

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: P831470

Luminaire Tested: S123DIP-S560D1025U935-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831470  
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-S560D1025U935-4F0-1E-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: -

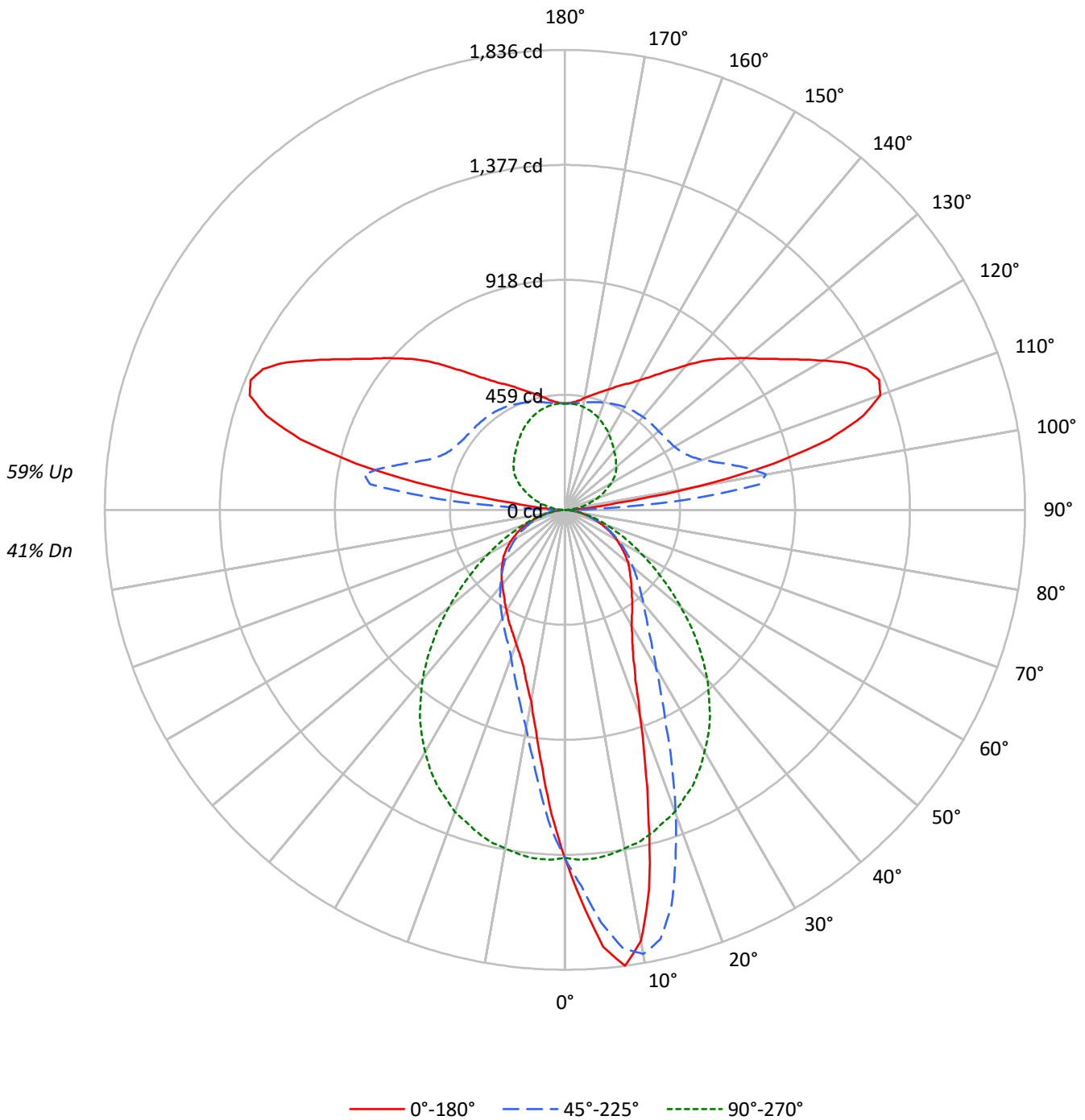
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5430.0 lumens  
Efficiency: N/A  
Efficacy: 119.3 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: 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

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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	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°	14960	14960	14960	14960	14960
5°	18919	17856	15092	12163	11177
10°	19102	19680	14993	9696	8473
15°	14388	18272	14890	8211	7165
20°	10024	14786	14700	7180	6509
25°	7644	11371	14377	6606	6105
30°	6612	9033	13858	6200	5780
35°	6135	7627	13263	5907	5550
40°	5809	6842	12424	5628	5473
45°	5616	6333	11357	5409	5439
50°	5518	5928	10098	5211	5411
55°	5313	5634	8860	5022	5435
60°	5124	5317	7636	4846	5345
65°	4814	5018	6586	4656	5239
70°	4444	4639	5602	4343	4932
75°	4022	4159	4799	4038	4504
80°	3316	3639	3800	3521	3800
85°	2631	2952	2791	2989	3026

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 12968 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.4	2.4
10°-20°	326.9	6.0
20°-30°	387.0	7.1
30°-40°	389.1	7.2
40°-50°	357.0	6.6
50°-60°	294.7	5.4
60°-70°	208.5	3.8
70°-80°	111.3	2.0
80°-90°	30.6	0.6
90°-100°	230.4	4.2
100°-110°	674.5	12.4
110°-120°	658.7	12.1
120°-130°	524.6	9.7
130°-140°	413.9	7.6
140°-150°	308.7	5.7
150°-160°	215.3	4.0
160°-170°	126.5	2.3
170°-180°	41.1	0.8
0°-30°	845.3	15.6
0°-40°	1234.4	22.7
0°-60°	1886.1	34.7
0°-90°	2236.4	41.2
90°-120°	1563.5	28.8
90°-150°	2810.7	51.8
90°-180°	3194.0	58.8
0°-180°	5430.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1390	1390	1390	1390	1390	
5°	1751	1653	1397	1126	1034	167
15°	1291	1640	1336	737	643	357
25°	644	957	1210	556	514	304
35°	467	580	1009	450	422	293
45°	369	416	746	355	357	286
55°	283	300	472	268	290	253
65°	189	197	259	183	206	188
75°	97	100	115	97	108	102
85°	21	24	23	24	24	24
90°	25	22	2	22	25	14
95°	100	510	29	510	100	162
105°	1093	691	100	691	1093	1091
115°	1330	528	176	528	1330	1297
125°	1048	493	245	493	1048	949
135°	850	486	287	486	850	659
145°	664	480	327	480	664	422
155°	551	465	372	465	551	257
165°	480	445	406	445	480	137
175°	432	427	424	427	432	42
180°	425	425	425	425	425	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8
2.5°	1566.5	1564.8	1563.2	1555.2	1547.1	1543.2	1539.4	1527.8	1516.2	1503.3	1490.4
5°	1750.9	1755.4	1759.9	1754.8	1749.6	1733.8	1718.0	1697.0	1676.1	1652.6	1629.0
7.5°	1836.0	1838.6	1841.2	1838.0	1834.7	1830.5	1826.3	1807.6	1788.9	1764.8	1740.6
10°	1747.7	1753.5	1759.3	1771.9	1784.4	1798.6	1812.8	1810.2	1807.6	1800.6	1793.5
12.5°	1553.6	1560.7	1567.7	1592.9	1618.0	1650.3	1682.5	1710.3	1738.0	1757.3	1776.7
15°	1291.1	1310.8	1330.4	1353.3	1376.2	1423.6	1471.0	1529.4	1587.7	1639.7	1691.6
17.5°	1063.4	1070.9	1078.3	1102.8	1127.3	1186.9	1246.6	1314.0	1381.4	1467.5	1553.6
20°	875.1	881.9	888.7	920.9	953.2	999.9	1046.7	1122.4	1198.2	1290.8	1383.3
22.5°	735.2	745.8	756.5	774.5	792.6	837.4	882.2	949.6	1017.0	1119.2	1221.4
25°	643.6	651.3	659.1	670.0	681.0	716.8	752.6	808.1	863.5	957.4	1051.2
27.5°	581.1	584.3	587.5	598.5	609.4	632.6	655.9	703.6	751.3	831.0	910.6
30°	532.0	534.3	536.6	546.2	555.9	571.7	587.5	622.0	656.5	726.8	797.1
32.5°	497.9	499.5	501.1	508.5	515.9	527.2	538.5	563.6	588.8	646.8	704.9
35°	466.9	467.9	468.8	474.3	479.8	488.2	496.6	515.6	534.6	580.4	626.2
37.5°	439.8	441.1	442.4	445.6	448.8	456.3	463.7	478.8	494.0	529.1	564.3
40°	413.4	415.6	417.9	420.2	422.4	428.5	434.7	446.3	457.9	486.9	515.9
42.5°	390.8	393.1	395.3	396.3	397.3	400.8	404.4	415.0	425.6	447.2	468.8
45°	368.9	369.8	370.8	371.8	372.8	375.7	378.6	387.9	397.3	416.0	434.7
47.5°	348.9	348.9	348.9	349.5	350.2	352.8	355.3	362.1	368.9	383.4	397.9
50°	329.5	329.5	329.5	328.6	327.6	329.2	330.8	336.0	341.2	354.0	366.9
52.5°	306.3	306.3	306.3	306.6	307.0	307.0	307.0	311.5	316.0	327.6	339.2
55°	283.1	284.4	285.7	284.7	283.8	284.4	285.0	287.9	290.8	300.2	309.6
57.5°	259.9	260.5	261.2	260.9	260.5	260.9	261.2	263.8	266.3	273.4	280.5
60°	238.0	238.0	238.0	237.3	236.7	237.3	238.0	239.3	240.5	247.0	253.4
62.5°	213.5	213.8	214.1	214.4	214.8	214.1	213.5	215.1	216.7	221.5	226.4
65°	189.0	189.3	189.6	190.6	191.5	190.9	190.2	191.9	193.5	197.0	200.6
67.5°	167.0	166.4	165.7	166.1	166.4	167.4	168.3	168.6	169.0	172.8	176.7
70°	141.2	141.9	142.5	142.2	141.9	142.2	142.5	143.5	144.5	147.4	150.3
72.5°	118.0	118.3	118.7	118.7	118.7	119.3	120.0	120.9	121.9	123.5	125.1
75°	96.7	96.7	96.7	97.4	98.0	98.3	98.7	98.7	98.7	100.0	101.2
77.5°	73.5	75.1	76.7	76.4	76.1	76.7	77.4	78.4	79.3	80.0	80.6
80°	53.5	53.5	53.5	53.8	54.2	55.1	56.1	56.8	57.4	58.7	60.0
82.5°	34.2	34.5	34.8	35.8	36.8	37.4	38.0	39.0	40.0	40.0	40.0
85°	21.3	20.6	20.0	20.6	21.3	21.9	22.6	22.9	23.2	23.9	24.5
87.5°	10.3	10.3	10.3	10.3	10.3	10.6	11.0	11.0	11.0	11.0	11.0
90°	24.9	25.8	24.9	24.1	24.9	23.2	22.3	21.5	20.6	21.5	18.9
92.5°	45.5	47.3	46.4	49.8	51.6	57.6	66.2	85.1	119.5	159.9	177.0
95°	99.7	103.1	109.1	116.9	133.2	164.2	209.7	309.4	413.4	509.6	453.8
97.5°	204.5	214.0	234.6	267.3	324.9	422.8	536.3	710.7	810.4	783.8	585.3
100°	538.9	538.0	571.5	634.3	721.1	843.1	943.7	1013.3	983.2	813.9	550.0
102.5°	853.4	878.3	905.0	951.4	1014.1	1080.3	1128.4	1113.8	991.8	758.0	498.5
105°	1093.2	1097.5	1125.0	1157.7	1197.2	1219.5	1203.2	1117.3	937.6	691.0	458.1
107.5°	1249.6	1259.1	1270.2	1285.7	1290.9	1267.7	1200.6	1065.7	860.3	631.7	428.9
110°	1339.0	1340.7	1342.4	1335.6	1311.5	1251.3	1143.0	984.9	788.1	582.7	413.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1357.0	1356.2	1347.6	1322.7	1273.7	1192.0	1067.4	905.0	725.4	550.0	404.8
115°	1329.5	1325.2	1308.1	1270.2	1205.8	1112.1	985.8	836.2	677.2	528.5	403.9
117.5°	1269.4	1263.4	1237.6	1195.5	1128.4	1031.3	915.3	782.9	645.4	513.9	404.8
120°	1190.3	1185.2	1164.5	1116.4	1048.5	961.7	858.6	742.5	621.4	504.5	408.2
122.5°	1116.4	1109.5	1086.3	1044.2	985.8	906.7	813.0	710.7	601.6	498.5	414.2
125°	1048.5	1042.5	1021.0	983.2	928.2	859.4	776.9	683.2	585.3	493.3	420.3
127.5°	990.1	984.9	965.1	932.5	882.6	819.0	743.4	658.3	569.8	490.7	427.1
130°	941.9	935.1	917.0	886.1	840.5	782.1	712.5	635.1	557.8	488.2	434.0
132.5°	894.7	890.4	874.9	844.0	801.8	746.8	683.2	613.6	546.6	487.3	439.2
135°	850.0	844.0	828.5	802.7	760.6	711.6	655.7	594.7	537.1	486.4	444.3
137.5°	802.7	797.6	784.7	758.0	721.9	678.1	628.2	576.7	528.5	484.7	447.8
140°	752.9	753.7	740.0	715.9	683.2	646.3	605.0	561.2	520.8	483.9	451.2
142.5°	706.5	707.3	695.3	674.7	648.0	617.1	582.7	546.6	513.9	482.1	453.8
145°	664.3	662.6	655.7	637.7	616.2	591.3	563.8	535.4	507.9	480.4	454.6
147.5°	628.2	627.4	620.5	607.6	590.4	572.4	549.2	526.0	501.9	477.8	454.6
150°	597.3	597.3	592.1	582.7	569.8	553.5	535.4	515.7	495.9	474.4	454.6
152.5°	571.5	571.5	568.9	560.3	550.9	538.0	522.5	506.2	489.0	470.1	452.1
155°	550.9	550.0	548.3	541.4	533.7	523.4	510.5	496.8	482.1	465.0	450.3
157.5°	531.1	531.1	529.4	524.3	517.4	508.8	498.5	486.4	474.4	460.7	447.8
160°	512.2	513.1	513.1	507.9	501.9	495.9	487.3	477.8	466.7	455.5	446.0
162.5°	495.0	495.9	495.9	491.6	488.2	483.0	475.3	467.5	458.9	450.3	442.6
165°	480.4	480.4	481.3	477.8	474.4	470.1	464.1	458.9	452.1	445.2	439.2
167.5°	465.8	465.8	466.7	464.1	462.4	458.9	455.5	451.2	445.2	440.0	435.7
170°	452.9	452.9	453.8	452.1	451.2	449.5	446.0	443.5	439.2	434.9	432.3
172.5°	440.9	441.7	443.5	441.7	441.7	440.9	438.3	436.6	433.2	430.6	429.7
175°	432.3	433.2	434.0	433.2	433.2	433.2	431.4	430.6	428.9	427.1	427.1
177.5°	426.3	426.3	428.0	427.1	428.0	428.0	427.1	426.3	425.4	424.6	425.4
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8
2.5°	1486.5	1482.6	1468.4	1454.2	1438.1	1422.0	1410.1	1398.1	1380.4	1362.7	1348.2
5°	1611.0	1592.9	1562.9	1532.9	1492.3	1451.7	1424.3	1396.8	1360.1	1323.3	1294.0
7.5°	1709.6	1678.7	1636.8	1594.8	1541.6	1488.4	1438.1	1387.8	1331.7	1275.6	1229.8
10°	1772.5	1751.5	1703.2	1654.8	1583.5	1512.3	1442.0	1371.7	1299.5	1227.2	1166.6
12.5°	1778.6	1780.6	1736.1	1691.6	1611.0	1530.3	1444.9	1359.4	1268.5	1177.6	1107.0
15°	1724.8	1758.0	1733.5	1709.0	1627.7	1546.5	1441.3	1336.2	1231.4	1126.6	1045.1
17.5°	1624.8	1696.1	1699.6	1703.2	1621.9	1540.7	1424.3	1307.9	1189.2	1070.5	984.8
20°	1488.4	1593.5	1629.7	1665.8	1599.7	1533.6	1408.5	1283.3	1150.5	1017.6	927.7
22.5°	1349.1	1476.8	1542.9	1609.0	1560.0	1511.0	1377.8	1244.7	1104.4	964.1	872.9
25°	1190.5	1329.8	1431.4	1532.9	1502.9	1472.9	1341.7	1210.5	1061.2	911.9	818.7
27.5°	1052.2	1193.7	1316.2	1438.8	1432.3	1425.9	1295.6	1165.3	1012.5	859.6	769.7
30°	929.0	1060.9	1197.9	1334.9	1350.7	1366.5	1240.8	1115.0	961.9	808.7	722.0
32.5°	820.0	935.1	1082.1	1229.2	1260.1	1291.1	1177.6	1064.1	912.5	761.0	677.5
35°	730.7	835.1	982.2	1129.2	1167.9	1206.6	1107.9	1009.3	861.6	713.9	634.3
37.5°	651.7	739.1	882.5	1026.0	1073.4	1120.8	1032.5	944.1	805.8	667.5	594.3
40°	586.2	656.5	788.4	920.3	975.1	1029.9	957.0	884.2	752.9	621.7	554.3
42.5°	531.4	594.0	713.6	833.2	885.8	938.3	876.7	815.2	698.4	581.7	520.1
45°	484.6	534.6	643.3	752.0	801.9	851.9	799.0	746.1	643.3	540.4	483.0
47.5°	440.8	483.7	576.5	669.4	713.9	758.4	717.1	675.9	588.8	501.7	449.8
50°	401.4	436.0	517.2	598.5	637.2	675.9	639.4	603.0	531.4	459.8	414.7
52.5°	367.3	395.3	463.4	531.4	564.6	597.8	566.5	535.3	478.5	421.8	382.4
55°	333.4	357.3	416.3	475.3	497.9	520.4	496.2	472.1	426.3	380.5	347.3
57.5°	301.8	323.1	371.5	419.8	437.2	454.7	432.7	410.8	376.3	341.8	314.1
60°	270.9	288.3	328.6	368.9	379.5	390.2	372.4	354.7	330.5	306.3	281.5
62.5°	242.2	258.0	287.9	317.9	325.0	332.1	318.6	305.0	286.7	268.3	248.9
65°	212.5	224.4	248.9	273.4	278.0	282.5	270.5	258.6	244.7	230.9	216.7
67.5°	185.1	193.5	213.5	233.5	233.8	234.1	224.4	214.8	207.0	199.3	188.0
70°	158.3	166.4	179.6	192.8	193.1	193.5	185.7	178.0	172.2	166.4	158.0
72.5°	130.9	136.7	146.7	156.7	156.1	155.4	150.6	145.7	141.2	136.7	130.6
75°	106.1	110.9	117.7	124.5	122.5	120.6	118.0	115.4	111.6	107.7	103.8
77.5°	83.5	86.4	90.3	94.2	92.9	91.6	89.3	87.1	84.2	81.3	79.6
80°	61.3	62.6	65.1	67.7	67.1	66.4	63.8	61.3	60.6	60.0	57.7
82.5°	41.6	43.2	43.9	44.5	44.2	43.9	41.9	40.0	39.3	38.7	38.4
85°	24.8	25.2	25.5	25.8	24.8	23.9	23.2	22.6	22.6	22.6	22.2
87.5°	11.3	11.6	11.6	11.6	11.3	11.0	10.3	9.7	10.0	10.3	10.3
90°	16.3	13.8	11.2	9.5	7.7	5.2	3.4	1.7	3.4	5.2	7.7
92.5°	132.4	86.8	59.3	43.8	35.2	27.5	18.9	12.9	18.9	27.5	35.2
95°	312.8	184.8	111.7	78.2	55.9	41.3	31.8	29.2	31.8	41.3	55.9
97.5°	348.1	199.4	127.2	90.2	67.9	55.0	47.3	46.4	47.3	55.0	67.9
100°	324.0	196.8	136.6	103.1	82.5	70.5	64.5	63.6	64.5	70.5	82.5
102.5°	303.4	200.2	147.8	117.7	99.7	88.5	83.4	81.6	83.4	88.5	99.7
105°	295.6	207.1	160.7	134.1	117.7	107.4	102.3	99.7	102.3	107.4	117.7
107.5°	293.9	218.3	177.0	152.1	136.6	126.3	121.2	118.6	121.2	126.3	136.6
110°	298.2	232.9	194.2	170.2	155.6	146.1	141.8	139.2	141.8	146.1	155.6





TEST NUMBER: P831470

CATALOG NUMBER: S123DIP-S560D1025U935-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	306.8	247.5	212.3	189.1	174.5	165.0	160.7	158.1	160.7	165.0	174.5
115°	316.3	263.8	231.2	208.0	193.4	184.8	179.6	176.2	179.6	184.8	193.4
117.5°	328.3	281.0	248.4	226.9	210.6	202.8	198.5	194.2	198.5	202.8	210.6
120°	342.1	297.4	266.4	244.9	228.6	220.0	215.7	213.1	215.7	220.0	228.6
122.5°	354.9	314.6	284.5	261.3	245.8	236.3	232.0	229.5	232.0	236.3	245.8
125°	368.7	330.9	300.8	277.6	261.3	251.8	246.7	244.9	246.7	251.8	261.3
127.5°	379.9	345.5	316.3	293.1	275.0	265.6	259.5	257.0	259.5	265.6	275.0
130°	391.0	358.4	330.0	306.8	288.8	278.5	270.7	268.1	270.7	278.5	288.8
132.5°	401.4	369.6	342.1	319.7	301.7	288.8	280.2	276.7	280.2	288.8	301.7
135°	409.9	380.7	354.1	330.9	312.8	299.9	290.5	287.0	290.5	299.9	312.8
137.5°	416.8	388.5	362.7	341.2	323.1	309.4	299.9	296.5	299.9	309.4	323.1
140°	422.0	396.2	371.3	349.8	332.6	318.8	310.3	306.0	310.3	318.8	332.6
142.5°	427.1	402.2	378.1	358.4	341.2	329.2	319.7	316.3	319.7	329.2	341.2
145°	430.6	407.4	385.0	365.3	350.6	337.8	330.0	327.4	330.0	337.8	350.6
147.5°	433.2	411.7	391.0	373.9	359.2	348.1	340.3	338.6	340.3	348.1	359.2
150°	434.0	416.0	396.2	380.7	368.7	357.5	350.6	349.8	350.6	357.5	368.7
152.5°	435.7	418.5	402.2	387.6	377.3	367.8	361.0	361.0	361.0	367.8	377.3
155°	435.7	422.0	407.4	395.3	385.9	377.3	372.1	372.1	372.1	377.3	385.9
157.5°	436.6	423.7	411.7	402.2	393.6	385.9	381.6	380.7	381.6	385.9	393.6
160°	436.6	426.3	416.0	407.4	401.4	394.5	391.0	391.0	391.0	394.5	401.4
162.5°	435.7	427.1	418.5	411.7	406.5	401.4	398.8	398.8	398.8	401.4	406.5
165°	434.0	428.0	421.1	415.1	411.7	407.4	405.7	406.5	405.7	407.4	411.7
167.5°	433.2	428.0	422.8	418.5	416.0	412.5	411.7	412.5	411.7	412.5	416.0
170°	430.6	427.1	422.8	421.1	419.4	416.8	416.0	417.7	416.0	416.8	419.4
172.5°	429.7	427.1	423.7	422.8	422.0	420.3	420.3	421.1	420.3	420.3	422.0
175°	428.0	426.3	424.6	423.7	423.7	422.0	422.8	423.7	422.8	422.0	423.7
177.5°	427.1	425.4	424.6	424.6	424.6	423.7	424.6	425.4	424.6	423.7	424.6
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6



TEST NUMBER: P831470

CATALOG NUMBER: S123DIP-S560D1025U935-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8
2.5°	1333.6	1321.1	1308.5	1298.8	1289.2	1272.7	1256.3	1252.4	1248.5	1243.0	1237.6
5°	1264.6	1233.7	1202.7	1175.0	1147.3	1125.7	1104.1	1089.9	1075.7	1065.4	1055.1
7.5°	1184.0	1137.6	1091.2	1058.3	1025.4	994.1	962.8	952.8	942.8	929.3	915.8
10°	1106.0	1054.7	1003.5	960.6	917.7	887.1	856.4	844.2	831.9	814.8	797.7
12.5°	1036.4	980.2	924.1	880.9	837.7	808.1	778.4	760.7	742.9	733.2	723.6
15°	963.5	903.5	843.5	803.5	763.6	736.8	710.0	694.6	679.1	669.7	660.4
17.5°	899.0	839.7	780.3	742.0	703.6	679.1	654.6	641.0	627.5	620.4	613.3
20°	837.7	779.7	721.6	684.2	646.8	626.8	606.8	598.1	589.4	583.6	577.8
22.5°	781.6	724.5	667.5	635.5	603.6	587.5	571.4	565.3	559.1	554.3	549.5
25°	725.5	674.6	623.6	596.5	569.4	556.2	543.0	536.9	530.8	525.9	521.1
27.5°	679.7	631.0	582.3	559.1	535.9	525.6	515.3	510.4	505.6	501.1	496.6
30°	635.2	591.7	548.2	528.2	508.2	498.8	489.5	484.6	479.8	475.6	471.4
32.5°	594.0	556.5	519.1	500.8	482.4	474.6	466.9	461.1	455.3	452.1	448.8
35°	554.6	521.1	487.5	472.4	457.2	449.5	441.8	436.9	432.1	429.5	426.9
37.5°	521.1	491.1	461.1	446.6	432.1	424.7	417.2	413.1	408.9	407.9	406.9
40°	486.9	461.1	435.3	421.1	406.9	400.5	394.0	391.5	388.9	388.2	387.6
42.5°	458.5	433.4	408.2	395.3	382.4	376.9	371.5	370.2	368.9	369.8	370.8
45°	425.6	404.7	383.7	371.8	359.9	355.3	350.8	349.9	348.9	350.8	352.8
47.5°	397.9	378.6	359.2	347.9	336.6	333.4	330.2	329.9	329.5	332.1	334.7
50°	369.5	350.8	332.1	323.1	314.1	311.2	308.3	309.2	310.2	314.4	318.6
52.5°	343.1	325.7	308.3	299.9	291.5	289.6	287.6	289.9	292.1	296.7	301.2
55°	314.1	298.3	282.5	276.0	269.6	267.6	265.7	270.2	274.7	278.9	283.1
57.5°	286.3	272.5	258.6	252.8	247.0	246.7	246.4	250.5	254.7	259.2	263.8
60°	256.7	245.1	233.5	228.9	224.4	225.1	225.7	230.6	235.4	238.9	242.5
62.5°	229.6	219.9	210.2	206.0	201.9	203.5	205.1	209.9	214.8	218.9	223.1
65°	202.5	194.4	186.4	183.5	180.6	182.8	185.1	189.3	193.5	196.4	199.3
67.5°	176.7	169.9	163.2	160.9	158.6	160.9	163.2	167.4	171.5	174.4	177.3
70°	149.6	144.1	138.7	137.0	135.4	138.0	140.6	144.1	147.7	150.6	153.5
72.5°	124.5	120.3	116.1	115.8	115.4	117.7	120.0	123.5	127.0	129.0	130.9
75°	100.0	97.7	95.4	95.1	94.8	97.1	99.3	101.2	103.2	104.8	106.4
77.5°	78.0	76.1	74.2	74.5	74.8	76.4	78.0	80.0	81.9	82.9	83.8
80°	55.5	54.8	54.2	54.8	55.5	56.8	58.0	59.3	60.6	61.3	61.9
82.5°	38.0	37.4	36.8	37.7	38.7	39.7	40.6	41.6	42.6	42.9	43.2
85°	21.9	22.9	23.9	23.9	23.9	24.2	24.5	24.8	25.2	24.8	24.5
87.5°	10.3	10.6	11.0	11.0	11.0	11.3	11.6	11.6	11.6	11.3	11.0
90°	9.5	11.2	13.8	16.3	18.9	21.5	20.6	21.5	22.3	23.2	24.9
92.5°	43.8	59.3	86.8	132.4	177.0	159.9	119.5	85.1	66.2	57.6	51.6
95°	78.2	111.7	184.8	312.8	453.8	509.6	413.4	309.4	209.7	164.2	133.2
97.5°	90.2	127.2	199.4	348.1	585.3	783.8	810.4	710.7	536.3	422.8	324.9
100°	103.1	136.6	196.8	324.0	550.0	813.9	983.2	1013.3	943.7	843.1	721.1
102.5°	117.7	147.8	200.2	303.4	498.5	758.0	991.8	1113.8	1128.4	1080.3	1014.1
105°	134.1	160.7	207.1	295.6	458.1	691.0	937.6	1117.3	1203.2	1219.5	1197.2
107.5°	152.1	177.0	218.3	293.9	428.9	631.7	860.3	1065.7	1200.6	1267.7	1290.9
110°	170.2	194.2	232.9	298.2	413.4	582.7	788.1	984.9	1143.0	1251.3	1311.5



TEST NUMBER: P831470

CATALOG NUMBER: S123DIP-S560D1025U935-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	189.1	212.3	247.5	306.8	404.8	550.0	725.4	905.0	1067.4	1192.0	1273.7
115°	208.0	231.2	263.8	316.3	403.9	528.5	677.2	836.2	985.8	1112.1	1205.8
117.5°	226.9	248.4	281.0	328.3	404.8	513.9	645.4	782.9	915.3	1031.3	1128.4
120°	244.9	266.4	297.4	342.1	408.2	504.5	621.4	742.5	858.6	961.7	1048.5
122.5°	261.3	284.5	314.6	354.9	414.2	498.5	601.6	710.7	813.0	906.7	985.8
125°	277.6	300.8	330.9	368.7	420.3	493.3	585.3	683.2	776.9	859.4	928.2
127.5°	293.1	316.3	345.5	379.9	427.1	490.7	569.8	658.3	743.4	819.0	882.6
130°	306.8	330.0	358.4	391.0	434.0	488.2	557.8	635.1	712.5	782.1	840.5
132.5°	319.7	342.1	369.6	401.4	439.2	487.3	546.6	613.6	683.2	746.8	801.8
135°	330.9	354.1	380.7	409.9	444.3	486.4	537.1	594.7	655.7	711.6	760.6
137.5°	341.2	362.7	388.5	416.8	447.8	484.7	528.5	576.7	628.2	678.1	721.9
140°	349.8	371.3	396.2	422.0	451.2	483.9	520.8	561.2	605.0	646.3	683.2
142.5°	358.4	378.1	402.2	427.1	453.8	482.1	513.9	546.6	582.7	617.1	648.0
145°	365.3	385.0	407.4	430.6	454.6	480.4	507.9	535.4	563.8	591.3	616.2
147.5°	373.9	391.0	411.7	433.2	454.6	477.8	501.9	526.0	549.2	572.4	590.4
150°	380.7	396.2	416.0	434.0	454.6	474.4	495.9	515.7	535.4	553.5	569.8
152.5°	387.6	402.2	418.5	435.7	452.1	470.1	489.0	506.2	522.5	538.0	550.9
155°	395.3	407.4	422.0	435.7	450.3	465.0	482.1	496.8	510.5	523.4	533.7
157.5°	402.2	411.7	423.7	436.6	447.8	460.7	474.4	486.4	498.5	508.8	517.4
160°	407.4	416.0	426.3	436.6	446.0	455.5	466.7	477.8	487.3	495.9	501.9
162.5°	411.7	418.5	427.1	435.7	442.6	450.3	458.9	467.5	475.3	483.0	488.2
165°	415.1	421.1	428.0	434.0	439.2	445.2	452.1	458.9	464.1	470.1	474.4
167.5°	418.5	422.8	428.0	433.2	435.7	440.0	445.2	451.2	455.5	458.9	462.4
170°	421.1	422.8	427.1	430.6	432.3	434.9	439.2	443.5	446.0	449.5	451.2
172.5°	422.8	423.7	427.1	429.7	429.7	430.6	433.2	436.6	438.3	440.9	441.7
175°	423.7	424.6	426.3	428.0	427.1	427.1	428.9	430.6	431.4	433.2	433.2
177.5°	424.6	424.6	425.4	427.1	425.4	424.6	425.4	426.3	427.1	428.0	428.0
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6



TEST NUMBER: P831470

CATALOG NUMBER: S123DIP-S560D1025U935-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1389.8	1389.8	1389.8	1389.8
2.5°	1235.3	1233.0	1224.0	1215.0
5°	1047.3	1039.6	1037.0	1034.4
7.5°	915.1	914.5	900.9	887.4
10°	798.7	799.7	787.4	775.2
12.5°	715.5	707.5	706.5	705.5
15°	653.0	645.5	644.3	643.0
17.5°	608.8	604.3	603.0	601.7
20°	575.2	572.7	570.4	568.2
22.5°	546.2	543.0	541.1	539.1
25°	518.2	515.3	514.6	514.0
27.5°	493.0	489.5	489.5	489.5
30°	469.2	466.9	465.9	465.0
32.5°	446.9	445.0	445.0	445.0
35°	426.0	425.0	423.7	422.4
37.5°	406.9	406.9	406.3	405.6
40°	388.6	389.5	389.5	389.5
42.5°	371.8	372.8	372.8	372.8
45°	354.4	356.0	356.6	357.3
47.5°	337.3	339.9	340.5	341.2
50°	320.5	322.4	322.8	323.1
52.5°	303.4	305.7	307.3	308.9
55°	285.4	287.6	288.6	289.6
57.5°	266.0	268.3	268.6	268.9
60°	244.7	247.0	247.6	248.3
62.5°	224.4	225.7	226.4	227.0
65°	201.2	203.1	204.4	205.7
67.5°	179.0	180.6	180.6	180.6
70°	154.1	154.8	155.7	156.7
72.5°	131.2	131.6	131.6	131.6
75°	107.1	107.7	108.0	108.3
77.5°	84.2	84.5	84.5	84.5
80°	61.6	61.3	61.3	61.3
82.5°	42.2	41.3	41.3	41.3
85°	24.2	23.9	24.2	24.5
87.5°	11.0	11.0	11.0	11.0
90°	24.1	24.9	25.8	24.9
92.5°	49.8	46.4	47.3	45.5
95°	116.9	109.1	103.1	99.7
97.5°	267.3	234.6	214.0	204.5
100°	634.3	571.5	538.0	538.9
102.5°	951.4	905.0	878.3	853.4
105°	1157.7	1125.0	1097.5	1093.2
107.5°	1285.7	1270.2	1259.1	1249.6
110°	1335.6	1342.4	1340.7	1339.0



TEST NUMBER: P831470

CATALOG NUMBER: S123DIP-S560D1025U935-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	1322.7	1347.6	1356.2	1357.0
115°	1270.2	1308.1	1325.2	1329.5
117.5°	1195.5	1237.6	1263.4	1269.4
120°	1116.4	1164.5	1185.2	1190.3
122.5°	1044.2	1086.3	1109.5	1116.4
125°	983.2	1021.0	1042.5	1048.5
127.5°	932.5	965.1	984.9	990.1
130°	886.1	917.0	935.1	941.9
132.5°	844.0	874.9	890.4	894.7
135°	802.7	828.5	844.0	850.0
137.5°	758.0	784.7	797.6	802.7
140°	715.9	740.0	753.7	752.9
142.5°	674.7	695.3	707.3	706.5
145°	637.7	655.7	662.6	664.3
147.5°	607.6	620.5	627.4	628.2
150°	582.7	592.1	597.3	597.3
152.5°	560.3	568.9	571.5	571.5
155°	541.4	548.3	550.0	550.9
157.5°	524.3	529.4	531.1	531.1
160°	507.9	513.1	513.1	512.2
162.5°	491.6	495.9	495.9	495.0
165°	477.8	481.3	480.4	480.4
167.5°	464.1	466.7	465.8	465.8
170°	452.1	453.8	452.9	452.9
172.5°	441.7	443.5	441.7	440.9
175°	433.2	434.0	433.2	432.3
177.5°	427.1	428.0	426.3	426.3
180°	424.6	424.6	424.6	424.6

TEST NUMBER: P831470

CATALOG NUMBER: S123DIP-S560D1025U935-4F0-1E-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	12.08	12.84	13.12	13.88	15.27	14.32	15.08	15.36	16.12	17.51
	3H	13.72	14.40	14.77	15.45	16.86	15.74	16.42	16.78	17.46	18.88
	4H	14.30	14.94	15.35	15.99	17.41	16.18	16.83	17.24	17.88	19.30
	6H	14.66	15.25	15.73	16.31	17.74	16.45	17.05	17.52	18.10	19.53
	8H	14.75	15.32	15.83	16.39	17.81	16.51	17.08	17.58	18.15	19.57
	12H	14.80	15.33	15.87	16.39	17.84	16.53	17.06	17.60	18.13	19.58
4H	2H	12.65	13.29	13.71	14.34	15.76	14.47	15.12	15.54	16.16	17.59
	3H	14.47	15.00	15.54	16.08	17.51	16.08	16.62	17.15	17.69	19.13
	4H	15.16	15.65	16.24	16.72	18.17	16.66	17.15	17.74	18.22	19.68
	6H	15.63	16.05	16.72	17.14	18.59	17.06	17.48	18.15	18.57	20.02
	8H	15.76	16.16	16.85	17.24	18.71	17.17	17.56	18.26	18.65	20.11
	12H	15.83	16.18	16.93	17.28	18.75	17.21	17.57	18.31	18.66	20.13
8H	4H	15.42	15.81	16.50	16.90	18.36	16.76	17.15	17.84	18.24	19.70
	6H	16.00	16.33	17.11	17.45	18.92	17.26	17.58	18.37	18.71	20.17
	8H	16.21	16.49	17.33	17.60	19.08	17.44	17.72	18.55	18.83	20.31
	12H	16.33	16.58	17.45	17.68	19.20	17.54	17.78	18.65	18.89	20.41
12H	4H	15.42	15.77	16.52	16.87	18.34	16.73	17.09	17.83	18.18	19.65
	6H	16.05	16.34	17.17	17.45	18.93	17.27	17.56	18.39	18.66	20.15
	8H	16.28	16.53	17.40	17.64	19.16	17.47	17.72	18.59	18.82	20.34