

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: P831524

Luminaire Tested: S123DIP-S560D365U935-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831524  
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-S560D365U935-4F0-1E-UDD-G4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: -

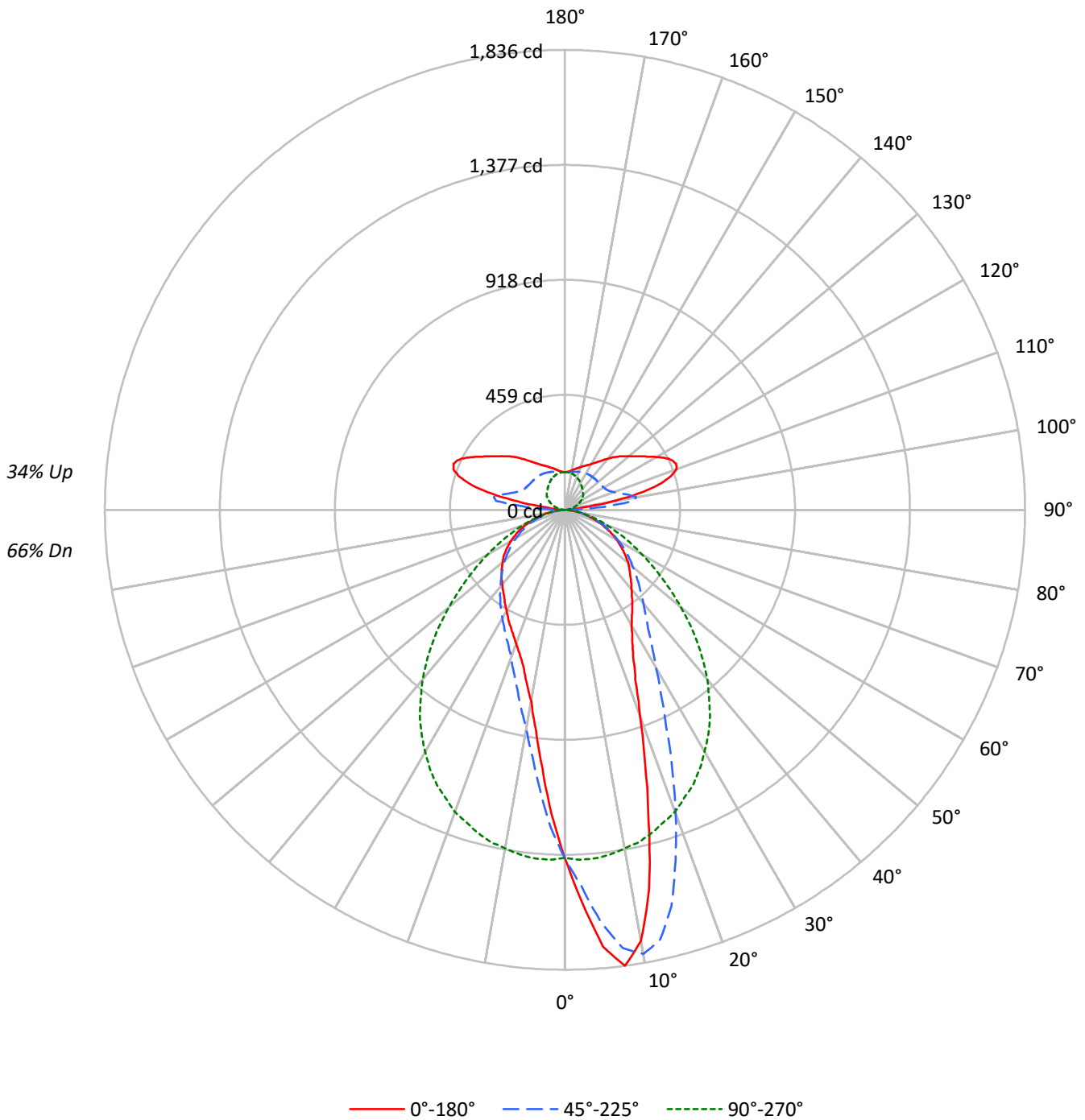
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3365.5 lumens  
Efficiency: N/A  
Efficacy: 113.7 lumens/watt  
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89  
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')  
CIE Type: 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	92	92	92	81	81	81	71	71	71	66				
1	102	98	94	91	96	92	89	86	82	80	77	73	71	69	64	63	61	57				
2	94	86	80	75	88	82	76	72	73	69	65	65	62	59	57	55	53	49				
3	86	77	70	64	81	73	66	61	65	60	56	58	54	51	51	49	46	43				
4	79	69	61	55	74	65	58	53	59	53	49	52	48	44	47	43	40	37				
5	73	62	54	48	69	59	52	46	53	47	43	48	43	39	43	39	36	33				
6	68	56	48	42	64	53	46	41	48	42	38	43	39	35	39	35	32	30				
7	63	51	43	38	59	49	42	36	44	38	34	40	35	32	36	32	29	27				
8	59	47	39	34	56	45	38	33	41	35	31	37	32	29	33	29	27	24				
9	55	43	36	31	52	41	34	30	38	32	28	34	30	26	31	27	24	22				
10	52	40	33	28	49	38	32	27	35	29	26	32	27	24	29	25	22	21				

**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	3.9
10°-20°	326.9	9.7
20°-30°	387.0	11.5
30°-40°	389.1	11.6
40°-50°	357.0	10.6
50°-60°	294.7	8.8
60°-70°	208.5	6.2
70°-80°	111.3	3.3
80°-90°	29.1	0.9
90°-100°	81.6	2.4
100°-110°	238.8	7.1
110°-120°	233.2	6.9
120°-130°	185.7	5.5
130°-140°	146.5	4.4
140°-150°	109.3	3.2
150°-160°	76.2	2.3
160°-170°	44.8	1.3
170°-180°	14.6	0.4
0°-30°	845.3	25.1
0°-40°	1234.4	36.7
0°-60°	1886.1	56.0
0°-90°	2234.9	66.4
90°-120°	553.5	16.4
90°-150°	995.1	29.6
90°-180°	1131.0	33.6
0°-180°	3365.5	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°	9	8	1	8	9	6
95°	35	180	10	180	35	57
105°	387	245	35	245	387	386
115°	471	187	62	187	471	459
125°	371	175	87	175	371	336
135°	301	172	102	172	301	233
145°	235	170	116	170	235	149
155°	195	165	132	165	195	91
165°	170	158	144	158	170	49
175°	153	151	150	151	153	15
180°	150	150	150	150	150	



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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°	8.8	9.1	8.8	8.5	8.8	8.2	7.9	7.6	7.3	7.6	6.7
92.5°	16.1	16.7	16.4	17.6	18.3	20.4	23.4	30.1	42.3	56.6	62.7
95°	35.3	36.5	38.6	41.4	47.2	58.1	74.2	109.5	146.3	180.4	160.6
97.5°	72.4	75.8	83.1	94.6	115.0	149.7	189.9	251.6	286.9	277.5	207.2
100°	190.8	190.5	202.3	224.5	255.3	298.5	334.1	358.7	348.1	288.1	194.7
102.5°	302.1	311.0	320.4	336.8	359.0	382.5	399.5	394.3	351.1	268.4	176.5
105°	387.0	388.5	398.3	409.8	423.8	431.7	426.0	395.5	331.9	244.6	162.2
107.5°	442.4	445.7	449.7	455.2	457.0	448.8	425.1	377.3	304.6	223.6	151.8
110°	474.0	474.6	475.3	472.8	464.3	443.0	404.7	348.7	279.0	206.3	146.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	480.4	480.1	477.1	468.3	450.9	422.0	377.9	320.4	256.8	194.7	143.3
115°	470.7	469.2	463.1	449.7	426.9	393.7	349.0	296.0	239.8	187.1	143.0
117.5°	449.4	447.3	438.1	423.2	399.5	365.1	324.0	277.2	228.5	181.9	143.3
120°	421.4	419.6	412.3	395.2	371.2	340.5	304.0	262.9	220.0	178.6	144.5
122.5°	395.2	392.8	384.6	369.7	349.0	321.0	287.8	251.6	213.0	176.5	146.7
125°	371.2	369.1	361.5	348.1	328.6	304.3	275.1	241.9	207.2	174.6	148.8
127.5°	350.5	348.7	341.7	330.1	312.5	290.0	263.2	233.1	201.7	173.7	151.2
130°	333.5	331.0	324.6	313.7	297.6	276.9	252.2	224.8	197.5	172.8	153.7
132.5°	316.7	315.2	309.7	298.8	283.9	264.4	241.9	217.2	193.5	172.5	155.5
135°	300.9	298.8	293.3	284.2	269.3	251.9	232.2	210.5	190.2	172.2	157.3
137.5°	284.2	282.4	277.8	268.4	255.6	240.1	222.4	204.2	187.1	171.6	158.5
140°	266.5	266.8	262.0	253.4	241.9	228.8	214.2	198.7	184.4	171.3	159.7
142.5°	250.1	250.4	246.1	238.8	229.4	218.5	206.3	193.5	181.9	170.7	160.6
145°	235.2	234.6	232.2	225.8	218.2	209.3	199.6	189.6	179.8	170.1	161.0
147.5°	222.4	222.1	219.7	215.1	209.0	202.6	194.4	186.2	177.7	169.2	161.0
150°	211.5	211.5	209.6	206.3	201.7	195.9	189.6	182.6	175.6	168.0	161.0
152.5°	202.3	202.3	201.4	198.4	195.0	190.5	185.0	179.2	173.1	166.4	160.0
155°	195.0	194.7	194.1	191.7	188.9	185.3	180.7	175.9	170.7	164.6	159.4
157.5°	188.0	188.0	187.4	185.6	183.2	180.1	176.5	172.2	168.0	163.1	158.5
160°	181.3	181.6	181.6	179.8	177.7	175.6	172.5	169.2	165.2	161.3	157.9
162.5°	175.3	175.6	175.6	174.0	172.8	171.0	168.3	165.5	162.5	159.4	156.7
165°	170.1	170.1	170.4	169.2	168.0	166.4	164.3	162.5	160.0	157.6	155.5
167.5°	164.9	164.9	165.2	164.3	163.7	162.5	161.3	159.7	157.6	155.8	154.3
170°	160.3	160.3	160.6	160.0	159.7	159.1	157.9	157.0	155.5	154.0	153.0
172.5°	156.1	156.4	157.0	156.4	156.4	156.1	155.2	154.6	153.3	152.4	152.1
175°	153.0	153.3	153.7	153.3	153.3	153.3	152.7	152.4	151.8	151.2	151.2
177.5°	150.9	150.9	151.5	151.2	151.5	151.5	151.2	150.9	150.6	150.3	150.6
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3



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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°	5.8	4.9	4.0	3.3	2.7	1.8	1.2	0.6	1.2	1.8	2.7
92.5°	46.9	30.7	21.0	15.5	12.5	9.7	6.7	4.6	6.7	9.7	12.5
95°	110.8	65.4	39.6	27.7	19.8	14.6	11.3	10.3	11.3	14.6	19.8
97.5°	123.2	70.6	45.0	31.9	24.0	19.5	16.7	16.4	16.7	19.5	24.0
100°	114.7	69.7	48.4	36.5	29.2	24.9	22.8	22.5	22.8	24.9	29.2
102.5°	107.4	70.9	52.3	41.7	35.3	31.3	29.5	28.9	29.5	31.3	35.3
105°	104.7	73.3	56.9	47.5	41.7	38.0	36.2	35.3	36.2	38.0	41.7
107.5°	104.1	77.3	62.7	53.9	48.4	44.7	42.9	42.0	42.9	44.7	48.4
110°	105.6	82.5	68.8	60.2	55.1	51.7	50.2	49.3	50.2	51.7	55.1





TEST NUMBER: P831524

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	108.6	87.6	75.2	66.9	61.8	58.4	56.9	56.0	56.9	58.4	61.8
115°	112.0	93.4	81.8	73.6	68.5	65.4	63.6	62.4	63.6	65.4	68.5
117.5°	116.2	99.5	87.9	80.3	74.5	71.8	70.3	68.8	70.3	71.8	74.5
120°	121.1	105.3	94.3	86.7	80.9	77.9	76.4	75.5	76.4	77.9	80.9
122.5°	125.7	111.4	100.7	92.5	87.0	83.7	82.2	81.2	82.2	83.7	87.0
125°	130.5	117.1	106.5	98.3	92.5	89.1	87.3	86.7	87.3	89.1	92.5
127.5°	134.5	122.3	112.0	103.8	97.4	94.0	91.9	91.0	91.9	94.0	97.4
130°	138.4	126.9	116.8	108.6	102.2	98.6	95.8	94.9	95.8	98.6	102.2
132.5°	142.1	130.8	121.1	113.2	106.8	102.2	99.2	98.0	99.2	102.2	106.8
135°	145.1	134.8	125.4	117.1	110.8	106.2	102.8	101.6	102.8	106.2	110.8
137.5°	147.6	137.5	128.4	120.8	114.4	109.5	106.2	105.0	106.2	109.5	114.4
140°	149.4	140.3	131.4	123.8	117.7	112.9	109.8	108.3	109.8	112.9	117.7
142.5°	151.2	142.4	133.9	126.9	120.8	116.5	113.2	112.0	113.2	116.5	120.8
145°	152.4	144.2	136.3	129.3	124.1	119.6	116.8	115.9	116.8	119.6	124.1
147.5°	153.3	145.7	138.4	132.4	127.2	123.2	120.5	119.9	120.5	123.2	127.2
150°	153.7	147.3	140.3	134.8	130.5	126.6	124.1	123.8	124.1	126.6	130.5
152.5°	154.3	148.2	142.4	137.2	133.6	130.2	127.8	127.8	127.8	130.2	133.6
155°	154.3	149.4	144.2	140.0	136.6	133.6	131.7	131.7	131.7	133.6	136.6
157.5°	154.6	150.0	145.7	142.4	139.4	136.6	135.1	134.8	135.1	136.6	139.4
160°	154.6	150.9	147.3	144.2	142.1	139.7	138.4	138.4	138.4	139.7	142.1
162.5°	154.3	151.2	148.2	145.7	143.9	142.1	141.2	141.2	141.2	142.1	143.9
165°	153.7	151.5	149.1	147.0	145.7	144.2	143.6	143.9	143.6	144.2	145.7
167.5°	153.3	151.5	149.7	148.2	147.3	146.0	145.7	146.0	145.7	146.0	147.3
170°	152.4	151.2	149.7	149.1	148.5	147.6	147.3	147.9	147.3	147.6	148.5
172.5°	152.1	151.2	150.0	149.7	149.4	148.8	148.8	149.1	148.8	148.8	149.4
175°	151.5	150.9	150.3	150.0	150.0	149.4	149.7	150.0	149.7	149.4	150.0
177.5°	151.2	150.6	150.3	150.3	150.3	150.0	150.3	150.6	150.3	150.0	150.3
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3



TEST NUMBER: P831524

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-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°	3.3	4.0	4.9	5.8	6.7	7.6	7.3	7.6	7.9	8.2	8.8
92.5°	15.5	21.0	30.7	46.9	62.7	56.6	42.3	30.1	23.4	20.4	18.3
95°	27.7	39.6	65.4	110.8	160.6	180.4	146.3	109.5	74.2	58.1	47.2
97.5°	31.9	45.0	70.6	123.2	207.2	277.5	286.9	251.6	189.9	149.7	115.0
100°	36.5	48.4	69.7	114.7	194.7	288.1	348.1	358.7	334.1	298.5	255.3
102.5°	41.7	52.3	70.9	107.4	176.5	268.4	351.1	394.3	399.5	382.5	359.0
105°	47.5	56.9	73.3	104.7	162.2	244.6	331.9	395.5	426.0	431.7	423.8
107.5°	53.9	62.7	77.3	104.1	151.8	223.6	304.6	377.3	425.1	448.8	457.0
110°	60.2	68.8	82.5	105.6	146.3	206.3	279.0	348.7	404.7	443.0	464.3



TEST NUMBER: P831524

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	66.9	75.2	87.6	108.6	143.3	194.7	256.8	320.4	377.9	422.0	450.9
115°	73.6	81.8	93.4	112.0	143.0	187.1	239.8	296.0	349.0	393.7	426.9
117.5°	80.3	87.9	99.5	116.2	143.3	181.9	228.5	277.2	324.0	365.1	399.5
120°	86.7	94.3	105.3	121.1	144.5	178.6	220.0	262.9	304.0	340.5	371.2
122.5°	92.5	100.7	111.4	125.7	146.7	176.5	213.0	251.6	287.8	321.0	349.0
125°	98.3	106.5	117.1	130.5	148.8	174.6	207.2	241.9	275.1	304.3	328.6
127.5°	103.8	112.0	122.3	134.5	151.2	173.7	201.7	233.1	263.2	290.0	312.5
130°	108.6	116.8	126.9	138.4	153.7	172.8	197.5	224.8	252.2	276.9	297.6
132.5°	113.2	121.1	130.8	142.1	155.5	172.5	193.5	217.2	241.9	264.4	283.9
135°	117.1	125.4	134.8	145.1	157.3	172.2	190.2	210.5	232.2	251.9	269.3
137.5°	120.8	128.4	137.5	147.6	158.5	171.6	187.1	204.2	222.4	240.1	255.6
140°	123.8	131.4	140.3	149.4	159.7	171.3	184.4	198.7	214.2	228.8	241.9
142.5°	126.9	133.9	142.4	151.2	160.6	170.7	181.9	193.5	206.3	218.5	229.4
145°	129.3	136.3	144.2	152.4	161.0	170.1	179.8	189.6	199.6	209.3	218.2
147.5°	132.4	138.4	145.7	153.3	161.0	169.2	177.7	186.2	194.4	202.6	209.0
150°	134.8	140.3	147.3	153.7	161.0	168.0	175.6	182.6	189.6	195.9	201.7
152.5°	137.2	142.4	148.2	154.3	160.0	166.4	173.1	179.2	185.0	190.5	195.0
155°	140.0	144.2	149.4	154.3	159.4	164.6	170.7	175.9	180.7	185.3	188.9
157.5°	142.4	145.7	150.0	154.6	158.5	163.1	168.0	172.2	176.5	180.1	183.2
160°	144.2	147.3	150.9	154.6	157.9	161.3	165.2	169.2	172.5	175.6	177.7
162.5°	145.7	148.2	151.2	154.3	156.7	159.4	162.5	165.5	168.3	171.0	172.8
165°	147.0	149.1	151.5	153.7	155.5	157.6	160.0	162.5	164.3	166.4	168.0
167.5°	148.2	149.7	151.5	153.3	154.3	155.8	157.6	159.7	161.3	162.5	163.7
170°	149.1	149.7	151.2	152.4	153.0	154.0	155.5	157.0	157.9	159.1	159.7
172.5°	149.7	150.0	151.2	152.1	152.1	152.4	153.3	154.6	155.2	156.1	156.4
175°	150.0	150.3	150.9	151.5	151.2	151.2	151.8	152.4	152.7	153.3	153.3
177.5°	150.3	150.3	150.6	151.2	150.6	150.3	150.6	150.9	151.2	151.5	151.5
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3



TEST NUMBER: P831524

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-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°	8.5	8.8	9.1	8.8
92.5°	17.6	16.4	16.7	16.1
95°	41.4	38.6	36.5	35.3
97.5°	94.6	83.1	75.8	72.4
100°	224.5	202.3	190.5	190.8
102.5°	336.8	320.4	311.0	302.1
105°	409.8	398.3	388.5	387.0
107.5°	455.2	449.7	445.7	442.4
110°	472.8	475.3	474.6	474.0



TEST NUMBER: P831524

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	468.3	477.1	480.1	480.4
115°	449.7	463.1	469.2	470.7
117.5°	423.2	438.1	447.3	449.4
120°	395.2	412.3	419.6	421.4
122.5°	369.7	384.6	392.8	395.2
125°	348.1	361.5	369.1	371.2
127.5°	330.1	341.7	348.7	350.5
130°	313.7	324.6	331.0	333.5
132.5°	298.8	309.7	315.2	316.7
135°	284.2	293.3	298.8	300.9
137.5°	268.4	277.8	282.4	284.2
140°	253.4	262.0	266.8	266.5
142.5°	238.8	246.1	250.4	250.1
145°	225.8	232.2	234.6	235.2
147.5°	215.1	219.7	222.1	222.4
150°	206.3	209.6	211.5	211.5
152.5°	198.4	201.4	202.3	202.3
155°	191.7	194.1	194.7	195.0
157.5°	185.6	187.4	188.0	188.0
160°	179.8	181.6	181.6	181.3
162.5°	174.0	175.6	175.6	175.3
165°	169.2	170.4	170.1	170.1
167.5°	164.3	165.2	164.9	164.9
170°	160.0	160.6	160.3	160.3
172.5°	156.4	157.0	156.4	156.1
175°	153.3	153.7	153.3	153.0
177.5°	151.2	151.5	150.9	150.9
180°	150.3	150.3	150.3	150.3



TEST NUMBER: P831524

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-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	14.38	15.36	15.19	16.18	17.20	16.62	17.59	17.43	18.42	19.44
	3H	16.03	16.91	16.86	17.75	18.80	18.05	18.92	18.87	19.76	20.81
	4H	16.62	17.44	17.46	18.29	19.35	18.50	19.33	19.34	20.17	21.23
	6H	16.99	17.75	17.85	18.61	19.68	18.79	19.55	19.64	20.40	21.47
	8H	17.09	17.82	17.95	18.69	19.76	18.85	19.58	19.71	20.45	21.52
	12H	17.14	17.83	18.01	18.69	19.79	18.87	19.56	19.74	20.43	21.52
4H	2H	14.97	15.79	15.81	16.64	17.70	16.79	17.62	17.64	18.46	19.52
	3H	16.81	17.49	17.66	18.37	19.45	18.42	19.11	19.28	19.99	21.06
	4H	17.51	18.13	18.38	19.01	20.11	19.01	19.64	19.88	20.51	21.61
	6H	17.99	18.53	18.87	19.43	20.53	19.42	19.96	20.30	20.86	21.96
	8H	18.13	18.63	19.02	19.53	20.64	19.53	20.04	20.42	20.93	22.05
	12H	18.20	18.65	19.11	19.57	20.69	19.59	20.04	20.49	20.95	22.07
8H	4H	17.78	18.29	18.67	19.18	20.30	19.12	19.63	20.01	20.52	21.64
	6H	18.38	18.79	19.29	19.73	20.84	19.63	20.05	20.54	20.98	22.10
	8H	18.58	18.95	19.51	19.88	21.02	19.81	20.18	20.74	21.11	22.24
	12H	18.71	19.04	19.64	19.96	21.14	19.92	20.24	20.84	21.16	22.35
12H	4H	17.79	18.24	18.70	19.16	20.28	19.10	19.56	20.01	20.47	21.59
	6H	18.43	18.80	19.35	19.72	20.86	19.65	20.01	20.57	20.94	22.08
	8H	18.67	18.99	19.59	19.91	21.10	19.85	20.17	20.78	21.09	22.28