

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: P832219

Luminaire Tested: S123RDIP-S560D1195U940-4F0-1E-UDD-G1

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P832219
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-9)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D1195U940-4F0-1E-UDD-G1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: -

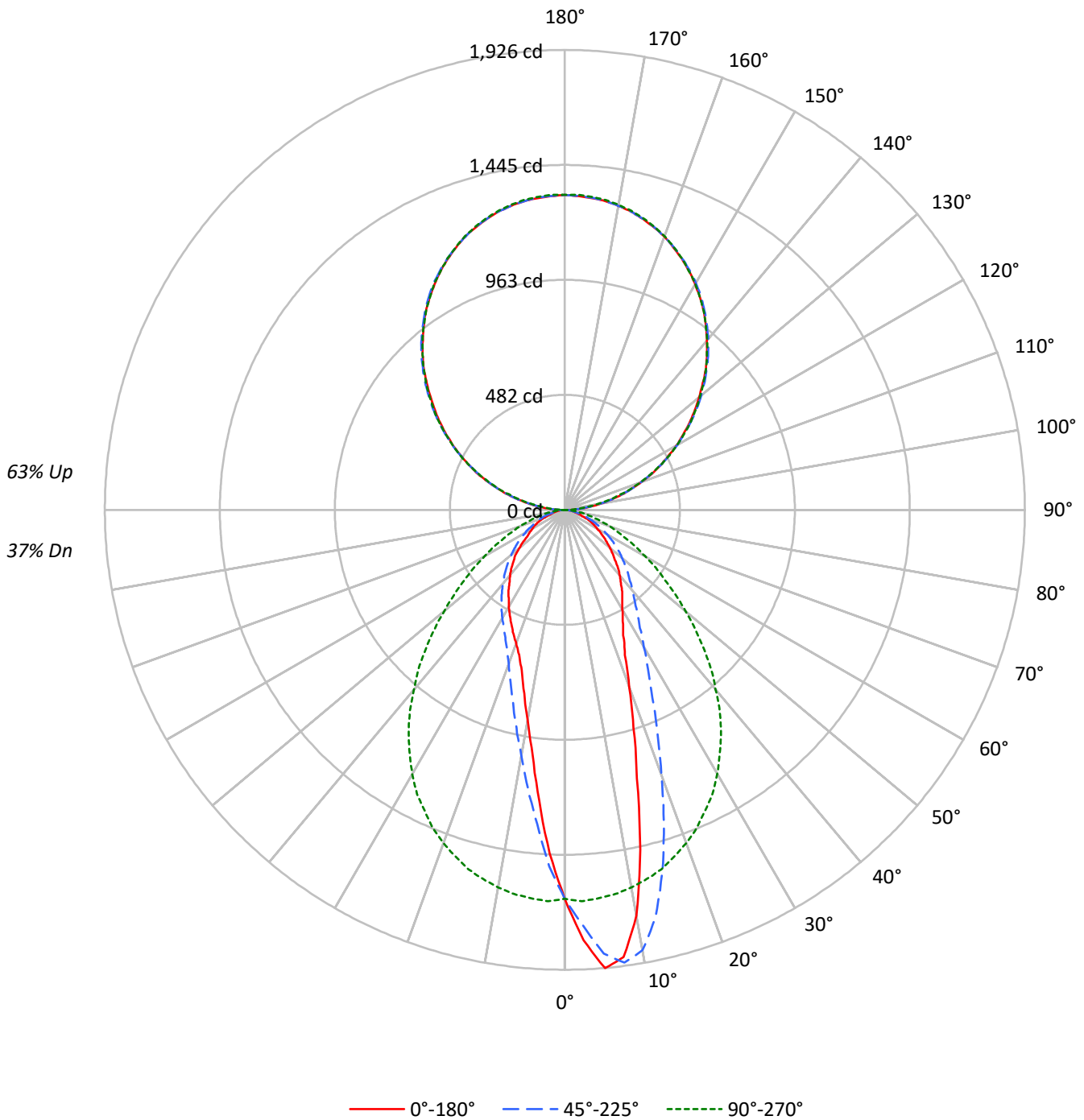
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5816.5 lumens
Efficiency: N/A
Efficacy: 114.9 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
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	76	76	76	60	60	60	44	44	44	37				
1	95	91	88	85	86	83	80	77	68	65	64	53	52	51	40	39	39	32				
2	87	81	75	70	79	73	69	64	60	57	54	47	45	43	36	35	33	28				
3	80	71	65	59	73	65	59	55	53	49	46	43	40	37	33	31	29	25				
4	74	64	56	51	67	58	52	47	48	43	40	38	35	33	30	27	26	22				
5	68	57	49	44	61	52	46	41	43	38	35	35	31	29	27	25	23	20				
6	63	51	44	38	57	47	41	36	39	34	31	32	28	26	25	22	21	18				
7	58	47	39	34	53	43	36	32	36	31	27	29	26	23	23	21	19	16				
8	54	42	35	30	49	39	33	28	33	28	24	27	23	21	21	19	17	15				
9	50	39	32	27	46	36	30	25	30	25	22	25	21	19	20	17	16	13				
10	47	36	29	24	43	33	27	23	28	23	20	23	20	17	19	16	14	12				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	17530	17530	17530	17530	17530
5°	20815	20151	17640	14260	13239
10°	18859	20467	17552	11425	9802
15°	12985	17549	17367	9338	7754
20°	9033	13511	17018	7874	6814
25°	6884	10297	16511	6999	6280
30°	5992	8233	15877	6498	5818
35°	5502	6945	14977	6076	5397
40°	5019	6202	13801	5663	5011
45°	4533	5672	12533	5270	4625
50°	4114	5233	11035	4886	4148
55°	3721	4806	9599	4511	3558
60°	3335	4370	8338	4097	3363
65°	3079	3876	7177	3683	3181
70°	2502	3352	6263	3330	2584
75°	2196	2666	5303	2761	2279
80°	1990	2256	4345	2318	2151
85°	1815	1976	3298	2100	1976

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 13224 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.4	2.6
10°-20°	343.5	5.9
20°-30°	394.1	6.8
30°-40°	388.5	6.7
40°-50°	342.6	5.9
50°-60°	263.5	4.5
60°-70°	173.3	3.0
70°-80°	84.2	1.4
80°-90°	24.0	0.4
90°-100°	84.9	1.5
100°-110°	257.0	4.4
110°-120°	437.5	7.5
120°-130°	575.5	9.9
130°-140°	646.9	11.1
140°-150°	636.0	10.9
150°-160°	535.4	9.2
160°-170°	356.4	6.1
170°-180°	124.8	2.1
0°-30°	886.1	15.2
0°-40°	1274.5	21.9
0°-60°	1880.6	32.3
0°-90°	2162.1	37.2
90°-120°	779.3	13.4
90°-150°	2637.7	45.3
90°-180°	3654.0	62.8
0°-180°	5816.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1629	1629	1629	1629	1629	
5°	1926	1865	1633	1320	1225	176
15°	1165	1575	1558	838	696	329
25°	580	867	1390	589	529	274
35°	419	528	1140	462	411	261
45°	298	373	823	346	304	231
55°	198	256	512	240	190	178
65°	121	152	282	145	125	118
75°	53	64	128	66	55	57
85°	15	16	27	17	16	16
90°	31	25	1	25	31	16
95°	81	77	61	77	81	81
105°	247	244	233	244	247	261
115°	441	441	440	441	441	437
125°	637	646	644	646	637	570
135°	835	841	836	841	835	642
145°	1014	1020	1014	1020	1014	634
155°	1159	1162	1161	1162	1159	534
165°	1261	1262	1265	1262	1261	356
175°	1311	1312	1316	1312	1311	125
180°	1319	1319	1319	1319	1319	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6
2.5°	1804.9	1799.2	1793.5	1791.8	1790.2	1784.8	1779.5	1767.5	1755.5	1743.1	1730.8
5°	1926.4	1927.1	1927.7	1926.1	1924.4	1917.4	1910.4	1895.7	1881.0	1865.0	1848.9
7.5°	1889.0	1899.7	1910.4	1912.4	1914.4	1919.7	1925.1	1921.7	1918.4	1912.4	1906.4
10°	1725.4	1724.7	1724.1	1736.1	1748.1	1783.8	1819.6	1837.9	1856.3	1872.6	1889.0
12.5°	1458.3	1459.3	1460.3	1499.7	1539.1	1572.8	1606.6	1653.3	1700.0	1750.4	1800.9
15°	1165.2	1181.5	1197.9	1233.0	1268.0	1318.8	1369.5	1432.3	1495.0	1574.8	1654.6
17.5°	956.9	963.9	970.9	1004.6	1038.3	1086.4	1134.5	1205.6	1276.7	1379.5	1482.4
20°	788.6	794.9	801.3	825.6	850.0	896.1	942.2	1009.9	1077.7	1179.5	1281.4
22.5°	658.4	670.7	683.1	699.4	715.8	749.2	782.6	851.7	920.8	1013.6	1106.4
25°	579.6	585.3	590.9	605.0	619.0	651.0	683.1	728.8	774.6	867.0	959.5
27.5°	526.2	527.8	529.5	539.9	550.2	570.9	591.6	634.0	676.4	752.5	828.7
30°	482.1	485.1	488.1	496.1	504.1	519.2	534.2	564.2	594.3	662.4	730.5
32.5°	448.0	449.7	451.4	458.1	464.7	475.8	486.8	510.5	534.2	586.3	638.3
35°	418.7	419.0	419.3	424.3	429.3	440.0	450.7	470.4	490.1	528.5	566.9
37.5°	385.3	387.6	390.0	393.6	397.3	406.6	416.0	432.0	448.0	479.8	511.5
40°	357.2	359.2	361.2	365.6	369.9	377.3	384.6	399.3	414.0	441.4	468.7
42.5°	329.2	330.5	331.9	336.2	340.5	349.6	358.6	370.3	381.9	404.6	427.3
45°	297.8	301.1	304.5	309.2	313.8	321.5	329.2	341.2	353.2	372.6	392.0
47.5°	271.8	273.4	275.1	279.1	283.1	292.5	301.8	312.5	323.2	341.2	359.2
50°	245.7	246.4	247.1	250.7	254.4	262.8	271.1	283.5	295.8	312.5	329.2
52.5°	221.0	222.7	224.4	228.0	231.7	237.4	243.1	255.7	268.4	284.8	301.1
55°	198.3	199.3	200.3	203.0	205.7	212.3	219.0	230.0	241.0	256.1	271.1
57.5°	176.9	178.3	179.6	181.6	183.6	189.6	195.6	205.3	215.0	230.0	245.1
60°	154.9	156.6	158.3	160.6	162.9	167.6	172.3	181.0	189.6	203.0	216.3
62.5°	138.9	139.2	139.6	141.6	143.6	146.9	150.2	157.2	164.3	177.6	191.0
65°	120.9	121.9	122.9	123.9	124.9	127.5	130.2	136.2	142.2	152.2	162.3
67.5°	102.2	103.2	104.2	105.8	107.5	109.8	112.2	116.2	120.2	129.5	138.9
70°	79.5	79.5	79.5	82.1	84.8	88.8	92.8	95.8	98.8	106.5	114.2
72.5°	64.8	65.1	65.4	65.8	66.1	68.4	70.8	75.8	80.8	85.5	90.1
75°	52.8	53.1	53.4	53.8	54.1	54.8	55.4	57.1	58.8	64.1	69.4
77.5°	42.1	42.4	42.7	43.1	43.4	44.1	44.7	45.4	46.1	48.1	50.1
80°	32.1	32.4	32.7	33.1	33.4	33.7	34.1	34.7	35.4	36.4	37.4
82.5°	23.4	23.4	23.4	23.4	23.4	24.0	24.7	24.7	24.7	25.4	26.0
85°	14.7	14.7	14.7	15.0	15.4	15.4	15.4	15.7	16.0	16.0	16.0
87.5°	6.7	6.3	6.0	6.3	6.7	6.7	6.7	7.0	7.3	7.3	7.3
90°	31.1	30.6	30.2	29.7	29.2	28.5	27.6	26.7	25.8	24.9	21.9
92.5°	44.6	45.0	45.5	45.9	46.4	46.3	45.6	44.9	44.2	43.5	42.1
95°	80.8	80.8	80.8	80.8	80.8	80.4	79.4	78.5	77.6	76.7	74.8
97.5°	116.0	116.3	116.5	116.7	117.0	116.5	115.3	114.2	113.0	111.9	110.5
100°	157.5	157.0	156.6	156.1	155.6	155.1	154.4	153.7	153.0	152.3	151.1
102.5°	200.0	200.2	200.4	200.7	200.9	200.7	200.0	199.3	198.6	197.9	196.3
105°	246.6	246.1	245.7	245.2	244.7	244.5	244.5	244.5	244.5	244.5	242.4
107.5°	294.2	294.5	294.7	294.9	295.2	294.9	294.2	293.6	292.9	292.2	291.2
110°	342.9	343.4	343.9	344.3	344.8	344.5	343.6	342.7	341.8	340.9	340.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	394.7	394.7	394.7	394.7	394.7	394.2	393.0	391.9	390.7	389.6	389.6
115°	441.4	441.6	441.8	442.1	442.3	442.3	442.1	441.8	441.6	441.4	441.8
117.5°	489.0	489.7	490.4	491.1	491.8	492.1	492.1	492.1	492.1	492.1	492.6
120°	539.8	540.2	540.7	541.2	541.6	542.0	542.2	542.4	542.7	542.9	544.0
122.5°	588.5	589.2	589.9	590.6	591.2	591.9	592.6	593.3	594.0	594.7	595.2
125°	637.2	638.1	639.0	639.9	640.9	641.8	642.7	643.6	644.5	645.5	645.9
127.5°	685.9	686.8	687.7	688.6	689.6	690.7	692.1	693.5	694.9	696.2	696.7
130°	733.5	735.1	736.8	738.4	740.0	741.2	742.2	743.1	744.0	744.9	745.6
132.5°	783.3	784.4	785.6	786.7	787.9	789.0	790.2	791.3	792.5	793.6	794.1
135°	835.1	835.5	836.0	836.4	836.9	837.6	838.5	839.4	840.4	841.3	841.5
137.5°	880.7	881.3	882.0	882.7	883.4	884.3	885.5	886.6	887.8	888.9	888.3
140°	925.2	926.8	928.4	930.0	931.6	932.6	932.8	933.0	933.3	933.5	933.3
142.5°	970.8	971.9	973.1	974.2	975.4	976.1	976.3	976.5	976.8	977.0	976.5
145°	1014.3	1015.2	1016.1	1017.1	1018.0	1018.6	1018.8	1019.0	1019.3	1019.5	1018.8
147.5°	1053.7	1055.1	1056.4	1057.8	1059.2	1059.9	1059.9	1059.9	1059.9	1059.9	1059.2
150°	1091.0	1092.4	1093.7	1095.1	1096.5	1097.2	1097.2	1097.2	1097.2	1097.2	1096.7
152.5°	1127.2	1128.4	1129.5	1130.7	1131.8	1132.2	1131.7	1131.3	1130.8	1130.3	1130.1
155°	1159.4	1161.0	1162.6	1164.2	1165.8	1166.1	1165.2	1164.3	1163.4	1162.5	1162.2
157.5°	1189.4	1190.8	1192.2	1193.5	1194.9	1195.2	1194.2	1193.3	1192.4	1191.5	1191.2
160°	1218.4	1219.3	1220.3	1221.2	1222.1	1222.0	1220.8	1219.7	1218.5	1217.4	1217.4
162.5°	1240.2	1241.8	1243.4	1245.0	1246.6	1246.8	1245.7	1244.5	1243.4	1242.2	1242.0
165°	1260.9	1262.5	1264.1	1265.7	1267.3	1267.4	1266.1	1264.7	1263.3	1261.9	1261.9
167.5°	1279.5	1280.9	1282.3	1283.7	1285.1	1285.1	1283.7	1282.3	1280.9	1279.5	1279.3
170°	1293.0	1294.6	1296.2	1297.8	1299.5	1299.5	1297.8	1296.2	1294.6	1293.0	1293.0
172.5°	1303.4	1305.0	1306.6	1308.2	1309.8	1309.9	1308.5	1307.2	1305.8	1304.4	1304.4
175°	1310.6	1312.2	1313.8	1315.5	1317.1	1317.2	1315.8	1314.4	1313.0	1311.7	1311.7
177.5°	1314.8	1316.4	1318.0	1319.6	1321.2	1321.3	1319.9	1318.6	1317.2	1315.8	1315.8
180°	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6
2.5°	1729.1	1727.4	1711.4	1695.4	1679.7	1664.0	1652.3	1640.6	1620.9	1601.2	1588.9
5°	1836.3	1823.6	1798.2	1772.8	1734.8	1696.7	1664.6	1632.6	1591.9	1551.1	1517.1
7.5°	1896.0	1885.7	1854.9	1824.2	1773.8	1723.4	1673.3	1623.2	1563.2	1503.1	1451.6
10°	1897.7	1906.4	1881.0	1855.6	1798.9	1742.1	1674.0	1605.9	1525.1	1444.3	1377.9
12.5°	1838.3	1875.6	1870.3	1865.0	1807.2	1749.4	1666.6	1583.9	1484.7	1385.5	1302.4
15°	1727.1	1799.5	1820.9	1842.3	1794.5	1746.8	1652.6	1558.5	1442.0	1325.4	1230.0
17.5°	1583.9	1685.3	1741.8	1798.2	1763.5	1728.7	1625.6	1522.4	1391.2	1260.0	1156.2
20°	1414.2	1547.1	1635.6	1724.1	1711.4	1698.7	1592.2	1485.7	1344.1	1202.6	1090.1
22.5°	1246.6	1386.9	1509.1	1631.3	1644.3	1657.3	1549.8	1442.3	1287.4	1132.5	1018.0
25°	1102.1	1244.6	1390.2	1535.8	1565.2	1594.5	1492.4	1390.2	1229.6	1069.0	955.2
27.5°	964.2	1099.7	1260.0	1420.3	1473.7	1527.1	1433.6	1340.1	1172.9	1005.6	892.1
30°	851.7	972.9	1136.5	1300.1	1374.5	1449.0	1363.2	1277.4	1111.4	945.5	834.3
32.5°	746.9	855.4	1019.6	1183.9	1270.4	1356.8	1282.7	1208.6	1049.0	889.4	779.6
35°	664.1	761.2	914.5	1067.7	1164.5	1261.3	1200.6	1139.8	983.9	828.0	724.2
37.5°	592.9	674.4	818.3	962.2	1065.0	1167.9	1117.1	1066.4	919.8	773.2	675.1
40°	534.2	599.6	733.5	867.4	968.2	1069.0	1025.6	982.2	851.0	719.8	628.0
42.5°	483.8	540.2	660.4	780.6	873.1	965.5	936.8	908.1	789.3	670.4	585.3
45°	439.4	486.8	592.6	698.4	783.6	868.7	846.0	823.3	720.8	618.3	540.2
47.5°	400.0	440.7	535.2	629.7	706.1	782.6	761.5	740.5	655.7	570.9	499.8
50°	363.9	398.6	477.4	556.2	625.0	693.8	676.4	659.0	588.9	518.8	457.4
52.5°	329.9	358.6	429.3	500.1	555.5	611.0	597.6	584.3	530.2	476.1	420.3
55°	297.5	323.8	383.6	443.4	490.8	538.2	524.8	511.5	469.4	427.3	378.3
57.5°	268.1	291.1	339.5	388.0	425.7	463.4	457.1	450.7	415.7	380.6	340.2
60°	237.0	257.7	299.5	341.2	371.6	402.0	394.6	387.3	362.2	337.2	302.5
62.5°	209.3	227.7	261.1	294.5	319.2	343.9	338.5	333.2	314.2	295.1	266.4
65°	180.3	198.3	225.4	252.4	271.8	291.1	286.5	281.8	267.4	253.1	230.0
67.5°	153.9	168.9	192.3	215.7	228.7	241.7	239.0	236.4	225.4	214.3	196.3
70°	127.2	140.2	159.6	179.0	188.0	197.0	198.0	199.0	189.0	179.0	165.6
72.5°	100.5	110.8	128.9	146.9	153.9	160.9	160.6	160.3	154.2	148.2	136.2
75°	77.1	84.8	98.8	112.8	118.9	124.9	126.2	127.5	121.9	116.2	109.5
77.5°	55.4	60.8	71.4	82.1	88.8	95.5	96.2	96.8	94.1	91.5	85.1
80°	39.1	40.7	47.4	54.1	61.1	68.1	69.1	70.1	67.4	64.8	60.8
82.5°	27.0	28.0	30.4	32.7	38.4	44.1	45.4	46.7	45.4	44.1	39.7
85°	16.4	16.7	17.7	18.7	21.4	24.0	25.4	26.7	26.0	25.4	23.0
87.5°	7.3	7.3	7.7	8.0	8.7	9.3	11.0	12.7	11.7	10.7	9.7
90°	18.9	15.9	12.9	10.2	7.9	5.6	3.3	1.0	3.3	5.6	7.9
92.5°	40.8	39.4	38.0	36.6	35.2	33.8	32.5	31.1	32.5	33.8	35.2
95°	73.0	71.1	69.3	67.6	66.0	64.4	62.7	61.1	62.7	64.4	66.0
97.5°	109.1	107.8	106.4	105.1	104.0	102.8	101.6	100.5	101.6	102.8	104.0
100°	150.0	148.8	147.7	146.4	145.0	143.7	142.3	140.9	142.3	143.7	145.0
102.5°	194.7	193.1	191.4	190.3	189.6	188.9	188.2	187.5	188.2	188.9	189.6
105°	240.4	238.3	236.2	235.0	234.5	234.0	233.6	233.1	233.6	234.0	234.5
107.5°	290.3	289.4	288.5	287.9	287.7	287.4	287.2	287.0	287.2	287.4	287.7
110°	339.9	339.5	339.0	338.6	338.1	337.6	337.2	336.7	337.2	337.6	338.1



TEST NUMBER: P832219

CATALOG NUMBER: S123RDIP-S560D1195U940-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	389.6	389.6	389.6	389.4	389.2	389.0	388.8	388.5	388.8	389.0	389.2
115°	442.3	442.7	443.2	443.1	442.4	441.7	441.0	440.3	441.0	441.7	442.4
117.5°	493.1	493.5	494.0	494.1	493.9	493.6	493.4	493.2	493.4	493.6	493.9
120°	545.2	546.3	547.5	547.4	546.0	544.6	543.2	541.9	543.2	544.6	546.0
122.5°	595.6	596.1	596.5	596.3	595.4	594.5	593.5	592.6	593.5	594.5	595.4
125°	646.4	646.8	647.3	647.2	646.5	645.8	645.1	644.4	645.1	645.8	646.5
127.5°	697.2	697.6	698.1	697.6	696.2	694.9	693.5	692.1	693.5	694.9	696.2
130°	746.3	747.0	747.7	747.1	745.3	743.4	741.6	739.7	741.6	743.4	745.3
132.5°	794.5	795.0	795.5	794.8	792.9	791.1	789.2	787.4	789.2	791.1	792.9
135°	841.7	842.0	842.2	841.6	840.2	838.9	837.5	836.1	837.5	838.9	840.2
137.5°	887.6	886.9	886.2	885.3	884.1	883.0	881.8	880.7	881.8	883.0	884.1
140°	933.0	932.8	932.6	931.9	930.7	929.6	928.4	927.3	928.4	929.6	930.7
142.5°	976.1	975.6	975.2	974.4	973.2	972.1	970.9	969.8	970.9	972.1	973.2
145°	1018.1	1017.4	1016.7	1016.1	1015.7	1015.2	1014.8	1014.3	1014.8	1015.2	1015.7
147.5°	1058.5	1057.8	1057.1	1056.3	1055.4	1054.5	1053.6	1052.6	1053.6	1054.5	1055.4
150°	1096.3	1095.8	1095.3	1094.9	1094.4	1094.0	1093.5	1093.0	1093.5	1094.0	1094.4
152.5°	1129.9	1129.7	1129.4	1129.0	1128.3	1127.6	1126.9	1126.2	1126.9	1127.6	1128.3
155°	1162.0	1161.8	1161.5	1161.4	1161.4	1161.4	1161.4	1161.4	1161.4	1161.4	1161.4
157.5°	1191.0	1190.8	1190.6	1190.6	1190.8	1191.0	1191.2	1191.5	1191.2	1191.0	1190.8
160°	1217.4	1217.4	1217.4	1217.6	1218.1	1218.5	1219.0	1219.4	1219.0	1218.5	1218.1
162.5°	1241.8	1241.5	1241.3	1241.5	1242.2	1242.9	1243.6	1244.3	1243.6	1242.9	1242.2
165°	1261.9	1261.9	1261.9	1262.3	1263.0	1263.7	1264.3	1265.0	1264.3	1263.7	1263.0
167.5°	1279.1	1278.8	1278.6	1279.0	1279.9	1280.8	1281.7	1282.6	1281.7	1280.8	1279.9
170°	1293.0	1293.0	1293.0	1293.5	1294.4	1295.3	1296.2	1297.1	1296.2	1295.3	1294.4
172.5°	1304.4	1304.4	1304.4	1304.9	1305.8	1306.7	1307.6	1308.5	1307.6	1306.7	1305.8
175°	1311.7	1311.7	1311.7	1312.1	1313.0	1314.0	1314.9	1315.8	1314.9	1314.0	1313.0
177.5°	1315.8	1315.8	1315.8	1316.3	1317.2	1318.1	1319.0	1319.9	1319.0	1318.1	1317.2
180°	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9



TEST NUMBER: P832219

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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6	1628.6
2.5°	1576.5	1557.5	1538.4	1524.8	1511.1	1494.0	1477.0	1476.3	1475.7	1463.0	1450.3
5°	1483.0	1450.0	1416.9	1384.5	1352.1	1319.8	1287.4	1280.0	1272.7	1261.7	1250.7
7.5°	1400.2	1347.5	1294.7	1253.3	1211.9	1179.5	1147.2	1125.1	1103.1	1086.1	1069.0
10°	1311.4	1246.0	1180.5	1130.5	1080.4	1045.3	1010.3	984.9	959.5	947.5	935.5
12.5°	1219.3	1148.2	1077.0	1028.0	978.9	936.8	894.8	871.7	848.7	832.0	815.3
15°	1134.5	1058.0	981.6	929.5	877.4	838.0	798.6	775.6	752.5	735.8	719.1
17.5°	1052.3	975.2	898.1	845.3	792.6	756.9	721.1	698.8	676.4	666.1	655.7
20°	977.6	899.8	822.0	772.2	722.5	687.4	652.4	640.4	628.3	618.7	609.0
22.5°	903.4	828.7	753.9	706.1	658.4	633.0	607.6	598.0	588.3	580.9	573.6
25°	841.3	766.9	692.4	650.7	609.0	589.3	569.6	563.2	556.9	549.5	542.2
27.5°	778.6	707.8	637.0	603.6	570.2	554.2	538.2	530.2	522.2	516.2	510.1
30°	723.1	657.7	592.3	564.6	536.9	522.8	508.8	500.1	491.4	485.8	480.1
32.5°	669.7	611.6	553.5	529.8	506.1	492.4	478.8	470.4	462.1	455.4	448.7
35°	620.3	569.9	519.5	497.8	476.1	462.4	448.7	440.4	432.0	425.3	418.7
37.5°	576.9	531.2	485.4	465.1	444.7	432.7	420.7	412.0	403.3	396.3	389.3
40°	536.2	495.8	455.4	435.7	416.0	403.0	390.0	382.3	374.6	368.3	361.9
42.5°	500.1	463.1	426.0	406.6	387.3	374.9	362.6	353.6	344.5	340.9	337.2
45°	462.1	429.3	396.6	377.9	359.2	346.2	333.2	325.5	317.8	314.5	311.2
47.5°	428.7	398.3	367.9	349.6	331.2	319.5	307.8	301.8	295.8	291.1	286.5
50°	396.0	366.6	337.2	319.5	301.8	291.8	281.8	274.4	267.1	263.8	260.4
52.5°	364.6	337.9	311.2	293.1	275.1	265.4	255.7	249.4	243.1	236.0	229.0
55°	329.2	305.8	282.4	266.4	250.4	240.4	230.4	223.0	215.7	208.3	201.0
57.5°	299.8	276.8	253.7	239.4	225.0	215.3	205.7	197.6	189.6	183.6	177.6
60°	267.8	247.7	227.7	213.7	199.7	190.3	181.0	173.3	165.6	162.6	159.6
62.5°	237.7	219.0	200.3	188.0	175.6	166.6	157.6	152.6	147.6	145.6	143.6
65°	207.0	191.0	174.9	163.6	152.2	144.6	136.9	134.5	132.2	130.5	128.9
67.5°	178.3	164.6	150.9	140.9	130.9	125.5	120.2	117.5	114.8	112.8	110.8
70°	152.2	140.2	128.2	119.5	110.8	105.8	100.8	98.5	96.2	92.5	88.8
72.5°	124.2	114.8	105.5	98.8	92.1	87.8	83.5	78.8	74.1	70.8	67.4
75°	102.8	93.5	84.1	77.8	71.4	66.4	61.4	59.8	58.1	57.1	56.1
77.5°	78.8	70.8	62.8	57.8	52.8	50.4	48.1	47.1	46.1	45.7	45.4
80°	56.8	50.1	43.4	40.7	38.1	37.4	36.7	36.1	35.4	35.1	34.7
82.5°	35.4	32.1	28.7	28.0	27.4	27.0	26.7	26.4	26.0	25.7	25.4
85°	20.7	19.4	18.0	17.7	17.4	17.0	16.7	16.7	16.7	16.7	16.7
87.5°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.3	8.0
90°	10.2	12.9	15.9	18.9	21.9	24.9	25.8	26.7	27.6	28.5	29.2
92.5°	36.6	38.0	39.4	40.8	42.1	43.5	44.2	44.9	45.6	46.3	46.4
95°	67.6	69.3	71.1	73.0	74.8	76.7	77.6	78.5	79.4	80.4	80.8
97.5°	105.1	106.4	107.8	109.1	110.5	111.9	113.0	114.2	115.3	116.5	117.0
100°	146.4	147.7	148.8	150.0	151.1	152.3	153.0	153.7	154.4	155.1	155.6
102.5°	190.3	191.4	193.1	194.7	196.3	197.9	198.6	199.3	200.0	200.7	200.9
105°	235.0	236.2	238.3	240.4	242.4	244.5	244.5	244.5	244.5	244.5	244.7
107.5°	287.9	288.5	289.4	290.3	291.2	292.2	292.9	293.6	294.2	294.9	295.2
110°	338.6	339.0	339.5	339.9	340.4	340.9	341.8	342.7	343.6	344.5	344.8



TEST NUMBER: P832219

CATALOG NUMBER: S123RDIP-S560D1195U940-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	389.4	389.6	389.6	389.6	389.6	389.6	390.7	391.9	393.0	394.2	394.7
115°	443.1	443.2	442.7	442.3	441.8	441.4	441.6	441.8	442.1	442.3	442.3
117.5°	494.1	494.0	493.5	493.1	492.6	492.1	492.1	492.1	492.1	492.1	491.8
120°	547.4	547.5	546.3	545.2	544.0	542.9	542.7	542.4	542.2	542.0	541.6
122.5°	596.3	596.5	596.1	595.6	595.2	594.7	594.0	593.3	592.6	591.9	591.2
125°	647.2	647.3	646.8	646.4	645.9	645.5	644.5	643.6	642.7	641.8	640.9
127.5°	697.6	698.1	697.6	697.2	696.7	696.2	694.9	693.5	692.1	690.7	689.6
130°	747.1	747.7	747.0	746.3	745.6	744.9	744.0	743.1	742.2	741.2	740.0
132.5°	794.8	795.5	795.0	794.5	794.1	793.6	792.5	791.3	790.2	789.0	787.9
135°	841.6	842.2	842.0	841.7	841.5	841.3	840.4	839.4	838.5	837.6	836.9
137.5°	885.3	886.2	886.9	887.6	888.3	888.9	887.8	886.6	885.5	884.3	883.4
140°	931.9	932.6	932.8	933.0	933.3	933.5	933.3	933.0	932.8	932.6	931.6
142.5°	974.4	975.2	975.6	976.1	976.5	977.0	976.8	976.5	976.3	976.1	975.4
145°	1016.1	1016.7	1017.4	1018.1	1018.8	1019.5	1019.3	1019.0	1018.8	1018.6	1018.0
147.5°	1056.3	1057.1	1057.8	1058.5	1059.2	1059.9	1059.9	1059.9	1059.9	1059.9	1059.2
150°	1094.9	1095.3	1095.8	1096.3	1096.7	1097.2	1097.2	1097.2	1097.2	1097.2	1096.5
152.5°	1129.0	1129.4	1129.7	1129.9	1130.1	1130.3	1130.8	1131.3	1131.7	1132.2	1131.8
155°	1161.4	1161.5	1161.8	1162.0	1162.2	1162.5	1163.4	1164.3	1165.2	1166.1	1165.8
157.5°	1190.6	1190.6	1190.8	1191.0	1191.2	1191.5	1192.4	1193.3	1194.2	1195.2	1194.9
160°	1217.6	1217.4	1217.4	1217.4	1217.4	1217.4	1218.5	1219.7	1220.8	1222.0	1222.1
162.5°	1241.5	1241.3	1241.5	1241.8	1242.0	1242.2	1243.4	1244.5	1245.7	1246.8	1246.6
165°	1262.3	1261.9	1261.9	1261.9	1261.9	1261.9	1263.3	1264.7	1266.1	1267.4	1267.3
167.5°	1279.0	1278.6	1278.8	1279.1	1279.3	1279.5	1280.9	1282.3	1283.7	1285.1	1285.1
170°	1293.5	1293.0	1293.0	1293.0	1293.0	1293.0	1294.6	1296.2	1297.8	1299.5	1299.5
172.5°	1304.9	1304.4	1304.4	1304.4	1304.4	1304.4	1305.8	1307.2	1308.5	1309.9	1309.8
175°	1312.1	1311.7	1311.7	1311.7	1311.7	1311.7	1313.0	1314.4	1315.8	1317.2	1317.1
177.5°	1316.3	1315.8	1315.8	1315.8	1315.8	1315.8	1317.2	1318.6	1319.9	1321.3	1321.2
180°	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9



TEST NUMBER: P832219

CATALOG NUMBER: S123RDIP-S560D1195U940-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1628.6	1628.6	1628.6	1628.6
2.5°	1447.0	1443.6	1442.3	1441.0
5°	1240.3	1230.0	1227.6	1225.3
7.5°	1064.7	1060.4	1046.0	1031.6
10°	922.1	908.8	902.8	896.8
12.5°	802.9	790.6	788.6	786.6
15°	710.5	701.8	698.8	695.8
17.5°	649.7	643.7	640.0	636.3
20°	604.6	600.3	597.6	594.9
22.5°	570.2	566.9	564.9	562.9
25°	537.2	532.2	530.5	528.8
27.5°	505.8	501.5	499.8	498.1
30°	476.4	472.8	470.4	468.1
32.5°	444.4	440.0	438.7	437.4
35°	416.0	413.3	412.0	410.7
37.5°	385.9	382.6	380.6	378.6
40°	360.2	358.6	357.6	356.6
42.5°	334.2	331.2	330.9	330.5
45°	308.2	305.2	304.5	303.8
47.5°	283.8	281.1	280.8	280.4
50°	256.7	253.1	250.4	247.7
52.5°	225.7	222.4	220.0	217.7
55°	197.3	193.6	191.6	189.6
57.5°	175.9	174.3	173.3	172.3
60°	158.6	157.6	156.9	156.2
62.5°	142.6	141.6	141.6	141.6
65°	127.9	126.9	125.9	124.9
67.5°	108.8	106.8	106.5	106.2
70°	85.8	82.8	82.5	82.1
72.5°	67.1	66.8	66.1	65.4
75°	55.4	54.8	54.8	54.8
77.5°	44.7	44.1	44.1	44.1
80°	34.4	34.1	34.4	34.7
82.5°	25.4	25.4	25.0	24.7
85°	16.4	16.0	16.0	16.0
87.5°	8.0	8.0	8.0	8.0
90°	29.7	30.2	30.6	31.1
92.5°	45.9	45.5	45.0	44.6
95°	80.8	80.8	80.8	80.8
97.5°	116.7	116.5	116.3	116.0
100°	156.1	156.6	157.0	157.5
102.5°	200.7	200.4	200.2	200.0
105°	245.2	245.7	246.1	246.6
107.5°	294.9	294.7	294.5	294.2
110°	344.3	343.9	343.4	342.9



TEST NUMBER: P832219

CATALOG NUMBER: S123RDIP-S560D1195U940-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	394.7	394.7	394.7	394.7
115°	442.1	441.8	441.6	441.4
117.5°	491.1	490.4	489.7	489.0
120°	541.2	540.7	540.2	539.8
122.5°	590.6	589.9	589.2	588.5
125°	639.9	639.0	638.1	637.2
127.5°	688.6	687.7	686.8	685.9
130°	738.4	736.8	735.1	733.5
132.5°	786.7	785.6	784.4	783.3
135°	836.4	836.0	835.5	835.1
137.5°	882.7	882.0	881.3	880.7
140°	930.0	928.4	926.8	925.2
142.5°	974.2	973.1	971.9	970.8
145°	1017.1	1016.1	1015.2	1014.3
147.5°	1057.8	1056.4	1055.1	1053.7
150°	1095.1	1093.7	1092.4	1091.0
152.5°	1130.7	1129.5	1128.4	1127.2
155°	1164.2	1162.6	1161.0	1159.4
157.5°	1193.5	1192.2	1190.8	1189.4
160°	1221.2	1220.3	1219.3	1218.4
162.5°	1245.0	1243.4	1241.8	1240.2
165°	1265.7	1264.1	1262.5	1260.9
167.5°	1283.7	1282.3	1280.9	1279.5
170°	1297.8	1296.2	1294.6	1293.0
172.5°	1308.2	1306.6	1305.0	1303.4
175°	1315.5	1313.8	1312.2	1310.6
177.5°	1319.6	1318.0	1316.4	1314.8
180°	1318.9	1318.9	1318.9	1318.9

TEST NUMBER: P832219

CATALOG NUMBER: S123RDIP-S560D1195U940-4F0-1E-UDD-G1

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	9.36	10.08	10.43	11.14	12.59	14.02	14.74	15.09	15.81	17.25
	3H	10.57	11.21	11.65	12.29	13.75	15.51	16.16	16.59	17.23	18.69
	4H	10.95	11.56	12.04	12.63	14.10	16.00	16.61	17.09	17.68	19.15
	6H	11.22	11.78	12.32	12.86	14.35	16.30	16.86	17.40	17.94	19.43
	8H	11.31	11.84	12.41	12.94	14.41	16.38	16.91	17.48	18.01	19.48
	12H	11.36	11.86	12.46	12.95	14.45	16.41	16.91	17.51	18.00	19.50
4H	2H	10.07	10.68	11.16	11.75	13.22	14.00	14.61	15.10	15.69	17.16
	3H	11.43	11.93	12.53	13.04	14.52	15.65	16.16	16.75	17.26	18.74
	4H	11.88	12.34	12.99	13.44	14.94	16.25	16.72	17.36	17.81	19.32
	6H	12.24	12.64	13.36	13.75	15.25	16.69	17.08	17.80	18.20	19.70
	8H	12.36	12.74	13.48	13.84	15.36	16.82	17.19	17.93	18.29	19.81
	12H	12.44	12.77	13.57	13.89	15.41	16.87	17.21	18.00	18.33	19.85
8H	4H	12.18	12.56	13.30	13.66	15.18	16.21	16.58	17.33	17.69	19.21
	6H	12.65	12.95	13.78	14.10	15.61	16.71	17.01	17.84	18.16	19.67
	8H	12.84	13.11	13.98	14.24	15.77	16.89	17.16	18.03	18.29	19.82
	12H	12.98	13.21	14.12	14.34	15.90	17.00	17.24	18.15	18.36	19.93
12H	4H	12.19	12.53	13.32	13.65	15.16	16.16	16.49	17.29	17.61	19.13
	6H	12.70	12.97	13.85	14.10	15.63	16.68	16.95	17.82	18.08	19.61
	8H	12.92	13.15	14.06	14.28	15.85	16.87	17.10	18.01	18.23	19.80