

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: P832199

Luminaire Tested: S123RDIP-S560D1195U830-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P832199
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-17)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D1195U830-4F0-1E-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

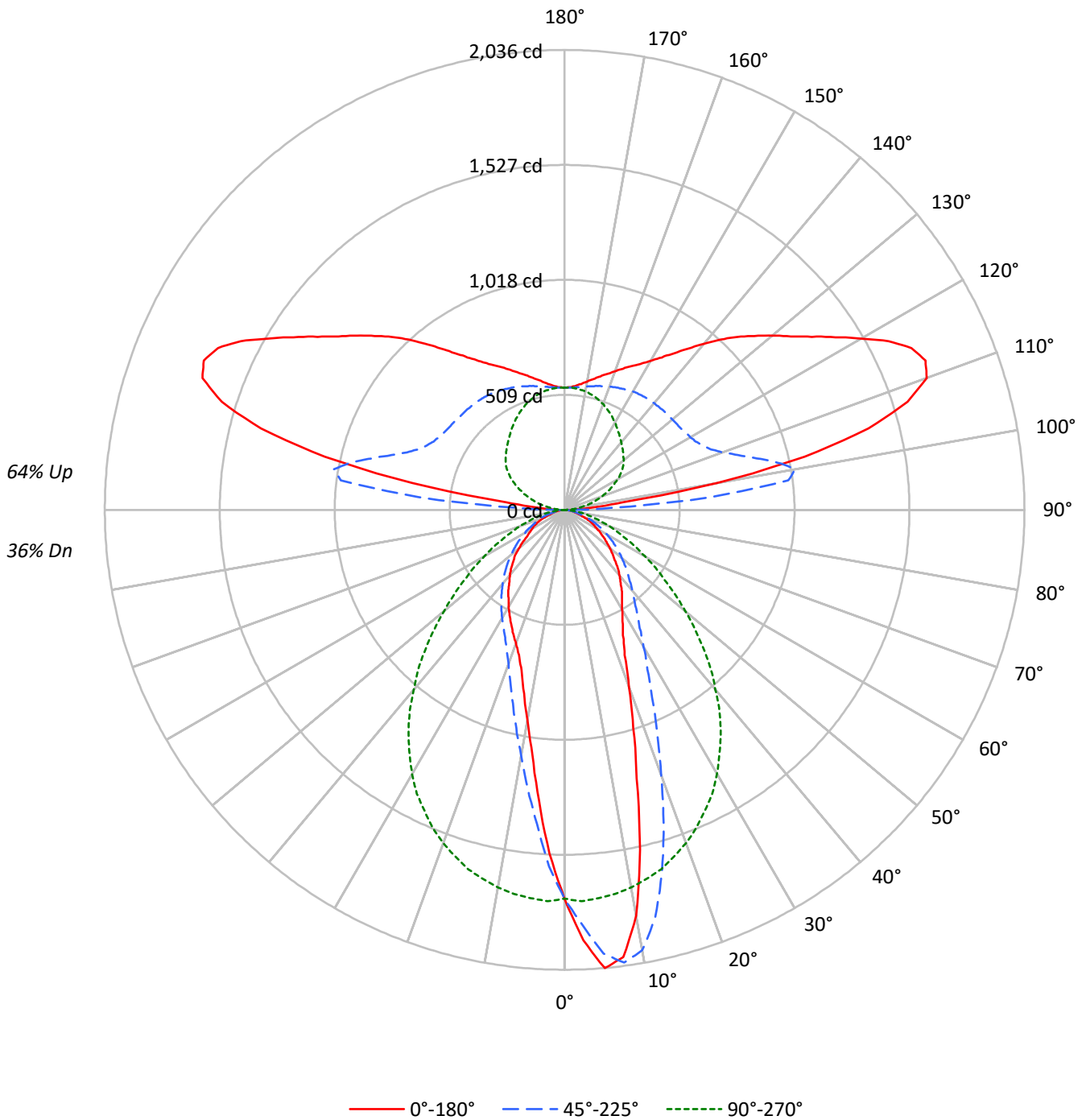
Lumens per Lamp: N/A
Luminaire Lumens: 6354.6 lumens
Efficiency: N/A
Efficacy: 125.6 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Indirect

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	59	59	59	43	43	43	36				
1	95	91	88	84	86	83	80	77	67	65	63	52	51	50	39	38	38	31				
2	87	80	75	70	79	73	68	64	59	56	53	47	45	43	35	34	33	27				
3	80	71	64	59	72	65	59	54	53	49	45	42	39	37	32	30	28	24				
4	73	63	56	50	66	58	51	47	47	43	39	38	35	32	29	27	25	21				
5	68	57	49	44	61	52	45	40	43	38	34	34	31	28	26	24	22	19				
6	62	51	44	38	57	47	40	35	39	34	30	31	28	25	24	22	20	17				
7	58	46	39	34	52	43	36	31	35	30	27	29	25	23	22	20	18	15				
8	54	42	35	30	49	39	32	28	32	28	24	26	23	20	21	18	17	14				
9	50	39	32	27	46	36	29	25	30	25	22	24	21	18	19	17	15	13				
10	47	36	29	24	43	33	27	23	28	23	20	23	19	17	18	16	14	12				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	18529	18529	18529	18529	18529
5°	22001	21300	18646	15073	13994
10°	19934	21635	18553	12077	10361
15°	13724	18550	18357	9871	8195
20°	9548	14282	17988	8323	7204
25°	7276	10885	17453	7398	6639
30°	6334	8702	16782	6868	6150
35°	5815	7340	15831	6423	5704
40°	5306	6555	14588	5984	5296
45°	4792	5995	13247	5571	4888
50°	4349	5531	11665	5164	4384
55°	3933	5080	10145	4769	3761
60°	3524	4620	8813	4331	3556
65°	3252	4098	7585	3892	3362
70°	2644	3544	6618	3522	2732
75°	2321	2820	5606	2920	2408
80°	2101	2386	4593	2448	2275
85°	1914	2087	3483	2223	2087

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 13977 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.9	2.5
10°-20°	363.1	5.7
20°-30°	416.6	6.6
30°-40°	410.6	6.5
40°-50°	362.1	5.7
50°-60°	278.6	4.4
60°-70°	183.1	2.9
70°-80°	88.9	1.4
80°-90°	25.4	0.4
90°-100°	293.6	4.6
100°-110°	859.4	13.5
110°-120°	839.3	13.2
120°-130°	668.4	10.5
130°-140°	527.4	8.3
140°-150°	393.4	6.2
150°-160°	274.3	4.3
160°-170°	161.1	2.5
170°-180°	52.4	0.8
0°-30°	936.6	14.7
0°-40°	1347.2	21.2
0°-60°	1987.8	31.3
0°-90°	2285.3	36.0
90°-120°	1992.3	31.4
90°-150°	3581.4	56.4
90°-180°	4069.0	64.0
0°-180°	6354.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1721	1721	1721	1721	1721	
5°	2036	1971	1726	1395	1295	186
15°	1232	1665	1647	886	735	348
25°	613	916	1470	623	559	289
35°	442	559	1205	489	434	276
45°	315	394	870	366	321	244
55°	210	271	541	254	200	188
65°	128	161	298	153	132	125
75°	56	68	135	70	58	60
85°	16	17	28	18	17	17
90°	32	27	2	27	32	18
95°	127	649	37	649	127	206
105°	1393	880	127	880	1393	1390
115°	1694	674	224	674	1694	1652
125°	1336	629	312	629	1336	1209
135°	1083	620	366	620	1083	840
145°	846	612	417	612	846	538
155°	702	592	474	592	702	327
165°	612	567	518	567	612	175
175°	551	544	540	544	551	53
180°	541	541	541	541	541	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4
2.5°	1907.8	1901.8	1895.8	1894.0	1892.2	1886.6	1880.9	1868.2	1855.5	1842.5	1829.4
5°	2036.2	2036.9	2037.6	2035.9	2034.1	2026.7	2019.3	2003.7	1988.2	1971.3	1954.3
7.5°	1996.7	2008.0	2019.3	2021.4	2023.5	2029.2	2034.8	2031.3	2027.7	2021.4	2015.0
10°	1823.8	1823.1	1822.4	1835.1	1847.8	1885.5	1923.3	1942.7	1962.1	1979.4	1996.7
12.5°	1541.4	1542.5	1543.6	1585.2	1626.9	1662.5	1698.1	1747.5	1796.9	1850.2	1903.5
15°	1231.6	1248.9	1266.2	1303.2	1340.3	1393.9	1447.6	1513.9	1580.3	1664.6	1749.0
17.5°	1011.4	1018.8	1026.2	1061.9	1097.5	1148.3	1199.1	1274.3	1349.5	1458.2	1566.9
20°	833.5	840.2	847.0	872.7	898.5	947.2	995.9	1067.5	1139.1	1246.8	1354.4
22.5°	695.9	709.0	722.0	739.3	756.6	791.9	827.2	900.2	973.3	1071.4	1169.5
25°	612.6	618.6	624.6	639.4	654.3	688.1	722.0	770.4	818.7	916.5	1014.2
27.5°	556.2	557.9	559.7	570.6	581.6	603.5	625.3	670.1	715.0	795.4	875.9
30°	509.6	512.8	515.9	524.4	532.9	548.8	564.6	596.4	628.2	700.1	772.1
32.5°	473.6	475.4	477.1	484.2	491.2	502.9	514.5	539.6	564.6	619.7	674.7
35°	442.5	442.9	443.2	448.5	453.8	465.1	476.4	497.2	518.1	558.6	599.2
37.5°	407.2	409.7	412.2	416.1	419.9	429.8	439.7	456.6	473.6	507.1	540.6
40°	377.6	379.7	381.8	386.4	391.0	398.8	406.5	422.1	437.6	466.5	495.5
42.5°	348.0	349.4	350.8	355.4	360.0	369.5	379.0	391.4	403.7	427.7	451.7
45°	314.8	318.3	321.8	326.8	331.7	339.8	348.0	360.7	373.4	393.8	414.3
47.5°	287.3	289.0	290.8	295.0	299.3	309.1	319.0	330.3	341.6	360.7	379.7
50°	259.7	260.4	261.1	265.0	268.9	277.7	286.6	299.6	312.7	330.3	348.0
52.5°	233.6	235.4	237.1	241.0	244.9	250.9	256.9	270.3	283.7	301.0	318.3
55°	209.6	210.7	211.7	214.6	217.4	224.4	231.5	243.1	254.8	270.7	286.6
57.5°	187.0	188.4	189.9	192.0	194.1	200.4	206.8	217.0	227.3	243.1	259.0
60°	163.7	165.5	167.3	169.7	172.2	177.2	182.1	191.3	200.4	214.6	228.7
62.5°	146.8	147.2	147.5	149.6	151.7	155.3	158.8	166.2	173.6	187.7	201.9
65°	127.7	128.8	129.9	130.9	132.0	134.8	137.6	144.0	150.3	160.9	171.5
67.5°	108.0	109.0	110.1	111.9	113.6	116.1	118.6	122.8	127.0	136.9	146.8
70°	84.0	84.0	84.0	86.8	89.6	93.9	98.1	101.3	104.5	112.6	120.7
72.5°	68.5	68.8	69.2	69.5	69.9	72.3	74.8	80.1	85.4	90.3	95.3
75°	55.8	56.1	56.5	56.8	57.2	57.9	58.6	60.3	62.1	67.8	73.4
77.5°	44.5	44.8	45.2	45.5	45.9	46.6	47.3	48.0	48.7	50.8	52.9
80°	33.9	34.2	34.6	34.9	35.3	35.6	36.0	36.7	37.4	38.5	39.5
82.5°	24.7	24.7	24.7	24.7	24.7	25.4	26.1	26.1	26.1	26.8	27.5
85°	15.5	15.5	15.5	15.9	16.2	16.2	16.2	16.6	16.9	16.9	16.9
87.5°	7.1	6.7	6.4	6.7	7.1	7.1	7.1	7.4	7.8	7.8	7.8
90°	31.8	32.9	31.8	30.7	31.8	29.6	28.5	27.4	26.3	27.4	24.1
92.5°	58.0	60.2	59.1	63.5	65.7	73.4	84.3	108.4	152.2	203.7	225.6
95°	127.0	131.4	139.1	148.9	169.7	209.2	267.2	394.2	526.7	649.4	578.2
97.5°	260.6	272.7	299.0	340.6	413.9	538.8	683.3	905.6	1032.7	998.7	745.8
100°	686.6	685.5	728.2	808.2	918.8	1074.3	1202.4	1291.1	1252.8	1037.1	700.9
102.5°	1087.4	1119.2	1153.1	1212.3	1292.2	1376.5	1437.9	1419.2	1263.7	965.9	635.2
105°	1393.0	1398.4	1433.5	1475.1	1525.5	1553.9	1533.1	1423.6	1194.7	880.5	583.7
107.5°	1592.3	1604.3	1618.5	1638.3	1644.8	1615.3	1529.8	1357.9	1096.2	804.9	546.5
110°	1706.2	1708.3	1710.5	1701.8	1671.1	1594.5	1456.5	1255.0	1004.2	742.5	526.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1729.1	1728.1	1717.1	1685.3	1622.9	1518.9	1360.1	1153.1	924.3	700.9	515.8
115°	1694.1	1688.6	1666.7	1618.5	1536.4	1417.0	1256.1	1065.5	862.9	673.5	514.7
117.5°	1617.4	1609.8	1576.9	1523.3	1437.9	1314.1	1166.3	997.6	822.4	654.9	515.8
120°	1516.7	1510.1	1483.8	1422.5	1336.0	1225.4	1094.0	946.2	791.8	642.8	520.2
122.5°	1422.5	1413.8	1384.2	1330.5	1256.1	1155.3	1036.0	905.6	766.6	635.2	527.8
125°	1336.0	1328.3	1301.0	1252.8	1182.7	1095.1	990.0	870.6	745.8	628.6	535.5
127.5°	1261.5	1255.0	1229.8	1188.2	1124.7	1043.6	947.3	838.8	726.0	625.3	544.3
130°	1200.2	1191.5	1168.5	1129.0	1071.0	996.5	907.8	809.3	710.7	622.0	553.0
132.5°	1140.0	1134.5	1114.8	1075.4	1021.7	951.6	870.6	781.9	696.5	620.9	559.6
135°	1083.0	1075.4	1055.7	1022.8	969.2	906.7	835.6	757.8	684.4	619.8	566.2
137.5°	1022.8	1016.2	999.8	965.9	919.9	864.0	800.5	734.8	673.5	617.6	570.5
140°	959.3	960.4	942.9	912.2	870.6	823.5	770.9	715.1	663.6	616.5	574.9
142.5°	900.2	901.3	885.9	859.6	825.7	786.3	742.5	696.5	654.9	614.3	578.2
145°	846.5	844.3	835.6	812.6	785.2	753.4	718.4	682.2	647.2	612.2	579.3
147.5°	800.5	799.4	790.7	774.2	752.3	729.3	699.8	670.2	639.5	608.9	579.3
150°	761.1	761.1	754.5	742.5	726.0	705.2	682.2	657.1	631.9	604.5	579.3
152.5°	728.2	728.2	724.9	714.0	702.0	685.5	665.8	645.0	623.1	599.0	576.0
155°	702.0	700.9	698.7	689.9	680.1	666.9	650.5	633.0	614.3	592.4	573.8
157.5°	676.8	676.8	674.6	668.0	659.2	648.3	635.2	619.8	604.5	587.0	570.5
160°	652.7	653.8	653.8	647.2	639.5	631.9	620.9	608.9	594.6	580.4	568.4
162.5°	630.8	631.9	631.9	626.4	622.0	615.4	605.6	595.7	584.8	573.8	564.0
165°	612.2	612.2	613.3	608.9	604.5	599.0	591.3	584.8	576.0	567.3	559.6
167.5°	593.5	593.5	594.6	591.3	589.2	584.8	580.4	574.9	567.3	560.7	555.2
170°	577.1	577.1	578.2	576.0	574.9	572.7	568.4	565.1	559.6	554.1	550.8
172.5°	561.8	562.9	565.1	562.9	562.9	561.8	558.5	556.3	551.9	548.6	547.5
175°	550.8	551.9	553.0	551.9	551.9	551.9	549.7	548.6	546.5	544.3	544.3
177.5°	543.2	543.2	545.4	544.3	545.4	545.4	544.3	543.2	542.1	541.0	542.1
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4
2.5°	1827.6	1825.9	1808.9	1792.0	1775.4	1758.8	1746.5	1734.1	1713.3	1692.5	1679.4
5°	1940.9	1927.5	1900.7	1873.9	1833.6	1793.4	1759.5	1725.7	1682.6	1639.6	1603.6
7.5°	2004.1	1993.2	1960.7	1928.2	1874.9	1821.6	1768.7	1715.8	1652.3	1588.7	1534.4
10°	2005.9	2015.0	1988.2	1961.4	1901.4	1841.4	1769.4	1697.4	1612.0	1526.6	1456.4
12.5°	1943.0	1982.6	1976.9	1971.3	1910.2	1849.2	1761.7	1674.1	1569.3	1464.5	1376.6
15°	1825.5	1902.1	1924.7	1947.3	1896.8	1846.4	1746.8	1647.3	1524.2	1401.0	1300.1
17.5°	1674.1	1781.4	1841.1	1900.7	1864.0	1827.3	1718.3	1609.2	1470.5	1331.8	1222.1
20°	1494.9	1635.3	1728.8	1822.4	1808.9	1795.5	1683.0	1570.4	1420.8	1271.1	1152.2
22.5°	1317.7	1465.9	1595.1	1724.2	1738.0	1751.8	1638.1	1524.5	1360.8	1197.0	1076.0
25°	1164.9	1315.6	1469.5	1623.3	1654.4	1685.4	1577.4	1469.5	1299.7	1130.0	1009.6
27.5°	1019.2	1162.4	1331.8	1501.2	1557.7	1614.1	1515.3	1416.5	1239.7	1062.9	942.9
30°	900.2	1028.3	1201.3	1374.2	1452.9	1531.6	1440.9	1350.2	1174.8	999.4	881.9
32.5°	789.4	904.1	1077.7	1251.4	1342.8	1434.2	1355.8	1277.5	1108.8	940.1	824.0
35°	701.9	804.6	966.6	1128.6	1230.9	1333.2	1269.0	1204.8	1040.0	875.2	765.4
37.5°	626.7	712.8	864.9	1017.0	1125.7	1234.4	1180.8	1127.1	972.2	817.3	713.6
40°	564.6	633.8	775.3	916.8	1023.4	1130.0	1084.1	1038.2	899.5	760.8	663.8
42.5°	511.3	571.0	698.0	825.1	922.8	1020.6	990.2	959.9	834.2	708.6	618.6
45°	464.4	514.5	626.4	738.3	828.2	918.2	894.2	870.2	761.9	653.6	571.0
47.5°	422.8	465.8	565.7	665.6	746.4	827.2	805.0	782.7	693.1	603.5	528.3
50°	384.7	421.4	504.6	587.9	660.6	733.3	715.0	696.6	622.5	548.4	483.5
52.5°	348.7	379.0	453.8	528.6	587.2	645.8	631.7	617.6	560.4	503.2	444.3
55°	314.4	342.3	405.5	468.6	518.8	568.9	554.8	540.6	496.2	451.7	399.8
57.5°	283.4	307.7	358.9	410.1	449.9	489.8	483.1	476.4	439.4	402.3	359.6
60°	250.6	272.4	316.5	360.7	392.8	424.9	417.1	409.4	382.9	356.4	319.7
62.5°	221.3	240.7	276.0	311.3	337.4	363.5	357.8	352.2	332.1	312.0	281.6
65°	190.6	209.6	238.2	266.8	287.3	307.7	302.8	297.8	282.7	267.5	243.1
67.5°	162.7	178.6	203.3	228.0	241.7	255.5	252.7	249.9	238.2	226.6	207.5
70°	134.5	148.2	168.7	189.2	198.7	208.2	209.3	210.3	199.7	189.2	175.0
72.5°	106.2	117.2	136.2	155.3	162.7	170.1	169.7	169.4	163.0	156.7	144.0
75°	81.5	89.6	104.5	119.3	125.6	132.0	133.4	134.8	128.8	122.8	115.7
77.5°	58.6	64.2	75.5	86.8	93.9	100.9	101.6	102.3	99.5	96.7	90.0
80°	41.3	43.1	50.1	57.2	64.6	72.0	73.0	74.1	71.3	68.5	64.2
82.5°	28.6	29.6	32.1	34.6	40.6	46.6	48.0	49.4	48.0	46.6	42.0
85°	17.3	17.6	18.7	19.8	22.6	25.4	26.8	28.2	27.5	26.8	24.3
87.5°	7.8	7.8	8.1	8.5	9.2	9.9	11.6	13.4	12.4	11.3	10.2
90°	20.8	17.5	14.2	12.0	9.9	6.6	4.4	2.2	4.4	6.6	9.9
92.5°	168.6	110.6	75.6	55.8	44.9	35.0	24.1	16.4	24.1	35.0	44.9
95°	398.6	235.4	142.4	99.7	71.2	52.6	40.5	37.2	40.5	52.6	71.2
97.5°	443.5	254.1	162.1	115.0	86.5	70.1	60.2	59.1	60.2	70.1	86.5
100°	412.8	250.8	174.1	131.4	105.1	89.8	82.1	81.0	82.1	89.8	105.1
102.5°	386.6	255.2	188.4	150.0	127.0	112.8	106.2	104.0	106.2	112.8	127.0
105°	376.7	263.9	204.8	170.8	150.0	136.9	130.3	127.0	130.3	136.9	150.0
107.5°	374.5	278.2	225.6	193.8	174.1	161.0	154.4	151.1	154.4	161.0	174.1
110°	380.0	296.8	247.5	216.8	198.2	186.2	180.7	177.4	180.7	186.2	198.2



TEST NUMBER: P832199

CATALOG NUMBER: S123RDIP-S560D1195U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	390.9	315.4	270.5	240.9	222.3	210.3	204.8	201.5	204.8	210.3	222.3
115°	403.0	336.2	294.6	265.0	246.4	235.4	228.9	224.5	228.9	235.4	246.4
117.5°	418.3	358.1	316.5	289.1	268.3	258.4	253.0	247.5	253.0	258.4	268.3
120°	435.8	378.9	339.5	312.1	291.3	280.3	274.9	271.6	274.9	280.3	291.3
122.5°	452.3	400.8	362.5	332.9	313.2	301.1	295.7	292.4	295.7	301.1	313.2
125°	469.8	421.6	383.3	353.7	332.9	320.9	314.3	312.1	314.3	320.9	332.9
127.5°	484.0	440.2	403.0	373.4	350.4	338.4	330.7	327.4	330.7	338.4	350.4
130°	498.3	456.7	420.5	390.9	368.0	354.8	345.0	341.7	345.0	354.8	368.0
132.5°	511.4	470.9	435.8	407.4	384.4	368.0	357.0	352.6	357.0	368.0	384.4
135°	522.4	485.1	451.2	421.6	398.6	382.2	370.1	365.8	370.1	382.2	398.6
137.5°	531.1	495.0	462.1	434.8	411.8	394.2	382.2	377.8	382.2	394.2	411.8
140°	537.7	504.8	473.1	445.7	423.8	406.3	395.3	389.9	395.3	406.3	423.8
142.5°	544.3	512.5	481.8	456.7	434.8	419.4	407.4	403.0	407.4	419.4	434.8
145°	548.6	519.1	490.6	465.4	446.8	430.4	420.5	417.2	420.5	430.4	446.8
147.5°	551.9	524.5	498.3	476.4	457.7	443.5	433.7	431.5	433.7	443.5	457.7
150°	553.0	530.0	504.8	485.1	469.8	455.6	446.8	445.7	446.8	455.6	469.8
152.5°	555.2	533.3	512.5	493.9	480.7	468.7	459.9	459.9	459.9	468.7	480.7
155°	555.2	537.7	519.1	503.7	491.7	480.7	474.2	474.2	474.2	480.7	491.7
157.5°	556.3	539.9	524.5	512.5	501.6	491.7	486.2	485.1	486.2	491.7	501.6
160°	556.3	543.2	530.0	519.1	511.4	502.6	498.3	498.3	498.3	502.6	511.4
162.5°	555.2	544.3	533.3	524.5	518.0	511.4	508.1	508.1	508.1	511.4	518.0
165°	553.0	545.4	536.6	528.9	524.5	519.1	516.9	518.0	516.9	519.1	524.5
167.5°	551.9	545.4	538.8	533.3	530.0	525.6	524.5	525.6	524.5	525.6	530.0
170°	548.6	544.3	538.8	536.6	534.4	531.1	530.0	532.2	530.0	531.1	534.4
172.5°	547.5	544.3	539.9	538.8	537.7	535.5	535.5	536.6	535.5	535.5	537.7
175°	545.4	543.2	541.0	539.9	539.9	537.7	538.8	539.9	538.8	537.7	539.9
177.5°	544.3	542.1	541.0	541.0	541.0	539.9	541.0	542.1	541.0	539.9	541.0
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0



TEST NUMBER: P832199

CATALOG NUMBER: S123RDIP-S560D1195U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4	1721.4
2.5°	1666.4	1646.3	1626.1	1611.7	1597.2	1579.2	1561.2	1560.5	1559.8	1546.4	1533.0
5°	1567.6	1532.6	1497.7	1463.5	1429.2	1395.0	1360.8	1353.0	1345.2	1333.6	1321.9
7.5°	1480.0	1424.3	1368.5	1324.8	1281.0	1246.8	1212.6	1189.3	1166.0	1148.0	1130.0
10°	1386.2	1317.0	1247.8	1194.9	1142.0	1104.9	1067.9	1041.0	1014.2	1001.5	988.8
12.5°	1288.8	1213.6	1138.4	1086.6	1034.7	990.2	945.8	921.4	897.1	879.4	861.8
15°	1199.1	1118.3	1037.5	982.5	927.4	885.8	844.1	819.8	795.4	777.8	760.1
17.5°	1112.3	1030.8	949.3	893.5	837.8	800.0	762.3	738.6	715.0	704.0	693.1
20°	1033.3	951.1	868.8	816.2	763.7	726.6	689.6	676.9	664.2	653.9	643.7
22.5°	954.9	875.9	796.8	746.4	695.9	669.1	642.3	632.0	621.8	614.0	606.3
25°	889.3	810.6	731.9	687.8	643.7	622.9	602.0	595.3	588.6	580.9	573.1
27.5°	823.0	748.1	673.3	638.0	602.7	585.8	568.9	560.4	551.9	545.6	539.2
30°	764.4	695.2	626.0	596.7	567.5	552.6	537.8	528.6	519.5	513.5	507.5
32.5°	707.9	646.5	585.1	560.0	535.0	520.5	506.1	497.2	488.4	481.4	474.3
35°	655.7	602.4	549.1	526.2	503.2	488.8	474.3	465.5	456.6	449.6	442.5
37.5°	609.8	561.5	513.1	491.6	470.1	457.4	444.6	435.5	426.3	418.9	411.5
40°	566.8	524.1	481.4	460.5	439.7	425.9	412.2	404.1	395.9	389.2	382.5
42.5°	528.6	489.5	450.3	429.8	409.4	396.3	383.2	373.7	364.2	360.3	356.4
45°	488.4	453.8	419.2	399.5	379.7	366.0	352.2	344.1	336.0	332.4	328.9
47.5°	453.1	421.0	388.9	369.5	350.1	337.7	325.4	319.0	312.7	307.7	302.8
50°	418.5	387.5	356.4	337.7	319.0	308.4	297.8	290.1	282.3	278.8	275.3
52.5°	385.4	357.1	328.9	309.8	290.8	280.6	270.3	263.6	256.9	249.5	242.1
55°	348.0	323.3	298.6	281.6	264.7	254.1	243.5	235.7	228.0	220.2	212.4
57.5°	316.9	292.6	268.2	253.0	237.9	227.6	217.4	208.9	200.4	194.1	187.7
60°	283.0	261.8	240.7	225.9	211.0	201.2	191.3	183.2	175.0	171.9	168.7
62.5°	251.3	231.5	211.7	198.7	185.6	176.1	166.6	161.3	156.0	153.9	151.7
65°	218.8	201.9	184.9	172.9	160.9	152.8	144.7	142.2	139.7	138.0	136.2
67.5°	188.4	174.0	159.5	148.9	138.3	132.7	127.0	124.2	121.4	119.3	117.2
70°	160.9	148.2	135.5	126.3	117.2	111.9	106.6	104.1	101.6	97.8	93.9
72.5°	131.3	121.4	111.5	104.5	97.4	92.8	88.2	83.3	78.3	74.8	71.3
75°	108.7	98.8	88.9	82.2	75.5	70.2	64.9	63.2	61.4	60.3	59.3
77.5°	83.3	74.8	66.3	61.1	55.8	53.3	50.8	49.8	48.7	48.3	48.0
80°	60.0	52.9	45.9	43.1	40.2	39.5	38.8	38.1	37.4	37.1	36.7
82.5°	37.4	33.9	30.3	29.6	28.9	28.6	28.2	27.9	27.5	27.2	26.8
85°	21.9	20.5	19.1	18.7	18.4	18.0	17.6	17.6	17.6	17.6	17.6
87.5°	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	8.8	8.5
90°	12.0	14.2	17.5	20.8	24.1	27.4	26.3	27.4	28.5	29.6	31.8
92.5°	55.8	75.6	110.6	168.6	225.6	203.7	152.2	108.4	84.3	73.4	65.7
95°	99.7	142.4	235.4	398.6	578.2	649.4	526.7	394.2	267.2	209.2	169.7
97.5°	115.0	162.1	254.1	443.5	745.8	998.7	1032.7	905.6	683.3	538.8	413.9
100°	131.4	174.1	250.8	412.8	700.9	1037.1	1252.8	1291.1	1202.4	1074.3	918.8
102.5°	150.0	188.4	255.2	386.6	635.2	965.9	1263.7	1419.2	1437.9	1376.5	1292.2
105°	170.8	204.8	263.9	376.7	583.7	880.5	1194.7	1423.6	1533.1	1553.9	1525.5
107.5°	193.8	225.6	278.2	374.5	546.5	804.9	1096.2	1357.9	1529.8	1615.3	1644.8
110°	216.8	247.5	296.8	380.0	526.7	742.5	1004.2	1255.0	1456.5	1594.5	1671.1



TEST NUMBER: P832199

CATALOG NUMBER: S123RDIP-S560D1195U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	240.9	270.5	315.4	390.9	515.8	700.9	924.3	1153.1	1360.1	1518.9	1622.9
115°	265.0	294.6	336.2	403.0	514.7	673.5	862.9	1065.5	1256.1	1417.0	1536.4
117.5°	289.1	316.5	358.1	418.3	515.8	654.9	822.4	997.6	1166.3	1314.1	1437.9
120°	312.1	339.5	378.9	435.8	520.2	642.8	791.8	946.2	1094.0	1225.4	1336.0
122.5°	332.9	362.5	400.8	452.3	527.8	635.2	766.6	905.6	1036.0	1155.3	1256.1
125°	353.7	383.3	421.6	469.8	535.5	628.6	745.8	870.6	990.0	1095.1	1182.7
127.5°	373.4	403.0	440.2	484.0	544.3	625.3	726.0	838.8	947.3	1043.6	1124.7
130°	390.9	420.5	456.7	498.3	553.0	622.0	710.7	809.3	907.8	996.5	1071.0
132.5°	407.4	435.8	470.9	511.4	559.6	620.9	696.5	781.9	870.6	951.6	1021.7
135°	421.6	451.2	485.1	522.4	566.2	619.8	684.4	757.8	835.6	906.7	969.2
137.5°	434.8	462.1	495.0	531.1	570.5	617.6	673.5	734.8	800.5	864.0	919.9
140°	445.7	473.1	504.8	537.7	574.9	616.5	663.6	715.1	770.9	823.5	870.6
142.5°	456.7	481.8	512.5	544.3	578.2	614.3	654.9	696.5	742.5	786.3	825.7
145°	465.4	490.6	519.1	548.6	579.3	612.2	647.2	682.2	718.4	753.4	785.2
147.5°	476.4	498.3	524.5	551.9	579.3	608.9	639.5	670.2	699.8	729.3	752.3
150°	485.1	504.8	530.0	553.0	579.3	604.5	631.9	657.1	682.2	705.2	726.0
152.5°	493.9	512.5	533.3	555.2	576.0	599.0	623.1	645.0	665.8	685.5	702.0
155°	503.7	519.1	537.7	555.2	573.8	592.4	614.3	633.0	650.5	666.9	680.1
157.5°	512.5	524.5	539.9	556.3	570.5	587.0	604.5	619.8	635.2	648.3	659.2
160°	519.1	530.0	543.2	556.3	568.4	580.4	594.6	608.9	620.9	631.9	639.5
162.5°	524.5	533.3	544.3	555.2	564.0	573.8	584.8	595.7	605.6	615.4	622.0
165°	528.9	536.6	545.4	553.0	559.6	567.3	576.0	584.8	591.3	599.0	604.5
167.5°	533.3	538.8	545.4	551.9	555.2	560.7	567.3	574.9	580.4	584.8	589.2
170°	536.6	538.8	544.3	548.6	550.8	554.1	559.6	565.1	568.4	572.7	574.9
172.5°	538.8	539.9	544.3	547.5	547.5	548.6	551.9	556.3	558.5	561.8	562.9
175°	539.9	541.0	543.2	545.4	544.3	544.3	546.5	548.6	549.7	551.9	551.9
177.5°	541.0	541.0	542.1	544.3	542.1	541.0	542.1	543.2	544.3	545.4	545.4
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0



TEST NUMBER: P832199

CATALOG NUMBER: S123RDIP-S560D1195U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1721.4	1721.4	1721.4	1721.4
2.5°	1529.5	1525.9	1524.5	1523.1
5°	1311.0	1300.1	1297.6	1295.1
7.5°	1125.4	1120.8	1105.6	1090.4
10°	974.7	960.6	954.2	947.9
12.5°	848.7	835.7	833.5	831.4
15°	751.0	741.8	738.6	735.4
17.5°	686.7	680.4	676.5	672.6
20°	639.1	634.5	631.7	628.9
22.5°	602.7	599.2	597.1	595.0
25°	567.8	562.5	560.8	559.0
27.5°	534.6	530.0	528.3	526.5
30°	503.6	499.7	497.2	494.8
32.5°	469.7	465.1	463.7	462.3
35°	439.7	436.9	435.5	434.1
37.5°	407.9	404.4	402.3	400.2
40°	380.8	379.0	378.0	376.9
42.5°	353.2	350.1	349.7	349.4
45°	325.7	322.5	321.8	321.1
47.5°	300.0	297.1	296.8	296.4
50°	271.4	267.5	264.7	261.8
52.5°	238.6	235.0	232.6	230.1
55°	208.6	204.7	202.6	200.4
57.5°	186.0	184.2	183.2	182.1
60°	167.6	166.6	165.9	165.2
62.5°	150.7	149.6	149.6	149.6
65°	135.2	134.1	133.0	132.0
67.5°	115.0	112.9	112.6	112.2
70°	90.7	87.5	87.2	86.8
72.5°	70.9	70.6	69.9	69.2
75°	58.6	57.9	57.9	57.9
77.5°	47.3	46.6	46.6	46.6
80°	36.3	36.0	36.3	36.7
82.5°	26.8	26.8	26.5	26.1
85°	17.3	16.9	16.9	16.9
87.5°	8.5	8.5	8.5	8.5
90°	30.7	31.8	32.9	31.8
92.5°	63.5	59.1	60.2	58.0
95°	148.9	139.1	131.4	127.0
97.5°	340.6	299.0	272.7	260.6
100°	808.2	728.2	685.5	686.6
102.5°	1212.3	1153.1	1119.2	1087.4
105°	1475.1	1433.5	1398.4	1393.0
107.5°	1638.3	1618.5	1604.3	1592.3
110°	1701.8	1710.5	1708.3	1706.2



TEST NUMBER: P832199

CATALOG NUMBER: S123RDIP-S560D1195U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1685.3	1717.1	1728.1	1729.1
115°	1618.5	1666.7	1688.6	1694.1
117.5°	1523.3	1576.9	1609.8	1617.4
120°	1422.5	1483.8	1510.1	1516.7
122.5°	1330.5	1384.2	1413.8	1422.5
125°	1252.8	1301.0	1328.3	1336.0
127.5°	1188.2	1229.8	1255.0	1261.5
130°	1129.0	1168.5	1191.5	1200.2
132.5°	1075.4	1114.8	1134.5	1140.0
135°	1022.8	1055.7	1075.4	1083.0
137.5°	965.9	999.8	1016.2	1022.8
140°	912.2	942.9	960.4	959.3
142.5°	859.6	885.9	901.3	900.2
145°	812.6	835.6	844.3	846.5
147.5°	774.2	790.7	799.4	800.5
150°	742.5	754.5	761.1	761.1
152.5°	714.0	724.9	728.2	728.2
155°	689.9	698.7	700.9	702.0
157.5°	668.0	674.6	676.8	676.8
160°	647.2	653.8	653.8	652.7
162.5°	626.4	631.9	631.9	630.8
165°	608.9	613.3	612.2	612.2
167.5°	591.3	594.6	593.5	593.5
170°	576.0	578.2	577.1	577.1
172.5°	562.9	565.1	562.9	561.8
175°	551.9	553.0	551.9	550.8
177.5°	544.3	545.4	543.2	543.2
180°	541.0	541.0	541.0	541.0

TEST NUMBER: P832199

CATALOG NUMBER: S123RDIP-S560D1195U830-4F0-1E-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	9.41	10.12	10.49	11.19	12.65	14.07	14.78	15.15	15.86	17.32
	3H	10.62	11.26	11.71	12.34	13.82	15.56	16.20	16.65	17.28	18.76
	4H	11.00	11.60	12.09	12.68	14.17	16.05	16.65	17.14	17.73	19.22
	6H	11.27	11.83	12.38	12.91	14.41	16.35	16.91	17.46	17.99	19.49
	8H	11.36	11.88	12.47	12.98	14.48	16.43	16.95	17.54	18.06	19.55
	12H	11.40	11.90	12.52	13.00	14.51	16.46	16.96	17.57	18.05	19.57
4H	2H	10.12	10.72	11.22	11.80	13.29	14.05	14.66	15.16	15.74	17.22
	3H	11.47	11.98	12.59	13.09	14.58	15.70	16.20	16.81	17.31	18.81
	4H	11.93	12.39	13.04	13.49	15.01	16.30	16.76	17.42	17.86	19.38
	6H	12.29	12.68	13.41	13.80	15.32	16.73	17.13	17.86	18.25	19.76
	8H	12.41	12.78	13.53	13.89	15.42	16.86	17.23	17.98	18.34	19.87
	12H	12.48	12.81	13.62	13.94	15.47	16.92	17.25	18.06	18.38	19.91
8H	4H	12.23	12.60	13.35	13.71	15.24	16.26	16.63	17.38	17.74	19.27
	6H	12.69	12.99	13.83	14.15	15.68	16.75	17.06	17.90	18.21	19.74
	8H	12.88	13.15	14.03	14.29	15.83	16.94	17.20	18.09	18.34	19.88
	12H	13.02	13.25	14.17	14.39	15.97	17.05	17.28	18.20	18.42	20.00
12H	4H	12.24	12.57	13.38	13.70	15.23	16.21	16.54	17.34	17.67	19.20
	6H	12.75	13.02	13.90	14.15	15.70	16.73	16.99	17.88	18.13	19.67
	8H	12.96	13.20	14.12	14.33	15.91	16.92	17.15	18.07	18.28	19.86