

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: P831549

Luminaire Tested: S123DIP-S560D585U935-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831549
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-5)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D585U935-4F0-1E-UDD-G
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 585 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: -

Summary

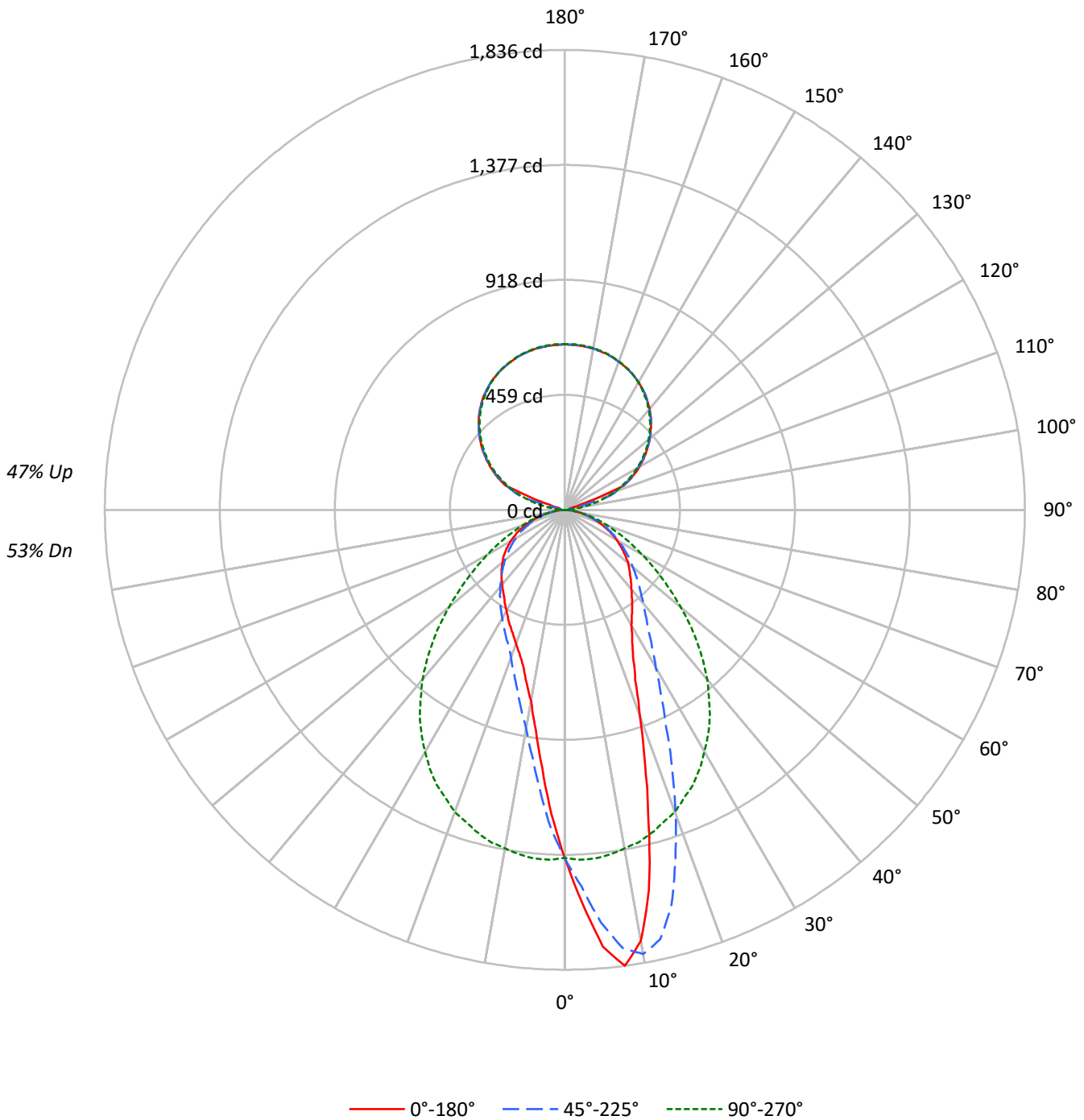
Lumens per Lamp: N/A
Luminaire Lumens: 4250.4 lumens
Efficiency: N/A
Efficacy: 122.1 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 34.8
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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53				
1	99	95	91	88	91	88	85	82	75	73	71	63	62	60	53	51	50	45				
2	91	83	78	73	84	78	72	68	67	63	60	56	54	51	47	45	43	39				
3	83	74	67	61	77	69	63	58	59	55	51	50	47	44	42	40	38	34				
4	76	66	58	53	71	62	55	50	53	48	44	45	42	38	38	35	33	30				
5	70	59	51	46	65	55	48	43	48	43	38	41	37	34	35	32	29	26				
6	65	53	46	40	60	50	43	38	44	38	34	38	33	30	32	29	26	24				
7	60	49	41	35	56	46	39	34	40	34	30	34	30	27	29	26	24	21				
8	56	44	37	32	52	42	35	30	37	31	27	32	28	24	27	24	22	19				
9	53	41	34	29	49	38	32	27	34	28	25	29	25	22	25	22	20	18				
10	49	38	31	26	46	35	29	25	31	26	23	27	23	20	24	21	18	16				

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	3.1
10°-20°	326.9	7.7
20°-30°	387.0	9.1
30°-40°	389.1	9.2
40°-50°	357.0	8.4
50°-60°	294.7	6.9
60°-70°	208.5	4.9
70°-80°	111.3	2.6
80°-90°	29.6	0.7
90°-100°	23.3	0.5
100°-110°	112.7	2.7
110°-120°	276.1	6.5
120°-130°	350.6	8.2
130°-140°	374.5	8.8
140°-150°	350.2	8.2
150°-160°	282.5	6.6
160°-170°	182.3	4.3
170°-180°	62.8	1.5
0°-30°	845.3	19.9
0°-40°	1234.4	29.0
0°-60°	1886.1	44.4
0°-90°	2235.4	52.6
90°-120°	412.1	9.7
90°-150°	1487.4	35.0
90°-180°	2015.0	47.4
0°-180°	4250.4	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°	15	12	0	12	15	8
95°	19	15	30	15	19	16
105°	22	108	146	108	22	45
115°	289	282	274	282	289	272
125°	395	393	387	393	395	353
135°	487	487	482	487	487	375
145°	561	560	556	560	561	351
155°	611	612	612	612	611	282
165°	644	644	646	644	644	182
175°	658	659	661	659	658	63
180°	661	661	661	661	661	



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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°	14.7	14.5	14.3	14.1	13.9	13.5	13.1	12.7	12.2	11.8	10.4
92.5°	16.7	16.6	16.5	16.4	16.3	15.8	15.1	14.3	13.5	12.8	11.8
95°	18.7	18.7	18.7	18.7	18.7	18.3	17.5	16.8	16.0	15.2	14.0
97.5°	20.1	20.0	19.9	19.8	19.7	19.2	18.3	17.5	16.6	15.7	21.3
100°	20.6	20.5	20.4	20.3	20.2	19.7	18.8	18.0	17.1	16.2	33.2
102.5°	21.1	20.9	20.7	20.5	20.2	21.9	25.5	29.1	32.7	36.3	55.3
105°	21.6	21.4	21.2	21.0	20.7	30.3	49.6	68.9	88.2	107.5	117.4
107.5°	51.1	65.4	79.7	94.0	108.3	123.8	140.6	157.4	174.2	191.0	189.4
110°	135.0	150.7	166.3	181.9	197.5	207.1	210.7	214.3	217.9	221.5	220.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	255.9	256.1	256.3	256.5	256.7	256.3	255.4	254.4	253.4	252.4	251.2
115°	288.8	288.3	287.9	287.4	287.0	286.2	285.2	284.1	283.0	281.9	280.9
117.5°	315.3	315.2	315.1	314.9	314.8	314.3	313.5	312.6	311.7	310.9	310.3
120°	342.8	342.8	342.8	342.8	342.8	342.3	341.5	340.6	339.7	338.8	338.5
122.5°	369.8	369.7	369.6	369.5	369.3	369.0	368.5	367.9	367.4	366.8	366.4
125°	394.8	394.6	394.4	394.2	394.0	393.7	393.5	393.3	393.1	392.9	392.4
127.5°	419.4	419.6	419.8	420.0	420.3	420.2	419.9	419.5	419.2	418.9	418.3
130°	442.9	443.2	443.4	443.6	443.8	443.7	443.3	442.8	442.4	442.0	441.5
132.5°	464.6	464.9	465.2	465.5	465.9	465.8	465.4	464.9	464.5	464.1	463.7
135°	486.7	487.0	487.3	487.6	488.0	488.0	487.6	487.3	487.0	486.7	486.2
137.5°	507.8	508.0	508.2	508.4	508.6	508.5	507.9	507.4	506.8	506.3	506.1
140°	526.4	526.7	526.9	527.1	527.3	527.2	526.8	526.3	525.9	525.5	525.1
142.5°	543.6	543.9	544.3	544.6	544.9	544.9	544.6	544.3	543.9	543.6	543.3
145°	561.3	561.3	561.3	561.3	561.3	561.2	561.0	560.8	560.5	560.3	560.1
147.5°	574.1	574.6	575.2	575.7	576.2	576.4	576.2	576.0	575.8	575.5	575.3
150°	588.8	589.1	589.5	589.8	590.1	590.2	589.9	589.7	589.5	589.3	589.1
152.5°	600.6	601.1	601.7	602.2	602.8	602.8	602.4	601.9	601.5	601.1	601.0
155°	611.4	612.0	612.7	613.4	614.0	614.1	613.5	613.0	612.4	611.9	611.8
157.5°	620.7	621.6	622.5	623.3	624.2	624.3	623.7	623.0	622.4	621.7	621.8
160°	629.6	630.3	631.1	631.8	632.6	632.7	632.0	631.4	630.7	630.0	630.2
162.5°	637.9	638.6	639.2	639.9	640.5	640.5	639.7	638.9	638.2	637.4	637.5
165°	644.3	645.1	645.8	646.6	647.3	647.3	646.4	645.5	644.7	643.8	643.9
167.5°	649.2	650.1	650.9	651.8	652.7	652.7	651.8	650.9	650.1	649.2	649.2
170°	653.6	654.5	655.4	656.2	657.1	657.1	656.2	655.4	654.5	653.6	653.6
172.5°	656.1	657.1	658.0	659.0	660.0	660.1	659.2	658.3	657.4	656.6	656.5
175°	658.5	659.4	660.3	661.2	662.0	662.1	661.3	660.6	659.8	659.0	658.9
177.5°	659.0	660.1	661.2	662.3	663.4	663.5	662.6	661.8	660.9	660.0	659.9
180°	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0



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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°	8.9	7.5	6.1	4.9	3.8	2.7	1.6	0.5	1.6	2.7	3.8
92.5°	10.8	9.8	8.8	8.7	9.3	10.0	10.6	11.3	10.6	10.0	9.3
95°	12.8	11.6	10.4	12.1	16.5	21.0	25.5	30.0	25.5	21.0	16.5
97.5°	26.8	32.4	38.0	42.3	45.3	48.4	51.5	54.5	51.5	48.4	45.3
100°	50.3	67.3	84.3	91.7	89.5	87.4	85.2	83.0	85.2	87.4	89.5
102.5°	74.3	93.3	112.3	121.1	119.7	118.2	116.8	115.4	116.8	118.2	119.7
105°	127.2	137.0	146.8	151.1	149.9	148.7	147.5	146.3	147.5	148.7	149.9
107.5°	187.8	186.1	184.5	183.2	182.2	181.2	180.2	179.2	180.2	181.2	182.2
110°	219.1	217.9	216.7	215.6	214.8	213.9	213.0	212.1	213.0	213.9	214.8



TEST NUMBER: P831549

CATALOG NUMBER: S123DIP-S560D585U935-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	250.0	248.8	247.6	246.6	245.9	245.1	244.3	243.6	244.3	245.1	245.9
115°	279.9	278.9	277.9	277.1	276.5	275.8	275.2	274.5	275.2	275.8	276.5
117.5°	309.8	309.2	308.7	308.0	307.2	306.5	305.7	305.0	305.7	306.5	307.2
120°	338.2	337.9	337.5	336.9	335.9	334.9	333.9	332.9	333.9	334.9	335.9
122.5°	366.0	365.5	365.1	364.5	363.7	363.0	362.2	361.4	362.2	363.0	363.7
125°	392.0	391.6	391.1	390.5	389.6	388.7	387.8	387.0	387.8	388.7	389.6
127.5°	417.8	417.3	416.7	416.0	415.1	414.2	413.4	412.5	413.4	414.2	415.1
130°	441.1	440.7	440.2	439.6	438.7	437.8	436.9	436.1	436.9	437.8	438.7
132.5°	463.4	463.1	462.8	462.2	461.3	460.4	459.5	458.7	459.5	460.4	461.3
135°	485.8	485.3	484.9	484.4	483.7	483.1	482.4	481.7	482.4	483.1	483.7
137.5°	505.9	505.6	505.4	504.9	504.0	503.1	502.3	501.4	502.3	503.1	504.0
140°	524.8	524.5	524.1	523.6	523.0	522.3	521.7	521.0	521.7	522.3	523.0
142.5°	543.0	542.6	542.3	541.8	541.2	540.5	539.9	539.2	539.9	540.5	541.2
145°	559.9	559.7	559.4	559.0	558.2	557.4	556.7	555.9	556.7	557.4	558.2
147.5°	575.1	574.9	574.7	574.3	573.7	573.2	572.6	572.1	572.6	573.2	573.7
150°	588.9	588.6	588.4	588.1	587.8	587.5	587.2	586.8	587.2	587.5	587.8
152.5°	600.9	600.7	600.6	600.5	600.4	600.3	600.2	600.1	600.2	600.3	600.4
155°	611.7	611.6	611.4	611.5	611.7	611.9	612.2	612.4	612.2	611.9	611.7
157.5°	621.9	622.0	622.1	622.2	622.2	622.2	622.2	622.2	622.2	622.2	622.2
160°	630.3	630.4	630.5	630.6	630.7	630.8	630.9	631.0	630.9	630.8	630.7
162.5°	637.6	637.7	637.9	638.1	638.4	638.7	639.1	639.4	639.1	638.7	638.4
165°	644.0	644.1	644.2	644.5	644.8	645.1	645.4	645.8	645.4	645.1	644.8
167.5°	649.2	649.2	649.2	649.4	649.9	650.3	650.7	651.2	650.7	650.3	649.9
170°	653.6	653.6	653.6	653.8	654.3	654.7	655.1	655.6	655.1	654.7	654.3
172.5°	656.3	656.2	656.1	656.3	656.9	657.4	658.0	658.5	658.0	657.4	656.9
175°	658.8	658.7	658.6	658.8	659.3	659.9	660.4	661.0	660.4	659.9	659.3
177.5°	659.8	659.7	659.6	659.8	660.3	660.9	661.4	662.0	661.4	660.9	660.3
180°	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0



TEST NUMBER: P831549

CATALOG NUMBER: S123DIP-S560D585U935-4F0-1E-UDD-G

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°	4.9	6.1	7.5	8.9	10.4	11.8	12.2	12.7	13.1	13.5	13.9
92.5°	8.7	8.8	9.8	10.8	11.8	12.8	13.5	14.3	15.1	15.8	16.3
95°	12.1	10.4	11.6	12.8	14.0	15.2	16.0	16.8	17.5	18.3	18.7
97.5°	42.3	38.0	32.4	26.8	21.3	15.7	16.6	17.5	18.3	19.2	19.7
100°	91.7	84.3	67.3	50.3	33.2	16.2	17.1	18.0	18.8	19.7	20.2
102.5°	121.1	112.3	93.3	74.3	55.3	36.3	32.7	29.1	25.5	21.9	20.2
105°	151.1	146.8	137.0	127.2	117.4	107.5	88.2	68.9	49.6	30.3	20.7
107.5°	183.2	184.5	186.1	187.8	189.4	191.0	174.2	157.4	140.6	123.8	108.3
110°	215.6	216.7	217.9	219.1	220.3	221.5	217.9	214.3	210.7	207.1	197.5



TEST NUMBER: P831549

CATALOG NUMBER: S123DIP-S560D585U935-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	246.6	247.6	248.8	250.0	251.2	252.4	253.4	254.4	255.4	256.3	256.7
115°	277.1	277.9	278.9	279.9	280.9	281.9	283.0	284.1	285.2	286.2	287.0
117.5°	308.0	308.7	309.2	309.8	310.3	310.9	311.7	312.6	313.5	314.3	314.8
120°	336.9	337.5	337.9	338.2	338.5	338.8	339.7	340.6	341.5	342.3	342.8
122.5°	364.5	365.1	365.5	366.0	366.4	366.8	367.4	367.9	368.5	369.0	369.3
125°	390.5	391.1	391.6	392.0	392.4	392.9	393.1	393.3	393.5	393.7	394.0
127.5°	416.0	416.7	417.3	417.8	418.3	418.9	419.2	419.5	419.9	420.2	420.3
130°	439.6	440.2	440.7	441.1	441.5	442.0	442.4	442.8	443.3	443.7	443.8
132.5°	462.2	462.8	463.1	463.4	463.7	464.1	464.5	464.9	465.4	465.8	465.9
135°	484.4	484.9	485.3	485.8	486.2	486.7	487.0	487.3	487.6	488.0	488.0
137.5°	504.9	505.4	505.6	505.9	506.1	506.3	506.8	507.4	507.9	508.5	508.6
140°	523.6	524.1	524.5	524.8	525.1	525.5	525.9	526.3	526.8	527.2	527.3
142.5°	541.8	542.3	542.6	543.0	543.3	543.6	543.9	544.3	544.6	544.9	544.9
145°	559.0	559.4	559.7	559.9	560.1	560.3	560.5	560.8	561.0	561.2	561.3
147.5°	574.3	574.7	574.9	575.1	575.3	575.5	575.8	576.0	576.2	576.4	576.2
150°	588.1	588.4	588.6	588.9	589.1	589.3	589.5	589.7	589.9	590.2	590.1
152.5°	600.5	600.6	600.7	600.9	601.0	601.1	601.5	601.9	602.4	602.8	602.8
155°	611.5	611.4	611.6	611.7	611.8	611.9	612.4	613.0	613.5	614.1	614.0
157.5°	622.2	622.1	622.0	621.9	621.8	621.7	622.4	623.0	623.7	624.3	624.2
160°	630.6	630.5	630.4	630.3	630.2	630.0	630.7	631.4	632.0	632.7	632.6
162.5°	638.1	637.9	637.7	637.6	637.5	637.4	638.2	638.9	639.7	640.5	640.5
165°	644.5	644.2	644.1	644.0	643.9	643.8	644.7	645.5	646.4	647.3	647.3
167.5°	649.4	649.2	649.2	649.2	649.2	649.2	650.1	650.9	651.8	652.7	652.7
170°	653.8	653.6	653.6	653.6	653.6	653.6	654.5	655.4	656.2	657.1	657.1
172.5°	656.3	656.1	656.2	656.3	656.5	656.6	657.4	658.3	659.2	660.1	660.0
175°	658.8	658.6	658.7	658.8	658.9	659.0	659.8	660.6	661.3	662.1	662.0
177.5°	659.8	659.6	659.7	659.8	659.9	660.0	660.9	661.8	662.6	663.5	663.4
180°	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0



TEST NUMBER: P831549

CATALOG NUMBER: S123DIP-S560D585U935-4F0-1E-UDD-G

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°	14.1	14.3	14.5	14.7
92.5°	16.4	16.5	16.6	16.7
95°	18.7	18.7	18.7	18.7
97.5°	19.8	19.9	20.0	20.1
100°	20.3	20.4	20.5	20.6
102.5°	20.5	20.7	20.9	21.1
105°	21.0	21.2	21.4	21.6
107.5°	94.0	79.7	65.4	51.1
110°	181.9	166.3	150.7	135.0



TEST NUMBER: P831549

CATALOG NUMBER: S123DIP-S560D585U935-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	256.5	256.3	256.1	255.9
115°	287.4	287.9	288.3	288.8
117.5°	314.9	315.1	315.2	315.3
120°	342.8	342.8	342.8	342.8
122.5°	369.5	369.6	369.7	369.8
125°	394.2	394.4	394.6	394.8
127.5°	420.0	419.8	419.6	419.4
130°	443.6	443.4	443.2	442.9
132.5°	465.5	465.2	464.9	464.6
135°	487.6	487.3	487.0	486.7
137.5°	508.4	508.2	508.0	507.8
140°	527.1	526.9	526.7	526.4
142.5°	544.6	544.3	543.9	543.6
145°	561.3	561.3	561.3	561.3
147.5°	575.7	575.2	574.6	574.1
150°	589.8	589.5	589.1	588.8
152.5°	602.2	601.7	601.1	600.6
155°	613.4	612.7	612.0	611.4
157.5°	623.3	622.5	621.6	620.7
160°	631.8	631.1	630.3	629.6
162.5°	639.9	639.2	638.6	637.9
165°	646.6	645.8	645.1	644.3
167.5°	651.8	650.9	650.1	649.2
170°	656.2	655.4	654.5	653.6
172.5°	659.0	658.0	657.1	656.1
175°	661.2	660.3	659.4	658.5
177.5°	662.3	661.2	660.1	659.0
180°	661.0	661.0	661.0	661.0



TEST NUMBER: P831549

CATALOG NUMBER: S123DIP-S560D585U935-4F0-1E-UDD-G

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	13.21	14.05	14.15	15.01	16.24	15.44	16.29	16.39	17.24	18.48
	3H	14.85	15.61	15.81	16.57	17.83	16.87	17.62	17.82	18.59	19.85
	4H	15.43	16.15	16.40	17.11	18.38	17.32	18.03	18.28	19.00	20.27
	6H	15.80	16.46	16.78	17.43	18.71	17.59	18.25	18.57	19.22	20.50
	8H	15.89	16.52	16.88	17.51	18.79	17.65	18.28	18.64	19.27	20.55
	12H	15.94	16.54	16.93	17.52	18.82	17.67	18.27	18.66	19.25	20.55
4H	2H	13.78	14.50	14.75	15.46	16.73	15.61	16.32	16.58	17.29	18.56
	3H	15.61	16.20	16.59	17.20	18.48	17.22	17.82	18.21	18.82	20.10
	4H	16.30	16.85	17.30	17.84	19.15	17.81	18.35	18.80	19.34	20.65
	6H	16.78	17.25	17.78	18.26	19.57	18.21	18.68	19.21	19.69	21.00
	8H	16.92	17.35	17.92	18.36	19.68	18.32	18.76	19.33	19.77	21.08
	12H	16.98	17.38	18.00	18.40	19.72	18.37	18.76	19.39	19.78	21.11
8H	4H	16.57	17.01	17.57	18.01	19.33	17.91	18.35	18.91	19.35	20.67
	6H	17.16	17.52	18.19	18.57	19.88	18.41	18.77	19.44	19.82	21.14
	8H	17.37	17.68	18.40	18.72	20.05	18.59	18.91	19.63	19.95	21.28
	12H	17.49	17.77	18.53	18.80	20.18	18.69	18.97	19.73	20.00	21.38
12H	4H	16.57	16.97	17.59	17.99	19.31	17.89	18.28	18.91	19.30	20.63
	6H	17.21	17.53	18.25	18.56	19.90	18.43	18.74	19.46	19.78	21.12
	8H	17.44	17.72	18.48	18.75	20.13	18.63	18.91	19.67	19.93	21.31