

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: P831497

Luminaire Tested: S123DIP-S560D1195U935-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831497
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-S560D1195U935-4F0-1E-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

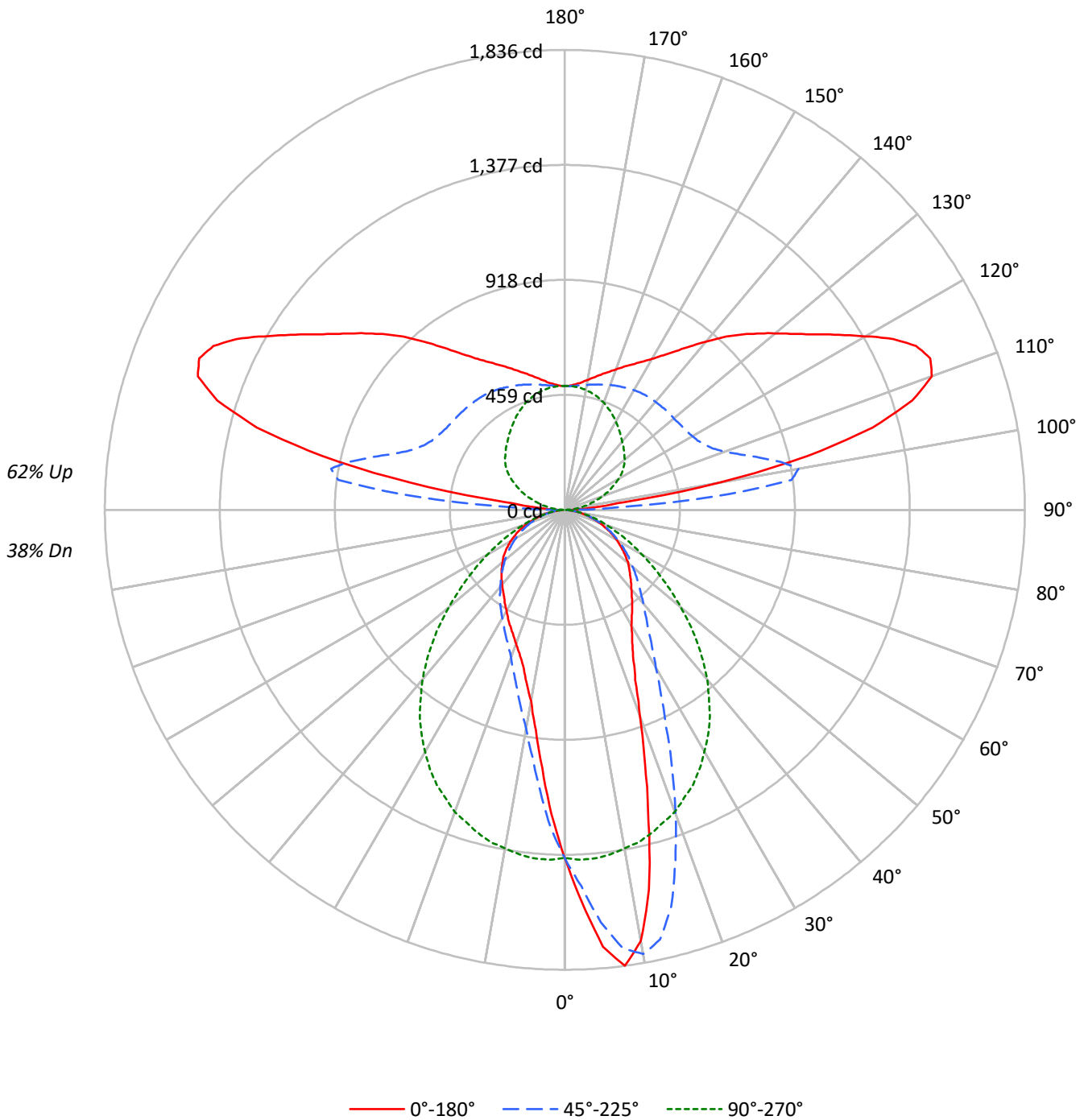
Lumens per Lamp: N/A
Luminaire Lumens: 5954.0 lumens
Efficiency: N/A
Efficacy: 117.7 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Indirect

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	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°	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	2.2
10°-20°	326.9	5.5
20°-30°	387.0	6.5
30°-40°	389.1	6.5
40°-50°	357.0	6.0
50°-60°	294.7	4.9
60°-70°	208.5	3.5
70°-80°	111.3	1.9
80°-90°	31.0	0.5
90°-100°	268.2	4.5
100°-110°	785.1	13.2
110°-120°	766.7	12.9
120°-130°	610.6	10.3
130°-140°	481.7	8.1
140°-150°	359.4	6.0
150°-160°	250.6	4.2
160°-170°	147.2	2.5
170°-180°	47.9	0.8
0°-30°	845.3	14.2
0°-40°	1234.4	20.7
0°-60°	1886.1	31.7
0°-90°	2236.8	37.6
90°-120°	1819.9	30.6
90°-150°	3271.6	54.9
90°-180°	3717.0	62.4
0°-180°	5954.0	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°	29	25	2	25	29	17
95°	116	593	34	593	116	189
105°	1272	804	116	804	1272	1269
115°	1548	615	205	615	1548	1509
125°	1220	574	285	574	1220	1104
135°	989	566	334	566	989	767
145°	773	559	381	559	773	491
155°	641	541	433	541	641	299
165°	559	518	473	518	559	160
175°	503	497	493	497	503	49
180°	494	494	494	494	494	



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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°	29.0	30.0	29.0	28.0	29.0	27.0	26.0	25.0	24.0	25.0	22.0
92.5°	53.0	55.0	54.0	58.0	60.0	67.0	77.0	99.0	139.0	186.1	206.1
95°	116.0	120.0	127.0	136.0	155.1	191.1	244.1	360.1	481.2	593.2	528.2
97.5°	238.1	249.1	273.1	311.1	378.1	492.2	624.2	827.3	943.3	912.3	681.2
100°	627.2	626.2	665.2	738.3	839.3	981.3	1098.4	1179.4	1144.4	947.3	640.2
102.5°	993.3	1022.4	1053.4	1107.4	1180.4	1257.4	1313.5	1296.5	1154.4	882.3	580.2
105°	1272.4	1277.4	1309.5	1347.5	1393.5	1419.5	1400.5	1300.5	1091.4	804.3	533.2
107.5°	1454.5	1465.5	1478.5	1496.5	1502.5	1475.5	1397.5	1240.4	1001.3	735.3	499.2
110°	1558.5	1560.5	1562.5	1554.5	1526.5	1456.5	1330.5	1146.4	917.3	678.2	481.2

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1579.5	1578.5	1568.5	1539.5	1482.5	1387.5	1242.4	1053.4	844.3	640.2	471.2
115°	1547.5	1542.5	1522.5	1478.5	1403.5	1294.5	1147.4	973.3	788.3	615.2	470.2
117.5°	1477.5	1470.5	1440.5	1391.5	1313.5	1200.4	1065.4	911.3	751.3	598.2	471.2
120°	1385.5	1379.5	1355.5	1299.5	1220.4	1119.4	999.3	864.3	723.3	587.2	475.2
122.5°	1299.5	1291.4	1264.4	1215.4	1147.4	1055.4	946.3	827.3	700.2	580.2	482.2
125°	1220.4	1213.4	1188.4	1144.4	1080.4	1000.3	904.3	795.3	681.2	574.2	489.2
127.5°	1152.4	1146.4	1123.4	1085.4	1027.4	953.3	865.3	766.3	663.2	571.2	497.2
130°	1096.4	1088.4	1067.4	1031.4	978.3	910.3	829.3	739.3	649.2	568.2	505.2
132.5°	1041.4	1036.4	1018.4	982.3	933.3	869.3	795.3	714.2	636.2	567.2	511.2
135°	989.3	982.3	964.3	934.3	885.3	828.3	763.3	692.2	625.2	566.2	517.2
137.5°	934.3	928.3	913.3	882.3	840.3	789.3	731.3	671.2	615.2	564.2	521.2
140°	876.3	877.3	861.3	833.3	795.3	752.3	704.2	653.2	606.2	563.2	525.2
142.5°	822.3	823.3	809.3	785.3	754.3	718.3	678.2	636.2	598.2	561.2	528.2
145°	773.3	771.3	763.3	742.3	717.2	688.2	656.2	623.2	591.2	559.2	529.2
147.5°	731.3	730.3	722.3	707.2	687.2	666.2	639.2	612.2	584.2	556.2	529.2
150°	695.2	695.2	689.2	678.2	663.2	644.2	623.2	600.2	577.2	552.2	529.2
152.5°	665.2	665.2	662.2	652.2	641.2	626.2	608.2	589.2	569.2	547.2	526.2
155°	641.2	640.2	638.2	630.2	621.2	609.2	594.2	578.2	561.2	541.2	524.2
157.5°	618.2	618.2	616.2	610.2	602.2	592.2	580.2	566.2	552.2	536.2	521.2
160°	596.2	597.2	597.2	591.2	584.2	577.2	567.2	556.2	543.2	530.2	519.2
162.5°	576.2	577.2	577.2	572.2	568.2	562.2	553.2	544.2	534.2	524.2	515.2
165°	559.2	559.2	560.2	556.2	552.2	547.2	540.2	534.2	526.2	518.2	511.2
167.5°	542.2	542.2	543.2	540.2	538.2	534.2	530.2	525.2	518.2	512.2	507.2
170°	527.2	527.2	528.2	526.2	525.2	523.2	519.2	516.2	511.2	506.2	503.2
172.5°	513.2	514.2	516.2	514.2	514.2	513.2	510.2	508.2	504.2	501.2	500.2
175°	503.2	504.2	505.2	504.2	504.2	504.2	502.2	501.2	499.2	497.2	497.2
177.5°	496.2	496.2	498.2	497.2	498.2	498.2	497.2	496.2	495.2	494.2	495.2
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2



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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°	19.0	16.0	13.0	11.0	9.0	6.0	4.0	2.0	4.0	6.0	9.0
92.5°	154.1	101.0	69.0	51.0	41.0	32.0	22.0	15.0	22.0	32.0	41.0
95°	364.1	215.1	130.0	91.0	65.0	48.0	37.0	34.0	37.0	48.0	65.0
97.5°	405.1	232.1	148.1	105.0	79.0	64.0	55.0	54.0	55.0	64.0	79.0
100°	377.1	229.1	159.1	120.0	96.0	82.0	75.0	74.0	75.0	82.0	96.0
102.5°	353.1	233.1	172.1	137.0	116.0	103.0	97.0	95.0	97.0	103.0	116.0
105°	344.1	241.1	187.1	156.1	137.0	125.0	119.0	116.0	119.0	125.0	137.0
107.5°	342.1	254.1	206.1	177.1	159.1	147.1	141.0	138.0	141.0	147.1	159.1
110°	347.1	271.1	226.1	198.1	181.1	170.1	165.1	162.1	165.1	170.1	181.1



TEST NUMBER: P831497

CATALOG NUMBER: S123DIP-S560D1195U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	357.1	288.1	247.1	220.1	203.1	192.1	187.1	184.1	187.1	192.1	203.1
115°	368.1	307.1	269.1	242.1	225.1	215.1	209.1	205.1	209.1	215.1	225.1
117.5°	382.1	327.1	289.1	264.1	245.1	236.1	231.1	226.1	231.1	236.1	245.1
120°	398.1	346.1	310.1	285.1	266.1	256.1	251.1	248.1	251.1	256.1	266.1
122.5°	413.1	366.1	331.1	304.1	286.1	275.1	270.1	267.1	270.1	275.1	286.1
125°	429.1	385.1	350.1	323.1	304.1	293.1	287.1	285.1	287.1	293.1	304.1
127.5°	442.2	402.1	368.1	341.1	320.1	309.1	302.1	299.1	302.1	309.1	320.1
130°	455.2	417.1	384.1	357.1	336.1	324.1	315.1	312.1	315.1	324.1	336.1
132.5°	467.2	430.1	398.1	372.1	351.1	336.1	326.1	322.1	326.1	336.1	351.1
135°	477.2	443.2	412.1	385.1	364.1	349.1	338.1	334.1	338.1	349.1	364.1
137.5°	485.2	452.2	422.1	397.1	376.1	360.1	349.1	345.1	349.1	360.1	376.1
140°	491.2	461.2	432.2	407.1	387.1	371.1	361.1	356.1	361.1	371.1	387.1
142.5°	497.2	468.2	440.2	417.1	397.1	383.1	372.1	368.1	372.1	383.1	397.1
145°	501.2	474.2	448.2	425.1	408.1	393.1	384.1	381.1	384.1	393.1	408.1
147.5°	504.2	479.2	455.2	435.2	418.1	405.1	396.1	394.1	396.1	405.1	418.1
150°	505.2	484.2	461.2	443.2	429.1	416.1	408.1	407.1	408.1	416.1	429.1
152.5°	507.2	487.2	468.2	451.2	439.2	428.1	420.1	420.1	420.1	428.1	439.2
155°	507.2	491.2	474.2	460.2	449.2	439.2	433.2	433.2	433.2	439.2	449.2
157.5°	508.2	493.2	479.2	468.2	458.2	449.2	444.2	443.2	444.2	449.2	458.2
160°	508.2	496.2	484.2	474.2	467.2	459.2	455.2	455.2	455.2	459.2	467.2
162.5°	507.2	497.2	487.2	479.2	473.2	467.2	464.2	464.2	464.2	467.2	473.2
165°	505.2	498.2	490.2	483.2	479.2	474.2	472.2	473.2	472.2	474.2	479.2
167.5°	504.2	498.2	492.2	487.2	484.2	480.2	479.2	480.2	479.2	480.2	484.2
170°	501.2	497.2	492.2	490.2	488.2	485.2	484.2	486.2	484.2	485.2	488.2
172.5°	500.2	497.2	493.2	492.2	491.2	489.2	489.2	490.2	489.2	489.2	491.2
175°	498.2	496.2	494.2	493.2	493.2	491.2	492.2	493.2	492.2	491.2	493.2
177.5°	497.2	495.2	494.2	494.2	494.2	493.2	494.2	495.2	494.2	493.2	494.2
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2



TEST NUMBER: P831497

CATALOG NUMBER: S123DIP-S560D1195U935-4F0-1E-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°	11.0	13.0	16.0	19.0	22.0	25.0	24.0	25.0	26.0	27.0	29.0
92.5°	51.0	69.0	101.0	154.1	206.1	186.1	139.0	99.0	77.0	67.0	60.0
95°	91.0	130.0	215.1	364.1	528.2	593.2	481.2	360.1	244.1	191.1	155.1
97.5°	105.0	148.1	232.1	405.1	681.2	912.3	943.3	827.3	624.2	492.2	378.1
100°	120.0	159.1	229.1	377.1	640.2	947.3	1144.4	1179.4	1098.4	981.3	839.3
102.5°	137.0	172.1	233.1	353.1	580.2	882.3	1154.4	1296.5	1313.5	1257.4	1180.4
105°	156.1	187.1	241.1	344.1	533.2	804.3	1091.4	1300.5	1400.5	1419.5	1393.5
107.5°	177.1	206.1	254.1	342.1	499.2	735.3	1001.3	1240.4	1397.5	1475.5	1502.5
110°	198.1	226.1	271.1	347.1	481.2	678.2	917.3	1146.4	1330.5	1456.5	1526.5



TEST NUMBER: P831497

CATALOG NUMBER: S123DIP-S560D1195U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	220.1	247.1	288.1	357.1	471.2	640.2	844.3	1053.4	1242.4	1387.5	1482.5
115°	242.1	269.1	307.1	368.1	470.2	615.2	788.3	973.3	1147.4	1294.5	1403.5
117.5°	264.1	289.1	327.1	382.1	471.2	598.2	751.3	911.3	1065.4	1200.4	1313.5
120°	285.1	310.1	346.1	398.1	475.2	587.2	723.3	864.3	999.3	1119.4	1220.4
122.5°	304.1	331.1	366.1	413.1	482.2	580.2	700.2	827.3	946.3	1055.4	1147.4
125°	323.1	350.1	385.1	429.1	489.2	574.2	681.2	795.3	904.3	1000.3	1080.4
127.5°	341.1	368.1	402.1	442.2	497.2	571.2	663.2	766.3	865.3	953.3	1027.4
130°	357.1	384.1	417.1	455.2	505.2	568.2	649.2	739.3	829.3	910.3	978.3
132.5°	372.1	398.1	430.1	467.2	511.2	567.2	636.2	714.2	795.3	869.3	933.3
135°	385.1	412.1	443.2	477.2	517.2	566.2	625.2	692.2	763.3	828.3	885.3
137.5°	397.1	422.1	452.2	485.2	521.2	564.2	615.2	671.2	731.3	789.3	840.3
140°	407.1	432.2	461.2	491.2	525.2	563.2	606.2	653.2	704.2	752.3	795.3
142.5°	417.1	440.2	468.2	497.2	528.2	561.2	598.2	636.2	678.2	718.3	754.3
145°	425.1	448.2	474.2	501.2	529.2	559.2	591.2	623.2	656.2	688.2	717.2
147.5°	435.2	455.2	479.2	504.2	529.2	556.2	584.2	612.2	639.2	666.2	687.2
150°	443.2	461.2	484.2	505.2	529.2	552.2	577.2	600.2	623.2	644.2	663.2
152.5°	451.2	468.2	487.2	507.2	526.2	547.2	569.2	589.2	608.2	626.2	641.2
155°	460.2	474.2	491.2	507.2	524.2	541.2	561.2	578.2	594.2	609.2	621.2
157.5°	468.2	479.2	493.2	508.2	521.2	536.2	552.2	566.2	580.2	592.2	602.2
160°	474.2	484.2	496.2	508.2	519.2	530.2	543.2	556.2	567.2	577.2	584.2
162.5°	479.2	487.2	497.2	507.2	515.2	524.2	534.2	544.2	553.2	562.2	568.2
165°	483.2	490.2	498.2	505.2	511.2	518.2	526.2	534.2	540.2	547.2	552.2
167.5°	487.2	492.2	498.2	504.2	507.2	512.2	518.2	525.2	530.2	534.2	538.2
170°	490.2	492.2	497.2	501.2	503.2	506.2	511.2	516.2	519.2	523.2	525.2
172.5°	492.2	493.2	497.2	500.2	500.2	501.2	504.2	508.2	510.2	513.2	514.2
175°	493.2	494.2	496.2	498.2	497.2	497.2	499.2	501.2	502.2	504.2	504.2
177.5°	494.2	494.2	495.2	497.2	495.2	494.2	495.2	496.2	497.2	498.2	498.2
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2



TEST NUMBER: P831497

CATALOG NUMBER: S123DIP-S560D1195U935-4F0-1E-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°	28.0	29.0	30.0	29.0
92.5°	58.0	54.0	55.0	53.0
95°	136.0	127.0	120.0	116.0
97.5°	311.1	273.1	249.1	238.1
100°	738.3	665.2	626.2	627.2
102.5°	1107.4	1053.4	1022.4	993.3
105°	1347.5	1309.5	1277.4	1272.4
107.5°	1496.5	1478.5	1465.5	1454.5
110°	1554.5	1562.5	1560.5	1558.5



TEST NUMBER: P831497

CATALOG NUMBER: S123DIP-S560D1195U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1539.5	1568.5	1578.5	1579.5
115°	1478.5	1522.5	1542.5	1547.5
117.5°	1391.5	1440.5	1470.5	1477.5
120°	1299.5	1355.5	1379.5	1385.5
122.5°	1215.4	1264.4	1291.4	1299.5
125°	1144.4	1188.4	1213.4	1220.4
127.5°	1085.4	1123.4	1146.4	1152.4
130°	1031.4	1067.4	1088.4	1096.4
132.5°	982.3	1018.4	1036.4	1041.4
135°	934.3	964.3	982.3	989.3
137.5°	882.3	913.3	928.3	934.3
140°	833.3	861.3	877.3	876.3
142.5°	785.3	809.3	823.3	822.3
145°	742.3	763.3	771.3	773.3
147.5°	707.2	722.3	730.3	731.3
150°	678.2	689.2	695.2	695.2
152.5°	652.2	662.2	665.2	665.2
155°	630.2	638.2	640.2	641.2
157.5°	610.2	616.2	618.2	618.2
160°	591.2	597.2	597.2	596.2
162.5°	572.2	577.2	577.2	576.2
165°	556.2	560.2	559.2	559.2
167.5°	540.2	543.2	542.2	542.2
170°	526.2	528.2	527.2	527.2
172.5°	514.2	516.2	514.2	513.2
175°	504.2	505.2	504.2	503.2
177.5°	497.2	498.2	496.2	496.2
180°	494.2	494.2	494.2	494.2



TEST NUMBER: P831497

CATALOG NUMBER: S123DIP-S560D1195U935-4F0-1E-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	11.68	12.41	12.74	13.48	14.92	13.92	14.65	14.98	15.71	17.15
	3H	13.32	13.98	14.39	15.05	16.51	15.33	15.99	16.41	17.06	18.52
	4H	13.89	14.51	14.97	15.59	17.05	15.78	16.40	16.86	17.47	18.94
	6H	14.25	14.83	15.35	15.90	17.38	16.05	16.62	17.14	17.70	19.17
	8H	14.35	14.89	15.44	15.98	17.46	16.11	16.65	17.20	17.74	19.21
	12H	14.39	14.91	15.49	15.99	17.49	16.12	16.64	17.22	17.72	19.22
4H	2H	12.24	12.86	13.33	13.94	15.40	14.07	14.69	15.16	15.76	17.23
	3H	14.06	14.58	15.16	15.68	17.15	15.67	16.19	16.77	17.29	18.77
	4H	14.75	15.23	15.85	16.32	17.82	16.25	16.73	17.35	17.82	19.32
	6H	15.22	15.63	16.33	16.74	18.23	16.65	17.06	17.76	18.17	19.66
	8H	15.35	15.73	16.46	16.84	18.35	16.76	17.14	17.87	18.25	19.75
	12H	15.42	15.76	16.54	16.88	18.39	16.80	17.14	17.92	18.26	19.77
8H	4H	15.01	15.39	16.12	16.49	18.00	16.35	16.73	17.46	17.83	19.34
	6H	15.59	15.91	16.72	17.05	18.56	16.85	17.16	17.98	18.31	19.81
	8H	15.80	16.07	16.94	17.20	18.73	17.03	17.30	18.16	18.43	19.95
	12H	15.92	16.16	17.06	17.28	18.84	17.12	17.36	18.26	18.49	20.05
12H	4H	15.00	15.35	16.13	16.47	17.98	16.32	16.66	17.44	17.78	19.29
	6H	15.64	15.92	16.78	17.05	18.57	16.86	17.14	18.00	18.26	19.79
	8H	15.87	16.11	17.01	17.24	18.80	17.05	17.30	18.20	18.42	19.98