575.9	557.9	539.0	518.1	498.3
155°	607.2	606.2	604.3	596.8	588.2	576.9	562.7	547.5	531.4	512.5	496.4
157.5°	585.4	585.4	583.5	577.8	570.2	560.8	549.4	536.1	522.9	507.7	493.5
160°	564.6	565.5	565.5	559.8	553.2	546.6	537.1	526.7	514.4	502.0	491.6
162.5°	545.6	546.6	546.6	541.8	538.0	532.4	523.8	515.3	505.8	496.4	487.8
165°	529.5	529.5	530.5	526.7	522.9	518.1	511.5	505.8	498.3	490.7	484.0
167.5°	513.4	513.4	514.4	511.5	509.6	505.8	502.0	497.3	490.7	485.0	480.3
170°	499.2	499.2	500.1	498.3	497.3	495.4	491.6	488.8	484.0	479.3	476.5
172.5°	485.9	486.9	488.8	486.9	486.9	485.9	483.1	481.2	477.4	474.6	473.6
175°	476.5	477.4	478.4	477.4	477.4	477.4	475.5	474.6	472.7	470.8	470.8
177.5°	469.8	469.8	471.7	470.8	471.7	471.7	470.8	469.8	468.9	467.9	468.9
180°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0
2.5°	1407.6	1403.9	1390.5	1377.1	1361.8	1346.5	1335.2	1323.9	1307.1	1290.3	1276.6
5°	1525.4	1508.4	1480.0	1451.6	1413.1	1374.6	1348.7	1322.7	1287.9	1253.1	1225.3
7.5°	1618.9	1589.6	1549.9	1510.2	1459.8	1409.4	1361.8	1314.2	1261.0	1207.9	1164.5
10°	1678.4	1658.6	1612.8	1567.0	1499.5	1432.0	1365.5	1298.9	1230.5	1162.1	1104.7
12.5°	1684.2	1686.1	1643.9	1601.8	1525.4	1449.1	1368.2	1287.3	1201.2	1115.1	1048.2
15°	1633.2	1664.7	1641.5	1618.3	1541.3	1464.4	1364.8	1265.3	1166.1	1066.8	989.6
17.5°	1538.6	1606.1	1609.4	1612.8	1535.8	1458.9	1348.7	1238.4	1126.1	1013.7	932.5
20°	1409.4	1509.0	1543.2	1577.4	1514.8	1452.2	1333.7	1215.2	1089.4	963.6	878.4
22.5°	1277.5	1398.4	1461.0	1523.6	1477.2	1430.8	1304.7	1178.6	1045.8	912.9	826.5
25°	1127.3	1259.2	1355.4	1451.6	1423.2	1394.8	1270.5	1146.2	1004.9	863.5	775.2
27.5°	996.3	1130.3	1246.4	1362.4	1356.3	1350.2	1226.8	1103.5	958.7	814.0	728.8
30°	879.7	1004.5	1134.3	1264.1	1279.0	1294.0	1174.9	1055.8	910.8	765.8	683.6
32.5°	776.5	885.5	1024.7	1163.9	1193.2	1222.6	1115.1	1007.6	864.1	720.6	641.5
35°	691.9	790.8	930.0	1069.3	1105.9	1142.6	1049.1	955.7	815.9	676.0	600.6
37.5°	617.1	699.8	835.7	971.6	1016.5	1061.3	977.7	894.0	763.0	632.0	562.7
40°	555.1	621.7	746.5	871.4	923.3	975.2	906.2	837.2	713.0	588.7	524.9
42.5°	503.2	562.4	675.7	789.0	838.8	888.5	830.2	771.9	661.4	550.8	492.5
45°	458.9	506.2	609.1	712.0	759.4	806.7	756.6	706.5	609.1	511.7	457.4
47.5°	417.4	458.0	545.9	633.9	676.0	718.1	679.1	640.0	557.5	475.1	425.9
50°	380.1	412.8	489.8	566.7	603.3	640.0	605.5	571.0	503.2	435.4	392.7
52.5°	347.8	374.3	438.8	503.2	534.6	566.1	536.5	506.9	453.1	399.4	362.1
55°	315.7	338.3	394.2	450.1	471.4	492.8	469.9	447.0	403.7	360.3	328.8
57.5°	285.8	305.9	351.7	397.5	414.0	430.5	409.8	389.0	356.3	323.7	297.4
60°	256.5	273.0	311.1	349.3	359.4	369.5	352.7	335.9	313.0	290.1	266.6
62.5°	229.3	244.3	272.7	301.1	307.8	314.5	301.7	288.8	271.4	254.0	235.7
65°	201.2	212.5	235.7	258.9	263.2	267.5	256.2	244.9	231.7	218.6	205.2
67.5°	175.3	183.2	202.1	221.1	221.4	221.7	212.5	203.4	196.0	188.7	178.0
70°	149.9	157.6	170.1	182.6	182.9	183.2	175.9	168.5	163.0	157.6	149.6
72.5°	124.0	129.5	138.9	148.4	147.8	147.2	142.6	138.0	133.7	129.5	123.7
75°	100.5	105.0	111.4	117.9	116.0	114.2	111.8	109.3	105.6	102.0	98.3
77.5°	79.1	81.8	85.5	89.2	87.9	86.7	84.6	82.4	79.7	76.9	75.4
80°	58.0	59.2	61.7	64.1	63.5	62.9	60.5	58.0	57.4	56.8	54.7
82.5°	39.4	40.9	41.5	42.1	41.8	41.5	39.7	37.9	37.3	36.6	36.3
85°	23.5	23.8	24.1	24.4	23.5	22.6	22.0	21.4	21.4	21.4	21.1
87.5°	10.7	11.0	11.0	11.0	10.7	10.4	9.8	9.2	9.5	9.8	9.8
90°	18.0	15.2	12.3	10.4	8.5	5.7	3.8	1.9	3.8	5.7	8.5
92.5°	145.9	95.7	65.4	48.3	38.8	30.3	20.8	14.2	20.8	30.3	38.8
95°	344.8	203.7	123.1	86.2	61.6	45.5	35.0	32.2	35.0	45.5	61.6
97.5°	383.6	219.8	140.2	99.5	74.8	60.6	52.1	51.2	52.1	60.6	74.8
100°	357.1	216.9	150.6	113.7	90.9	77.7	71.0	70.1	71.0	77.7	90.9
102.5°	334.4	220.7	162.9	129.8	109.9	97.6	91.9	90.0	91.9	97.6	109.9
105°	325.9	228.3	177.1	147.8	129.8	118.4	112.7	109.9	112.7	118.4	129.8
107.5°	324.0	240.6	195.1	167.7	150.6	139.2	133.6	130.7	133.6	139.2	150.6
110°	328.7	256.7	214.1	187.6	171.5	161.0	156.3	153.5	156.3	161.0	171.5



TEST NUMBER: P831494

CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	338.2	272.8	234.0	208.4	192.3	181.9	177.1	174.3	177.1	181.9	192.3
115°	348.6	290.8	254.8	229.2	213.1	203.7	198.0	194.2	198.0	203.7	213.1
117.5°	361.9	309.8	273.8	250.1	232.1	223.6	218.8	214.1	218.8	223.6	232.1
120°	377.0	327.7	293.6	270.0	252.0	242.5	237.8	234.9	237.8	242.5	252.0
122.5°	391.2	346.7	313.5	288.0	270.9	260.5	255.8	252.9	255.8	260.5	270.9
125°	406.4	364.7	331.5	306.0	288.0	277.5	271.9	270.0	271.9	277.5	288.0
127.5°	418.7	380.8	348.6	323.0	303.1	292.7	286.1	283.2	286.1	292.7	303.1
130°	431.0	395.0	363.7	338.2	318.3	306.9	298.4	295.5	298.4	306.9	318.3
132.5°	442.4	407.3	377.0	352.4	332.5	318.3	308.8	305.0	308.8	318.3	332.5
135°	451.8	419.6	390.3	364.7	344.8	330.6	320.2	316.4	320.2	330.6	344.8
137.5°	459.4	428.2	399.7	376.1	356.2	341.0	330.6	326.8	330.6	341.0	356.2
140°	465.1	436.7	409.2	385.5	366.6	351.4	342.0	337.2	342.0	351.4	366.6
142.5°	470.8	443.3	416.8	395.0	376.1	362.8	352.4	348.6	352.4	362.8	376.1
145°	474.6	449.0	424.4	402.6	386.5	372.3	363.7	360.9	363.7	372.3	386.5
147.5°	477.4	453.7	431.0	412.1	396.0	383.6	375.1	373.2	375.1	383.6	396.0
150°	478.4	458.5	436.7	419.6	406.4	394.1	386.5	385.5	386.5	394.1	406.4
152.5°	480.3	461.3	443.3	427.2	415.8	405.4	397.8	397.8	397.8	405.4	415.8
155°	480.3	465.1	449.0	435.7	425.3	415.8	410.2	410.2	410.2	415.8	425.3
157.5°	481.2	467.0	453.7	443.3	433.8	425.3	420.6	419.6	420.6	425.3	433.8
160°	481.2	469.8	458.5	449.0	442.4	434.8	431.0	431.0	431.0	434.8	442.4
162.5°	480.3	470.8	461.3	453.7	448.1	442.4	439.5	439.5	439.5	442.4	448.1
165°	478.4	471.7	464.2	457.5	453.7	449.0	447.1	448.1	447.1	449.0	453.7
167.5°	477.4	471.7	466.0	461.3	458.5	454.7	453.7	454.7	453.7	454.7	458.5
170°	474.6	470.8	466.0	464.2	462.3	459.4	458.5	460.4	458.5	459.4	462.3
172.5°	473.6	470.8	467.0	466.0	465.1	463.2	463.2	464.2	463.2	463.2	465.1
175°	471.7	469.8	467.9	467.0	467.0	465.1	466.0	467.0	466.0	465.1	467.0
177.5°	470.8	468.9	467.9	467.9	467.9	467.0	467.9	468.9	467.9	467.0	467.9
180°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9



TEST NUMBER: P831494

CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0
2.5°	1262.9	1251.0	1239.0	1229.9	1220.7	1205.2	1189.6	1185.9	1182.3	1177.1	1171.9
5°	1197.5	1168.2	1138.9	1112.6	1086.4	1065.9	1045.5	1032.0	1018.6	1008.8	999.1
7.5°	1121.2	1077.2	1033.3	1002.1	971.0	941.3	911.7	902.3	892.8	880.0	867.1
10°	1047.3	998.7	950.2	909.6	869.0	840.0	811.0	799.4	787.8	771.6	755.4
12.5°	981.3	928.2	875.1	834.2	793.3	765.2	737.1	720.3	703.5	694.3	685.2
15°	912.3	855.5	798.8	760.9	723.0	697.7	672.3	657.7	643.0	634.2	625.3
17.5°	851.3	795.1	738.9	702.6	666.2	643.0	619.8	607.0	594.2	587.5	580.7
20°	793.3	738.3	683.3	647.9	612.5	593.6	574.6	566.4	558.2	552.7	547.2
22.5°	740.1	686.1	632.0	601.8	571.6	556.3	541.1	535.3	529.4	524.9	520.3
25°	687.0	638.8	590.5	564.9	539.2	526.7	514.2	508.4	502.6	498.0	493.4
27.5°	643.6	597.5	551.4	529.4	507.5	497.7	487.9	483.3	478.8	474.5	470.2
30°	601.5	560.3	519.1	500.1	481.2	472.4	463.5	458.9	454.3	450.4	446.4
32.5°	562.4	527.0	491.6	474.2	456.8	449.5	442.1	436.6	431.1	428.1	425.0
35°	525.2	493.4	461.7	447.3	433.0	425.6	418.3	413.7	409.1	406.7	404.3
37.5°	493.4	465.0	436.6	422.9	409.1	402.1	395.1	391.1	387.2	386.2	385.3
40°	461.1	436.6	412.2	398.8	385.3	379.2	373.1	370.7	368.2	367.6	367.0
42.5°	434.2	410.4	386.6	374.3	362.1	356.9	351.7	350.5	349.3	350.2	351.1
45°	403.0	383.2	363.3	352.1	340.8	336.5	332.2	331.3	330.4	332.2	334.0
47.5°	376.8	358.5	340.1	329.5	318.8	315.7	312.7	312.4	312.1	314.5	316.9
50°	349.9	332.2	314.5	305.9	297.4	294.6	291.9	292.8	293.7	297.7	301.7
52.5°	324.9	308.4	291.9	284.0	276.0	274.2	272.4	274.5	276.6	280.9	285.2
55°	297.4	282.4	267.5	261.4	255.3	253.4	251.6	255.9	260.1	264.1	268.1
57.5°	271.1	258.0	244.9	239.4	233.9	233.6	233.3	237.2	241.2	245.5	249.8
60°	243.0	232.1	221.1	216.8	212.5	213.1	213.7	218.3	222.9	226.3	229.6
62.5°	217.4	208.2	199.1	195.1	191.1	192.7	194.2	198.8	203.4	207.3	211.3
65°	191.7	184.1	176.5	173.7	171.0	173.1	175.3	179.2	183.2	185.9	188.7
67.5°	167.3	160.9	154.5	152.4	150.2	152.4	154.5	158.5	162.4	165.2	167.9
70°	141.7	136.5	131.3	129.8	128.2	130.7	133.1	136.5	139.8	142.6	145.3
72.5°	117.9	113.9	109.9	109.6	109.3	111.4	113.6	116.9	120.3	122.1	124.0
75°	94.7	92.5	90.4	90.1	89.8	91.9	94.0	95.9	97.7	99.2	100.8
77.5°	73.9	72.1	70.2	70.5	70.8	72.4	73.9	75.7	77.6	78.5	79.4
80°	52.5	51.9	51.3	51.9	52.5	53.7	55.0	56.2	57.4	58.0	58.6
82.5°	36.0	35.4	34.8	35.7	36.6	37.6	38.5	39.4	40.3	40.6	40.9
85°	20.8	21.7	22.6	22.6	22.6	22.9	23.2	23.5	23.8	23.5	23.2
87.5°	9.8	10.1	10.4	10.4	10.4	10.7	11.0	11.0	11.0	10.7	10.4
90°	10.4	12.3	15.2	18.0	20.8	23.7	22.7	23.7	24.6	25.6	27.5
92.5°	48.3	65.4	95.7	145.9	195.1	176.2	131.7	93.8	72.9	63.5	56.8
95°	86.2	123.1	203.7	344.8	500.1	561.7	455.6	341.0	231.1	180.9	146.8
97.5°	99.5	140.2	219.8	383.6	645.1	863.9	893.3	783.4	591.1	466.0	358.1
100°	113.7	150.6	216.9	357.1	606.2	897.0	1083.7	1116.8	1040.1	929.3	794.7
102.5°	129.8	162.9	220.7	334.4	549.4	835.5	1093.1	1227.6	1243.7	1190.7	1117.8
105°	147.8	177.1	228.3	325.9	504.9	761.6	1033.5	1231.4	1326.2	1344.2	1319.5
107.5°	167.7	195.1	240.6	324.0	472.7	696.2	948.2	1174.6	1323.3	1397.2	1422.8
110°	187.6	214.1	256.7	328.7	455.6	642.2	868.6	1085.6	1259.8	1379.2	1445.5



TEST NUMBER: P831494

CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	208.4	234.0	272.8	338.2	446.2	606.2	799.5	997.5	1176.5	1313.8	1403.8
115°	229.2	254.8	290.8	348.6	445.2	582.6	746.4	921.7	1086.5	1225.7	1329.0
117.5°	250.1	273.8	309.8	361.9	446.2	566.5	711.4	862.9	1008.8	1136.7	1243.7
120°	270.0	293.6	327.7	377.0	449.9	556.0	684.9	818.4	946.3	1060.0	1155.6
122.5°	288.0	313.5	346.7	391.2	456.6	549.4	663.1	783.4	896.1	999.4	1086.5
125°	306.0	331.5	364.7	406.4	463.2	543.7	645.1	753.1	856.3	947.3	1023.0
127.5°	323.0	348.6	380.8	418.7	470.8	540.9	628.0	725.6	819.4	902.7	972.8
130°	338.2	363.7	395.0	431.0	478.4	538.0	614.8	700.0	785.3	862.0	926.4
132.5°	352.4	377.0	407.3	442.4	484.0	537.1	602.5	676.3	753.1	823.2	883.8
135°	364.7	390.3	419.6	451.8	489.7	536.1	592.0	655.5	722.8	784.3	838.3
137.5°	376.1	399.7	428.2	459.4	493.5	534.3	582.6	635.6	692.4	747.4	795.7
140°	385.5	409.2	436.7	465.1	497.3	533.3	574.0	618.6	666.9	712.3	753.1
142.5°	395.0	416.8	443.3	470.8	500.1	531.4	566.5	602.5	642.2	680.1	714.2
145°	402.6	424.4	449.0	474.6	501.1	529.5	559.8	590.1	621.4	651.7	679.2
147.5°	412.1	431.0	453.7	477.4	501.1	526.7	553.2	579.7	605.3	630.9	650.8
150°	419.6	436.7	458.5	478.4	501.1	522.9	546.6	568.4	590.1	610.0	628.0
152.5°	427.2	443.3	461.3	480.3	498.3	518.1	539.0	557.9	575.9	593.0	607.2
155°	435.7	449.0	465.1	480.3	496.4	512.5	531.4	547.5	562.7	576.9	588.2
157.5°	443.3	453.7	467.0	481.2	493.5	507.7	522.9	536.1	549.4	560.8	570.2
160°	449.0	458.5	469.8	481.2	491.6	502.0	514.4	526.7	537.1	546.6	553.2
162.5°	453.7	461.3	470.8	480.3	487.8	496.4	505.8	515.3	523.8	532.4	538.0
165°	457.5	464.2	471.7	478.4	484.0	490.7	498.3	505.8	511.5	518.1	522.9
167.5°	461.3	466.0	471.7	477.4	480.3	485.0	490.7	497.3	502.0	505.8	509.6
170°	464.2	466.0	470.8	474.6	476.5	479.3	484.0	488.8	491.6	495.4	497.3
172.5°	466.0	467.0	470.8	473.6	473.6	474.6	477.4	481.2	483.1	485.9	486.9
175°	467.0	467.9	469.8	471.7	470.8	470.8	472.7	474.6	475.5	477.4	477.4
177.5°	467.9	467.9	468.9	470.8	468.9	467.9	468.9	469.8	470.8	471.7	471.7
180°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9



TEST NUMBER: P831494

CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1316.0	1316.0	1316.0	1316.0
2.5°	1169.7	1167.6	1159.0	1150.5
5°	991.7	984.4	982.0	979.5
7.5°	866.5	865.9	853.1	840.3
10°	756.3	757.2	745.6	734.0
12.5°	677.5	669.9	669.0	668.1
15°	618.3	611.3	610.1	608.8
17.5°	576.5	572.2	571.0	569.8
20°	544.7	542.3	540.1	538.0
22.5°	517.2	514.2	512.4	510.5
25°	490.7	487.9	487.3	486.7
27.5°	466.9	463.5	463.5	463.5
30°	444.3	442.1	441.2	440.3
32.5°	423.2	421.4	421.4	421.4
35°	403.3	402.4	401.2	400.0
37.5°	385.3	385.3	384.7	384.1
40°	367.9	368.8	368.8	368.8
42.5°	352.1	353.0	353.0	353.0
45°	335.6	337.1	337.7	338.3
47.5°	319.4	321.8	322.4	323.0
50°	303.5	305.3	305.6	305.9
52.5°	287.3	289.5	291.0	292.5
55°	270.2	272.4	273.3	274.2
57.5°	251.9	254.0	254.3	254.6
60°	231.7	233.9	234.5	235.1
62.5°	212.5	213.7	214.3	215.0
65°	190.5	192.4	193.6	194.8
67.5°	169.5	171.0	171.0	171.0
70°	145.9	146.6	147.5	148.4
72.5°	124.3	124.6	124.6	124.6
75°	101.4	102.0	102.3	102.6
77.5°	79.7	80.0	80.0	80.0
80°	58.3	58.0	58.0	58.0
82.5°	40.0	39.1	39.1	39.1
85°	22.9	22.6	22.9	23.2
87.5°	10.4	10.4	10.4	10.4
90°	26.5	27.5	28.4	27.5
92.5°	54.9	51.2	52.1	50.2
95°	128.8	120.3	113.7	109.9
97.5°	294.6	258.6	235.9	225.4
100°	699.1	629.9	593.0	593.9
102.5°	1048.6	997.5	968.1	940.6
105°	1275.9	1240.0	1209.6	1204.9
107.5°	1417.1	1400.0	1387.7	1377.3
110°	1472.0	1479.6	1477.7	1475.8



TEST NUMBER: P831494

CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	1457.8	1485.3	1494.8	1495.7
115°	1400.0	1441.7	1460.7	1465.4
117.5°	1317.6	1364.0	1392.5	1399.1
120°	1230.5	1283.5	1306.3	1311.9
122.5°	1150.9	1197.3	1222.9	1230.5
125°	1083.7	1125.3	1149.0	1155.6
127.5°	1027.8	1063.8	1085.6	1091.2
130°	976.6	1010.7	1030.6	1038.2
132.5°	930.2	964.3	981.4	986.1
135°	884.7	913.2	930.2	936.8
137.5°	835.5	864.8	879.1	884.7
140°	789.1	815.6	830.7	829.8
142.5°	743.6	766.3	779.6	778.6
145°	702.9	722.8	730.3	732.2
147.5°	669.7	683.9	691.5	692.4
150°	642.2	652.7	658.3	658.3
152.5°	617.6	627.1	629.9	629.9
155°	596.8	604.3	606.2	607.2
157.5°	577.8	583.5	585.4	585.4
160°	559.8	565.5	565.5	564.6
162.5°	541.8	546.6	546.6	545.6
165°	526.7	530.5	529.5	529.5
167.5°	511.5	514.4	513.4	513.4
170°	498.3	500.1	499.2	499.2
172.5°	486.9	488.8	486.9	485.9
175°	477.4	478.4	477.4	476.5
177.5°	470.8	471.7	469.8	469.8
180°	467.9	467.9	467.9	467.9



TEST NUMBER: P831494

CATALOG NUMBER: S123DIP-S560D1195U930-4F0-1E-UDD-G4

**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	11.49	12.23	12.55	13.29	14.73	13.73	14.46	14.79	15.52	16.97
	3H	13.13	13.79	14.20	14.86	16.32	15.14	15.80	16.22	16.87	18.33
	4H	13.70	14.32	14.78	15.40	16.86	15.59	16.21	16.67	17.28	18.75
	6H	14.07	14.64	15.16	15.71	17.19	15.86	16.43	16.95	17.51	18.98
	8H	14.16	14.70	15.26	15.79	17.27	15.92	16.46	17.01	17.55	19.02
	12H	14.20	14.72	15.30	15.80	17.30	15.93	16.45	17.03	17.53	19.03
4H	2H	12.05	12.67	13.14	13.75	15.21	13.88	14.50	14.97	15.57	17.04
	3H	13.87	14.39	14.97	15.49	16.97	15.48	16.00	16.58	17.10	18.58
	4H	14.56	15.04	15.66	16.13	17.63	16.06	16.54	17.16	17.63	19.13
	6H	15.03	15.44	16.14	16.55	18.04	16.46	16.87	17.57	17.98	19.47
	8H	15.17	15.55	16.27	16.65	18.16	16.57	16.95	17.68	18.06	19.56
	12H	15.23	15.57	16.35	16.69	18.20	16.61	16.95	17.74	18.07	19.58
8H	4H	14.82	15.20	15.93	16.30	17.81	16.16	16.54	17.27	17.65	19.15
	6H	15.40	15.72	16.53	16.86	18.37	16.66	16.97	17.79	18.12	19.62
	8H	15.61	15.89	16.75	17.01	18.54	16.84	17.11	17.97	18.24	19.76
	12H	15.73	15.97	16.87	17.09	18.66	16.93	17.17	18.07	18.30	19.86
12H	4H	14.81	15.16	15.94	16.28	17.79	16.13	16.47	17.25	17.59	19.10
	6H	15.45	15.73	16.59	16.86	18.38	16.67	16.95	17.81	18.07	19.60
	8H	15.68	15.92	16.82	17.05	18.61	16.87	17.11	18.01	18.23	19.79