

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: P831501

Luminaire Tested: S123DIP-S560D1195U950-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831501
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-S560D1195U950-4F0-1E-UDD-G
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: -

Summary

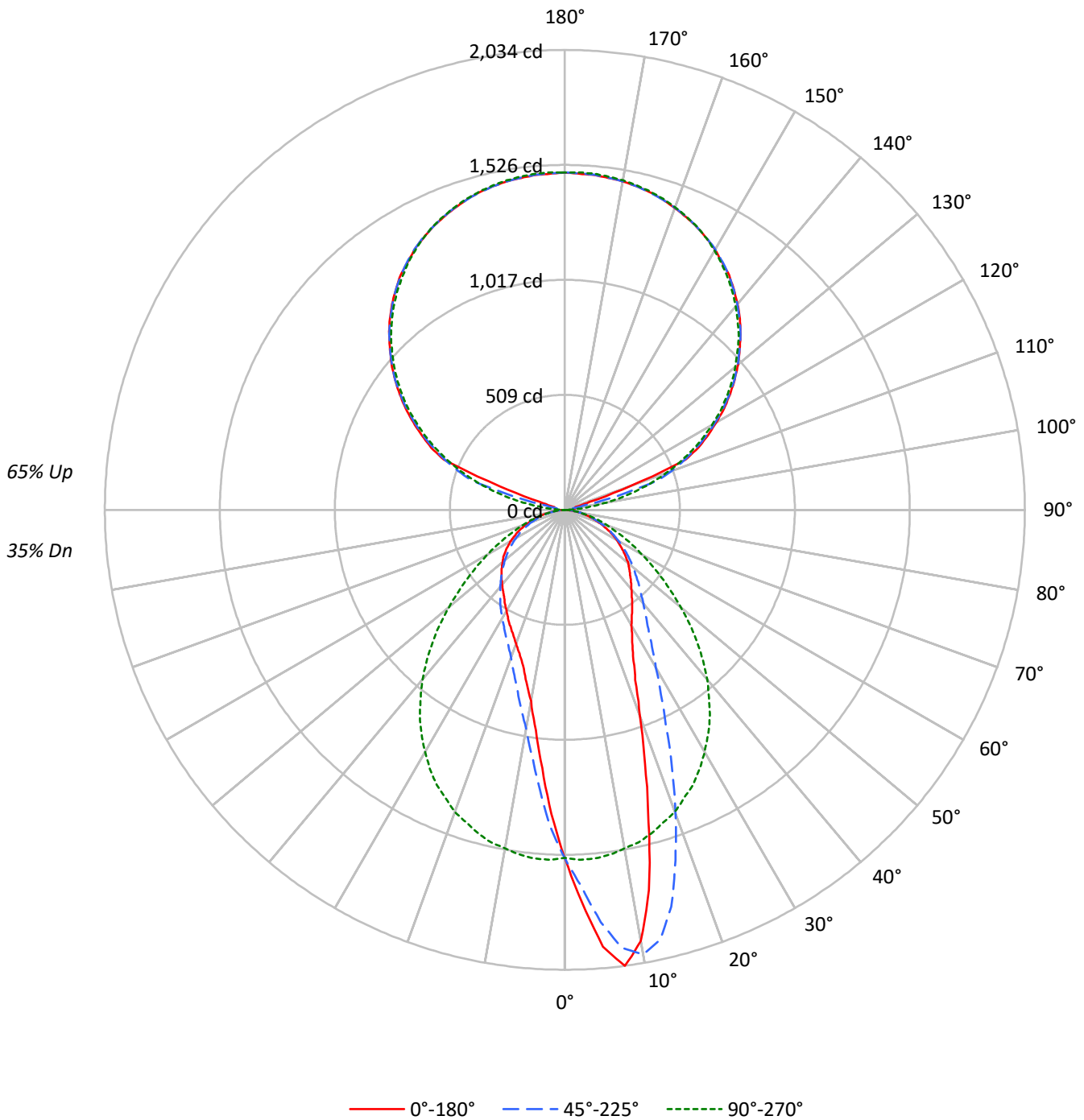
Lumens per Lamp: N/A
Luminaire Lumens: 7026.2 lumens
Efficiency: N/A
Efficacy: 138.9 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Indirect

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	94	94	94	94	75	75	75	58	58	58	43	43	43	35				
1	95	91	87	84	86	82	79	76	66	64	62	52	50	49	38	37	37	30				
2	87	80	74	69	78	72	67	63	59	55	52	46	44	42	34	33	31	26				
3	79	70	63	58	72	64	58	53	52	48	44	41	38	36	31	29	27	23				
4	73	63	55	49	66	57	51	46	46	42	38	37	33	31	28	26	24	20				
5	67	56	48	43	60	51	44	39	42	37	33	33	30	27	25	23	21	18				
6	62	50	43	37	56	46	39	34	38	33	29	30	27	24	23	21	19	16				
7	57	45	38	33	52	42	35	30	34	29	26	28	24	21	21	19	17	14				
8	53	41	34	29	48	38	31	27	31	27	23	25	22	19	20	17	15	13				
9	49	38	31	26	45	35	28	24	29	24	21	23	20	17	18	16	14	12				
10	46	35	28	23	42	32	26	22	27	22	19	22	18	16	17	15	13	11				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	16575	16575	16575	16575	16575
5°	20962	19785	16723	13477	12384
10°	21166	21805	16612	10743	9388
15°	15941	20246	16499	9098	7939
20°	11108	16383	16289	7955	7211
25°	8469	12599	15929	7320	6764
30°	7327	10009	15356	6870	6403
35°	6797	8451	14695	6544	6150
40°	6435	7581	13766	6235	6065
45°	6221	7016	12584	5993	6027
50°	6114	6569	11188	5774	5995
55°	5887	6242	9817	5564	6020
60°	5677	5892	8460	5369	5922
65°	5333	5560	7297	5160	5805
70°	4925	5139	6206	4812	5463
75°	4458	4608	5319	4471	4991
80°	3676	4029	4209	3899	4209
85°	2915	3260	3088	3310	3359

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 14368 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.6	2.1
10°-20°	362.2	5.2
20°-30°	428.8	6.1
30°-40°	431.2	6.1
40°-50°	395.6	5.6
50°-60°	326.5	4.6
60°-70°	231.0	3.3
70°-80°	123.3	1.8
80°-90°	34.3	0.5
90°-100°	52.6	0.7
100°-110°	254.3	3.6
110°-120°	623.3	8.9
120°-130°	791.2	11.3
130°-140°	845.3	12.0
140°-150°	790.4	11.2
150°-160°	637.6	9.1
160°-170°	411.4	5.9
170°-180°	141.8	2.0
0°-30°	936.6	13.3
0°-40°	1367.7	19.5
0°-60°	2089.8	29.7
0°-90°	2478.4	35.3
90°-120°	930.1	13.2
90°-150°	3357.1	47.8
90°-180°	4548.0	64.7
0°-180°	7026.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1540	1540	1540	1540	1540	
5°	1940	1831	1548	1247	1146	185
15°	1430	1817	1481	816	712	395
25°	713	1061	1341	616	570	337
35°	517	643	1118	498	468	325
45°	409	461	827	394	396	317
55°	314	333	523	296	321	281
65°	209	218	286	203	228	208
75°	107	111	128	108	120	113
85°	24	26	25	27	27	26
90°	33	27	1	27	33	16
95°	42	34	68	34	42	35
105°	49	243	330	243	49	102
115°	652	636	620	636	652	613
125°	891	887	873	887	891	796
135°	1098	1098	1087	1098	1098	847
145°	1267	1265	1255	1265	1267	791
155°	1380	1381	1382	1381	1380	637
165°	1454	1453	1458	1453	1454	411
175°	1486	1487	1492	1487	1486	141
180°	1492	1492	1492	1492	1492	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9
2.5°	1735.7	1733.9	1732.1	1723.2	1714.2	1709.9	1705.6	1692.8	1679.9	1665.6	1651.3
5°	1940.0	1945.0	1950.0	1944.3	1938.6	1921.1	1903.6	1880.4	1857.1	1831.1	1805.0
7.5°	2034.3	2037.2	2040.1	2036.5	2032.9	2028.3	2023.6	2002.9	1982.2	1955.4	1928.6
10°	1936.5	1942.9	1949.3	1963.2	1977.2	1992.9	2008.6	2005.8	2002.9	1995.0	1987.2
12.5°	1721.4	1729.2	1737.1	1765.0	1792.8	1828.6	1864.3	1895.0	1925.7	1947.2	1968.6
15°	1430.5	1452.3	1474.1	1499.5	1524.9	1577.4	1629.9	1694.6	1759.2	1816.8	1874.3
17.5°	1178.3	1186.5	1194.7	1221.9	1249.0	1315.1	1381.2	1455.9	1530.6	1626.0	1721.4
20°	969.7	977.2	984.7	1020.4	1056.1	1107.9	1159.7	1243.7	1327.6	1430.2	1532.7
22.5°	814.6	826.4	838.2	858.2	878.2	927.9	977.5	1052.2	1126.9	1240.1	1353.4
25°	713.1	721.7	730.3	742.4	754.6	794.2	833.9	895.3	956.8	1060.8	1164.7
27.5°	643.8	647.4	651.0	663.1	675.3	701.0	726.7	779.6	832.5	920.7	1009.0
30°	589.5	592.0	594.5	605.2	615.9	633.5	651.0	689.2	727.4	805.3	883.2
32.5°	551.6	553.4	555.2	563.4	571.6	584.2	596.7	624.5	652.4	716.7	781.0
35°	517.3	518.4	519.5	525.6	531.6	540.9	550.2	571.3	592.4	643.1	693.8
37.5°	487.3	488.8	490.2	493.8	497.3	505.5	513.8	530.6	547.4	586.3	625.2
40°	458.0	460.5	463.0	465.5	468.0	474.8	481.6	494.5	507.3	539.5	571.6
42.5°	433.0	435.5	438.0	439.1	440.2	444.1	448.0	459.8	471.6	495.5	519.5
45°	408.7	409.8	410.9	411.9	413.0	416.2	419.4	429.8	440.2	460.9	481.6
47.5°	386.6	386.6	386.6	387.3	388.0	390.9	393.7	401.2	408.7	424.8	440.9
50°	365.1	365.1	365.1	364.1	363.0	364.8	366.6	372.3	378.0	392.3	406.6
52.5°	339.4	339.4	339.4	339.8	340.1	340.1	340.1	345.1	350.1	363.0	375.9
55°	313.7	315.1	316.5	315.5	314.4	315.1	315.8	319.0	322.3	332.6	343.0
57.5°	288.0	288.7	289.4	289.0	288.7	289.0	289.4	292.3	295.1	303.0	310.8
60°	263.7	263.7	263.7	263.0	262.2	263.0	263.7	265.1	266.5	273.7	280.8
62.5°	236.5	236.9	237.2	237.6	237.9	237.2	236.5	238.3	240.1	245.5	250.8
65°	209.4	209.7	210.1	211.2	212.2	211.5	210.8	212.6	214.4	218.3	222.2
67.5°	185.1	184.4	183.6	184.0	184.4	185.4	186.5	186.9	187.2	191.5	195.8
70°	156.5	157.2	157.9	157.6	157.2	157.6	157.9	159.0	160.1	163.3	166.5
72.5°	130.8	131.1	131.5	131.5	131.5	132.2	132.9	134.0	135.1	136.8	138.6
75°	107.2	107.2	107.2	107.9	108.6	109.0	109.3	109.3	109.3	110.8	112.2
77.5°	81.5	83.2	85.0	84.7	84.3	85.0	85.7	86.8	87.9	88.6	89.3
80°	59.3	59.3	59.3	59.7	60.0	61.1	62.2	62.9	63.6	65.0	66.5
82.5°	37.9	38.2	38.6	39.7	40.7	41.4	42.2	43.2	44.3	44.3	44.3
85°	23.6	22.9	22.2	22.9	23.6	24.3	25.0	25.4	25.7	26.4	27.2
87.5°	11.4	11.4	11.4	11.4	11.4	11.8	12.1	12.1	12.1	12.1	12.1
90°	33.3	32.8	32.3	31.8	31.3	30.5	29.6	28.6	27.6	26.6	23.4
92.5°	37.7	37.4	37.2	36.9	36.7	35.7	34.0	32.3	30.5	28.8	26.6
95°	42.1	42.1	42.1	42.1	42.1	41.3	39.5	37.8	36.1	34.4	31.7
97.5°	45.4	45.2	45.0	44.7	44.5	43.3	41.4	39.4	37.4	35.5	48.0
100°	46.6	46.3	46.1	45.8	45.6	44.5	42.5	40.5	38.5	36.6	75.0
102.5°	47.7	47.2	46.7	46.2	45.7	49.5	57.6	65.8	73.9	82.0	124.9
105°	48.8	48.3	47.8	47.3	46.8	68.3	111.9	155.5	199.1	242.7	264.9
107.5°	115.3	147.5	179.8	212.1	244.3	279.4	317.4	355.3	393.2	431.2	427.5
110°	304.8	340.0	375.2	410.5	445.7	467.4	475.5	483.6	491.7	499.9	497.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	577.5	578.0	578.4	578.9	579.4	578.6	576.4	574.1	571.9	569.7	567.0
115°	651.7	650.7	649.7	648.8	647.8	646.1	643.6	641.1	638.7	636.2	634.0
117.5°	711.6	711.3	711.1	710.8	710.6	709.5	707.5	705.5	703.6	701.6	700.4
120°	773.6	773.6	773.6	773.6	773.6	772.7	770.7	768.7	766.7	764.8	764.0
122.5°	834.6	834.4	834.1	833.9	833.6	832.9	831.6	830.4	829.2	827.9	827.0
125°	891.1	890.6	890.1	889.6	889.2	888.7	888.2	887.7	887.2	886.7	885.7
127.5°	946.5	947.0	947.5	948.0	948.5	948.4	947.7	946.9	946.2	945.4	944.2
130°	999.7	1000.2	1000.7	1001.2	1001.7	1001.5	1000.5	999.5	998.5	997.5	996.5
132.5°	1048.5	1049.3	1050.0	1050.7	1051.5	1051.3	1050.4	1049.4	1048.4	1047.4	1046.7
135°	1098.4	1099.1	1099.9	1100.6	1101.3	1101.3	1100.6	1099.9	1099.1	1098.4	1097.4
137.5°	1146.1	1146.5	1147.0	1147.5	1148.0	1147.7	1146.4	1145.2	1144.0	1142.7	1142.2
140°	1188.2	1188.7	1189.2	1189.6	1190.1	1189.9	1188.9	1187.9	1186.9	1186.0	1185.2
142.5°	1227.0	1227.7	1228.4	1229.2	1229.9	1229.9	1229.2	1228.4	1227.7	1227.0	1226.2
145°	1266.9	1266.9	1266.9	1266.9	1266.9	1266.6	1266.1	1265.6	1265.1	1264.6	1264.2
147.5°	1295.7	1296.9	1298.1	1299.4	1300.6	1301.0	1300.5	1300.0	1299.5	1299.0	1298.5
150°	1328.9	1329.7	1330.4	1331.1	1331.9	1332.0	1331.5	1331.0	1330.5	1330.0	1329.5
152.5°	1355.5	1356.8	1358.0	1359.2	1360.5	1360.6	1359.6	1358.6	1357.6	1356.6	1356.4
155°	1379.9	1381.4	1382.9	1384.3	1385.8	1386.0	1384.7	1383.5	1382.3	1381.0	1380.8
157.5°	1401.0	1402.9	1404.9	1406.9	1408.9	1409.1	1407.6	1406.1	1404.7	1403.2	1403.4
160°	1420.9	1422.7	1424.4	1426.1	1427.8	1427.9	1426.5	1425.0	1423.5	1422.0	1422.3
162.5°	1439.8	1441.2	1442.7	1444.2	1445.7	1445.6	1443.8	1442.1	1440.4	1438.7	1438.9
165°	1454.2	1455.9	1457.6	1459.3	1461.1	1461.0	1459.0	1457.0	1455.0	1453.1	1453.3
167.5°	1465.3	1467.2	1469.2	1471.2	1473.1	1473.1	1471.2	1469.2	1467.2	1465.3	1465.3
170°	1475.2	1477.2	1479.2	1481.1	1483.1	1483.1	1481.1	1479.2	1477.2	1475.2	1475.2
172.5°	1480.8	1483.0	1485.2	1487.4	1489.6	1489.8	1487.8	1485.8	1483.9	1481.9	1481.6
175°	1486.3	1488.3	1490.3	1492.2	1494.2	1494.3	1492.6	1490.9	1489.2	1487.4	1487.2
177.5°	1487.4	1489.9	1492.4	1494.8	1497.3	1497.5	1495.6	1493.6	1491.6	1489.6	1489.4
180°	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9
2.5°	1647.1	1642.8	1627.0	1611.3	1593.5	1575.6	1562.4	1549.2	1529.5	1509.9	1493.8
5°	1785.0	1765.0	1731.7	1698.5	1653.5	1608.5	1578.1	1547.7	1507.0	1466.3	1433.8
7.5°	1894.3	1860.0	1813.5	1767.1	1708.1	1649.2	1593.5	1537.7	1475.6	1413.4	1362.7
10°	1964.0	1940.7	1887.1	1833.6	1754.6	1675.6	1597.8	1519.9	1439.8	1359.8	1292.6
12.5°	1970.7	1972.9	1923.6	1874.3	1785.0	1695.6	1601.0	1506.3	1405.5	1304.8	1226.5
15°	1911.1	1947.9	1920.7	1893.6	1803.5	1713.5	1597.0	1480.6	1364.4	1248.3	1157.9
17.5°	1800.3	1879.3	1883.2	1887.1	1797.1	1707.1	1578.1	1449.1	1317.6	1186.2	1091.1
20°	1649.2	1765.7	1805.7	1845.7	1772.5	1699.2	1560.6	1422.0	1274.8	1127.6	1027.9
22.5°	1494.9	1636.3	1709.6	1782.8	1728.5	1674.2	1526.7	1379.1	1223.7	1068.3	967.2
25°	1319.1	1473.4	1586.0	1698.5	1665.3	1632.0	1486.6	1341.2	1175.8	1010.4	907.1
27.5°	1165.8	1322.6	1458.4	1594.2	1587.0	1579.9	1435.5	1291.2	1121.9	952.5	852.8
30°	1029.3	1175.4	1327.3	1479.1	1496.6	1514.1	1374.8	1235.5	1065.8	896.1	799.9
32.5°	908.6	1036.1	1199.0	1361.9	1396.2	1430.5	1304.8	1179.0	1011.1	843.2	750.6
35°	809.6	925.4	1088.3	1251.2	1294.1	1336.9	1227.6	1118.3	954.6	791.0	702.8
37.5°	722.1	818.9	977.9	1136.9	1189.4	1241.9	1144.0	1046.1	892.8	739.6	658.5
40°	649.5	727.4	873.5	1019.7	1080.4	1141.1	1060.4	979.7	834.2	688.8	614.2
42.5°	588.8	658.1	790.7	923.2	981.4	1039.7	971.4	903.2	773.9	644.5	576.3
45°	537.0	592.4	712.8	833.2	888.6	943.9	885.3	826.7	712.8	598.8	535.2
47.5°	488.4	535.9	638.8	741.7	791.0	840.3	794.6	748.9	652.4	555.9	498.4
50°	444.8	483.0	573.1	663.1	706.0	748.9	708.5	668.1	588.8	509.5	459.5
52.5°	406.9	438.0	513.4	588.8	625.6	662.4	627.7	593.1	530.2	467.3	423.7
55°	369.4	395.9	461.2	526.6	551.6	576.6	549.9	523.1	472.3	421.6	384.8
57.5°	334.4	358.0	411.6	465.2	484.5	503.8	479.5	455.2	416.9	378.7	348.0
60°	300.1	319.4	364.1	408.7	420.5	432.3	412.7	393.0	366.2	339.4	311.9
62.5°	268.3	285.8	319.0	352.3	360.1	368.0	353.0	338.0	317.6	297.3	275.8
65°	235.4	248.7	275.8	303.0	308.0	313.0	299.8	286.5	271.2	255.8	240.1
67.5°	205.1	214.4	236.5	258.7	259.0	259.4	248.7	237.9	229.4	220.8	208.3
70°	175.4	184.4	199.0	213.7	214.0	214.4	205.8	197.2	190.8	184.4	175.1
72.5°	145.1	151.5	162.6	173.6	172.9	172.2	166.8	161.5	156.5	151.5	144.7
75°	117.5	122.9	130.4	137.9	135.8	133.6	130.8	127.9	123.6	119.3	115.0
77.5°	92.5	95.8	100.0	104.3	102.9	101.5	99.0	96.5	93.2	90.0	88.2
80°	67.9	69.3	72.2	75.0	74.3	73.6	70.7	67.9	67.2	66.5	64.0
82.5°	46.1	47.9	48.6	49.3	48.9	48.6	46.4	44.3	43.6	42.9	42.5
85°	27.5	27.9	28.2	28.6	27.5	26.4	25.7	25.0	25.0	25.0	24.7
87.5°	12.5	12.9	12.9	12.9	12.5	12.1	11.4	10.7	11.1	11.4	11.4
90°	20.2	17.0	13.8	11.0	8.5	6.0	3.6	1.1	3.6	6.0	8.5
92.5°	24.4	22.2	20.0	19.6	21.1	22.5	24.0	25.5	24.0	22.5	21.1
95°	28.9	26.2	23.5	27.2	37.3	47.4	57.5	67.6	57.5	47.4	37.3
97.5°	60.6	73.2	85.7	95.4	102.3	109.2	116.1	123.0	116.1	109.2	102.3
100°	113.4	151.8	190.3	207.0	202.1	197.2	192.2	187.3	192.2	197.2	202.1
102.5°	167.7	210.6	253.4	273.3	270.1	266.9	263.7	260.5	263.7	266.9	270.1
105°	287.1	309.2	331.4	341.1	338.4	335.7	333.0	330.3	333.0	335.7	338.4
107.5°	423.8	420.1	416.4	413.4	411.2	409.0	406.8	404.6	406.8	409.0	411.2
110°	494.5	491.7	489.0	486.7	484.7	482.8	480.8	478.8	480.8	482.8	484.7



TEST NUMBER: P831501

CATALOG NUMBER: S123DIP-S560D1195U950-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	564.3	561.6	558.9	556.6	554.9	553.2	551.5	549.7	551.5	553.2	554.9
115°	631.8	629.6	627.3	625.5	624.0	622.5	621.1	619.6	621.1	622.5	624.0
117.5°	699.1	697.9	696.7	695.2	693.5	691.7	690.0	688.3	690.0	691.7	693.5
120°	763.3	762.6	761.8	760.3	758.1	755.9	753.7	751.5	753.7	755.9	758.1
122.5°	826.0	825.0	824.0	822.7	820.9	819.2	817.5	815.8	817.5	819.2	820.9
125°	884.7	883.7	882.8	881.3	879.3	877.3	875.4	873.4	875.4	877.3	879.3
127.5°	943.0	941.7	940.5	938.9	936.9	935.0	933.0	931.0	933.0	935.0	936.9
130°	995.6	994.6	993.6	992.1	990.1	988.2	986.2	984.2	986.2	988.2	990.1
132.5°	1045.9	1045.2	1044.5	1043.1	1041.1	1039.2	1037.2	1035.2	1037.2	1039.2	1041.1
135°	1096.4	1095.4	1094.5	1093.2	1091.7	1090.3	1088.8	1087.3	1088.8	1090.3	1091.7
137.5°	1141.7	1141.2	1140.8	1139.5	1137.6	1135.6	1133.6	1131.6	1133.6	1135.6	1137.6
140°	1184.5	1183.7	1183.0	1181.9	1180.4	1178.9	1177.5	1176.0	1177.5	1178.9	1180.4
142.5°	1225.5	1224.7	1224.0	1222.9	1221.4	1219.9	1218.5	1217.0	1218.5	1219.9	1221.4
145°	1263.7	1263.2	1262.7	1261.6	1259.8	1258.1	1256.4	1254.7	1256.4	1258.1	1259.8
147.5°	1298.0	1297.5	1297.0	1296.2	1294.9	1293.7	1292.5	1291.2	1292.5	1293.7	1294.9
150°	1329.1	1328.6	1328.1	1327.5	1326.7	1326.0	1325.2	1324.5	1325.2	1326.0	1326.7
152.5°	1356.1	1355.9	1355.7	1355.4	1355.2	1354.9	1354.7	1354.4	1354.7	1354.9	1355.2
155°	1380.5	1380.3	1380.0	1380.2	1380.7	1381.1	1381.6	1382.1	1381.6	1381.1	1380.7
157.5°	1403.7	1403.9	1404.2	1404.3	1404.3	1404.3	1404.3	1404.3	1404.3	1404.3	1404.3
160°	1422.5	1422.8	1423.0	1423.3	1423.5	1423.8	1424.0	1424.3	1424.0	1423.8	1423.5
162.5°	1439.2	1439.4	1439.6	1440.1	1440.9	1441.6	1442.4	1443.1	1442.4	1441.6	1440.9
165°	1453.6	1453.8	1454.1	1454.5	1455.3	1456.0	1456.8	1457.5	1456.8	1456.0	1455.3
167.5°	1465.3	1465.3	1465.3	1465.8	1466.7	1467.7	1468.7	1469.7	1468.7	1467.7	1466.7
170°	1475.2	1475.2	1475.2	1475.7	1476.7	1477.7	1478.7	1479.7	1478.7	1477.7	1476.7
172.5°	1481.4	1481.1	1480.9	1481.4	1482.6	1483.9	1485.1	1486.3	1485.1	1483.9	1482.6
175°	1486.9	1486.7	1486.4	1486.9	1488.2	1489.4	1490.6	1491.9	1490.6	1489.4	1488.2
177.5°	1489.2	1488.9	1488.7	1489.2	1490.4	1491.6	1492.8	1494.1	1492.8	1491.6	1490.4
180°	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9



TEST NUMBER: P831501

CATALOG NUMBER: S123DIP-S560D1195U950-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9	1539.9
2.5°	1477.7	1463.8	1449.8	1439.1	1428.4	1410.2	1392.0	1387.7	1383.4	1377.3	1371.2
5°	1401.2	1366.9	1332.6	1301.9	1271.2	1247.3	1223.3	1207.6	1191.9	1180.4	1169.0
7.5°	1311.9	1260.5	1209.0	1172.6	1136.1	1101.5	1066.8	1055.8	1044.7	1029.7	1014.7
10°	1225.5	1168.7	1111.9	1064.3	1016.8	982.9	948.9	935.4	921.8	902.8	883.9
12.5°	1148.3	1086.1	1024.0	976.1	928.2	895.3	862.5	842.8	823.2	812.5	801.7
15°	1067.5	1001.1	934.6	890.3	846.0	816.4	786.7	769.6	752.4	742.1	731.7
17.5°	996.1	930.4	864.6	822.1	779.6	752.4	725.3	710.3	695.3	687.4	679.5
20°	928.2	863.9	799.6	758.1	716.7	694.5	672.4	662.8	653.1	646.7	640.2
22.5°	866.0	802.8	739.6	704.2	668.8	651.0	633.1	626.3	619.5	614.2	608.8
25°	803.9	747.4	691.0	661.0	631.0	616.3	601.7	594.9	588.1	582.7	577.4
27.5°	753.1	699.2	645.2	619.5	593.8	582.4	570.9	565.6	560.2	555.2	550.2
30°	703.8	655.6	607.4	585.2	563.1	552.7	542.3	537.0	531.6	527.0	522.3
32.5°	658.1	616.7	575.2	554.9	534.5	525.9	517.3	510.9	504.5	500.9	497.3
35°	614.5	577.4	540.2	523.4	506.6	498.0	489.5	484.1	478.8	475.9	473.0
37.5°	577.4	544.1	510.9	494.8	478.8	470.5	462.3	457.7	453.0	452.0	450.9
40°	539.5	510.9	482.3	466.6	450.9	443.7	436.6	433.7	430.9	430.2	429.4
42.5°	508.1	480.2	452.3	438.0	423.7	417.7	411.6	410.2	408.7	409.8	410.9
45°	471.6	448.4	425.2	411.9	398.7	393.7	388.7	387.6	386.6	388.7	390.9
47.5°	440.9	419.4	398.0	385.5	373.0	369.4	365.9	365.5	365.1	368.0	370.9
50°	409.4	388.7	368.0	358.0	348.0	344.8	341.6	342.6	343.7	348.3	353.0
52.5°	380.1	360.9	341.6	332.3	323.0	320.8	318.7	321.2	323.7	328.7	333.7
55°	348.0	330.5	313.0	305.8	298.7	296.5	294.4	299.4	304.4	309.0	313.7
57.5°	317.3	301.9	286.5	280.1	273.7	273.3	273.0	277.6	282.3	287.3	292.3
60°	284.4	271.5	258.7	253.7	248.7	249.4	250.1	255.5	260.8	264.7	268.7
62.5°	254.4	243.7	232.9	228.3	223.7	225.4	227.2	232.6	237.9	242.6	247.2
65°	224.4	215.4	206.5	203.3	200.1	202.6	205.1	209.7	214.4	217.6	220.8
67.5°	195.8	188.3	180.8	178.3	175.8	178.3	180.8	185.4	190.1	193.3	196.5
70°	165.8	159.7	153.6	151.8	150.1	152.9	155.8	159.7	163.6	166.8	170.1
72.5°	137.9	133.3	128.6	128.3	127.9	130.4	132.9	136.8	140.8	142.9	145.1
75°	110.8	108.3	105.8	105.4	105.0	107.5	110.0	112.2	114.3	116.1	117.9
77.5°	86.5	84.3	82.2	82.5	82.9	84.7	86.5	88.6	90.7	91.8	92.9
80°	61.5	60.7	60.0	60.7	61.5	62.9	64.3	65.7	67.2	67.9	68.6
82.5°	42.2	41.4	40.7	41.8	42.9	43.9	45.0	46.1	47.2	47.5	47.9
85°	24.3	25.4	26.4	26.4	26.4	26.8	27.2	27.5	27.9	27.5	27.2
87.5°	11.4	11.8	12.1	12.1	12.1	12.5	12.9	12.9	12.9	12.5	12.1
90°	11.0	13.8	17.0	20.2	23.4	26.6	27.6	28.6	29.6	30.5	31.3
92.5°	19.6	20.0	22.2	24.4	26.6	28.8	30.5	32.3	34.0	35.7	36.7
95°	27.2	23.5	26.2	28.9	31.7	34.4	36.1	37.8	39.5	41.3	42.1
97.5°	95.4	85.7	73.2	60.6	48.0	35.5	37.4	39.4	41.4	43.3	44.5
100°	207.0	190.3	151.8	113.4	75.0	36.6	38.5	40.5	42.5	44.5	45.6
102.5°	273.3	253.4	210.6	167.7	124.9	82.0	73.9	65.8	57.6	49.5	45.7
105°	341.1	331.4	309.2	287.1	264.9	242.7	199.1	155.5	111.9	68.3	46.8
107.5°	413.4	416.4	420.1	423.8	427.5	431.2	393.2	355.3	317.4	279.4	244.3
110°	486.7	489.0	491.7	494.5	497.2	499.9	491.7	483.6	475.5	467.4	445.7



TEST NUMBER: P831501

CATALOG NUMBER: S123DIP-S560D1195U950-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	556.6	558.9	561.6	564.3	567.0	569.7	571.9	574.1	576.4	578.6	579.4
115°	625.5	627.3	629.6	631.8	634.0	636.2	638.7	641.1	643.6	646.1	647.8
117.5°	695.2	696.7	697.9	699.1	700.4	701.6	703.6	705.5	707.5	709.5	710.6
120°	760.3	761.8	762.6	763.3	764.0	764.8	766.7	768.7	770.7	772.7	773.6
122.5°	822.7	824.0	825.0	826.0	827.0	827.9	829.2	830.4	831.6	832.9	833.6
125°	881.3	882.8	883.7	884.7	885.7	886.7	887.2	887.7	888.2	888.7	889.2
127.5°	938.9	940.5	941.7	943.0	944.2	945.4	946.2	946.9	947.7	948.4	948.5
130°	992.1	993.6	994.6	995.6	996.5	997.5	998.5	999.5	1000.5	1001.5	1001.7
132.5°	1043.1	1044.5	1045.2	1045.9	1046.7	1047.4	1048.4	1049.4	1050.4	1051.3	1051.5
135°	1093.2	1094.5	1095.4	1096.4	1097.4	1098.4	1099.1	1099.9	1100.6	1101.3	1101.3
137.5°	1139.5	1140.8	1141.2	1141.7	1142.2	1142.7	1144.0	1145.2	1146.4	1147.7	1148.0
140°	1181.9	1183.0	1183.7	1184.5	1185.2	1186.0	1186.9	1187.9	1188.9	1189.9	1190.1
142.5°	1222.9	1224.0	1224.7	1225.5	1226.2	1227.0	1227.7	1228.4	1229.2	1229.9	1229.9
145°	1261.6	1262.7	1263.2	1263.7	1264.2	1264.6	1265.1	1265.6	1266.1	1266.6	1266.9
147.5°	1296.2	1297.0	1297.5	1298.0	1298.5	1299.0	1299.5	1300.0	1300.5	1301.0	1300.6
150°	1327.5	1328.1	1328.6	1329.1	1329.5	1330.0	1330.5	1331.0	1331.5	1332.0	1331.9
152.5°	1355.4	1355.7	1355.9	1356.1	1356.4	1356.6	1357.6	1358.6	1359.6	1360.6	1360.5
155°	1380.2	1380.0	1380.3	1380.5	1380.8	1381.0	1382.3	1383.5	1384.7	1386.0	1385.8
157.5°	1404.3	1404.2	1403.9	1403.7	1403.4	1403.2	1404.7	1406.1	1407.6	1409.1	1408.9
160°	1423.3	1423.0	1422.8	1422.5	1422.3	1422.0	1423.5	1425.0	1426.5	1427.9	1427.8
162.5°	1440.1	1439.6	1439.4	1439.2	1438.9	1438.7	1440.4	1442.1	1443.8	1445.6	1445.7
165°	1454.5	1454.1	1453.8	1453.6	1453.3	1453.1	1455.0	1457.0	1459.0	1461.0	1461.1
167.5°	1465.8	1465.3	1465.3	1465.3	1465.3	1465.3	1467.2	1469.2	1471.2	1473.1	1473.1
170°	1475.7	1475.2	1475.2	1475.2	1475.2	1475.2	1477.2	1479.2	1481.1	1483.1	1483.1
172.5°	1481.4	1480.9	1481.1	1481.4	1481.6	1481.9	1483.9	1485.8	1487.8	1489.8	1489.6
175°	1486.9	1486.4	1486.7	1486.9	1487.2	1487.4	1489.2	1490.9	1492.6	1494.3	1494.2
177.5°	1489.2	1488.7	1488.9	1489.2	1489.4	1489.6	1491.6	1493.6	1495.6	1497.5	1497.3
180°	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9	1491.9



TEST NUMBER: P831501

CATALOG NUMBER: S123DIP-S560D1195U950-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1539.9	1539.9	1539.9	1539.9
2.5°	1368.7	1366.2	1356.2	1346.2
5°	1160.4	1151.9	1149.0	1146.1
7.5°	1014.0	1013.2	998.2	983.2
10°	885.0	886.1	872.5	858.9
12.5°	792.8	783.9	782.8	781.7
15°	723.5	715.3	713.8	712.4
17.5°	674.5	669.5	668.1	666.7
20°	637.4	634.5	632.0	629.5
22.5°	605.2	601.7	599.5	597.4
25°	574.1	570.9	570.2	569.5
27.5°	546.3	542.3	542.3	542.3
30°	519.8	517.3	516.3	515.2
32.5°	495.2	493.0	493.0	493.0
35°	472.0	470.9	469.5	468.0
37.5°	450.9	450.9	450.2	449.5
40°	430.5	431.6	431.6	431.6
42.5°	411.9	413.0	413.0	413.0
45°	392.6	394.4	395.2	395.9
47.5°	373.7	376.6	377.3	378.0
50°	355.1	357.3	357.6	358.0
52.5°	336.2	338.7	340.5	342.3
55°	316.2	318.7	319.8	320.8
57.5°	294.8	297.3	297.6	298.0
60°	271.2	273.7	274.4	275.1
62.5°	248.7	250.1	250.8	251.5
65°	222.9	225.1	226.5	227.9
67.5°	198.3	200.1	200.1	200.1
70°	170.8	171.5	172.6	173.6
72.5°	145.4	145.8	145.8	145.8
75°	118.6	119.3	119.7	120.0
77.5°	93.2	93.6	93.6	93.6
80°	68.2	67.9	67.9	67.9
82.5°	46.8	45.7	45.7	45.7
85°	26.8	26.4	26.8	27.2
87.5°	12.1	12.1	12.1	12.1
90°	31.8	32.3	32.8	33.3
92.5°	36.9	37.2	37.4	37.7
95°	42.1	42.1	42.1	42.1
97.5°	44.7	45.0	45.2	45.4
100°	45.8	46.1	46.3	46.6
102.5°	46.2	46.7	47.2	47.7
105°	47.3	47.8	48.3	48.8
107.5°	212.1	179.8	147.5	115.3
110°	410.5	375.2	340.0	304.8



TEST NUMBER: P831501

CATALOG NUMBER: S123DIP-S560D1195U950-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	578.9	578.4	578.0	577.5
115°	648.8	649.7	650.7	651.7
117.5°	710.8	711.1	711.3	711.6
120°	773.6	773.6	773.6	773.6
122.5°	833.9	834.1	834.4	834.6
125°	889.6	890.1	890.6	891.1
127.5°	948.0	947.5	947.0	946.5
130°	1001.2	1000.7	1000.2	999.7
132.5°	1050.7	1050.0	1049.3	1048.5
135°	1100.6	1099.9	1099.1	1098.4
137.5°	1147.5	1147.0	1146.5	1146.1
140°	1189.6	1189.2	1188.7	1188.2
142.5°	1229.2	1228.4	1227.7	1227.0
145°	1266.9	1266.9	1266.9	1266.9
147.5°	1299.4	1298.1	1296.9	1295.7
150°	1331.1	1330.4	1329.7	1328.9
152.5°	1359.2	1358.0	1356.8	1355.5
155°	1384.3	1382.9	1381.4	1379.9
157.5°	1406.9	1404.9	1402.9	1401.0
160°	1426.1	1424.4	1422.7	1420.9
162.5°	1444.2	1442.7	1441.2	1439.8
165°	1459.3	1457.6	1455.9	1454.2
167.5°	1471.2	1469.2	1467.2	1465.3
170°	1481.1	1479.2	1477.2	1475.2
172.5°	1487.4	1485.2	1483.0	1480.8
175°	1492.2	1490.3	1488.3	1486.3
177.5°	1494.8	1492.4	1489.9	1487.4
180°	1491.9	1491.9	1491.9	1491.9



TEST NUMBER: P831501

CATALOG NUMBER: S123DIP-S560D1195U950-4F0-1E-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	11.77	12.49	12.85	13.56	15.03	14.00	14.72	15.08	15.80	17.27
	3H	13.40	14.05	14.49	15.13	16.62	15.42	16.06	16.51	17.15	18.63
	4H	13.98	14.59	15.08	15.67	17.17	15.86	16.47	16.96	17.56	19.05
	6H	14.34	14.90	15.45	15.99	17.50	16.13	16.69	17.24	17.78	19.29
	8H	14.43	14.97	15.54	16.07	17.57	16.19	16.72	17.30	17.83	19.33
	12H	14.47	14.98	15.59	16.08	17.60	16.20	16.71	17.32	17.81	19.33
4H	2H	12.33	12.94	13.43	14.02	15.52	14.15	14.76	15.26	15.85	17.34
	3H	14.14	14.65	15.26	15.76	17.27	15.76	16.27	16.87	17.38	18.88
	4H	14.83	15.30	15.95	16.40	17.93	16.34	16.80	17.45	17.91	19.43
	6H	15.30	15.70	16.43	16.83	18.35	16.73	17.13	17.86	18.26	19.78
	8H	15.44	15.81	16.56	16.93	18.46	16.84	17.21	17.97	18.33	19.87
	12H	15.50	15.84	16.64	16.97	18.51	16.88	17.22	18.02	18.35	19.89
8H	4H	15.09	15.46	16.21	16.58	18.12	16.43	16.80	17.55	17.92	19.46
	6H	15.67	15.98	16.82	17.14	18.67	16.93	17.24	18.07	18.40	19.93
	8H	15.88	16.15	17.03	17.29	18.84	17.11	17.38	18.26	18.52	20.07
	12H	16.00	16.24	17.15	17.37	18.96	17.20	17.44	18.36	18.58	20.16
12H	4H	15.09	15.42	16.23	16.55	18.09	16.40	16.74	17.54	17.87	19.41
	6H	15.72	15.99	16.88	17.13	18.69	16.94	17.21	18.09	18.35	19.90
	8H	15.95	16.19	17.11	17.33	18.91	17.13	17.37	18.29	18.51	20.10