

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: P832220

Luminaire Tested: S123RDIP-S560D1195U940-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P832220
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-S560D1195U940-4F0-1E-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

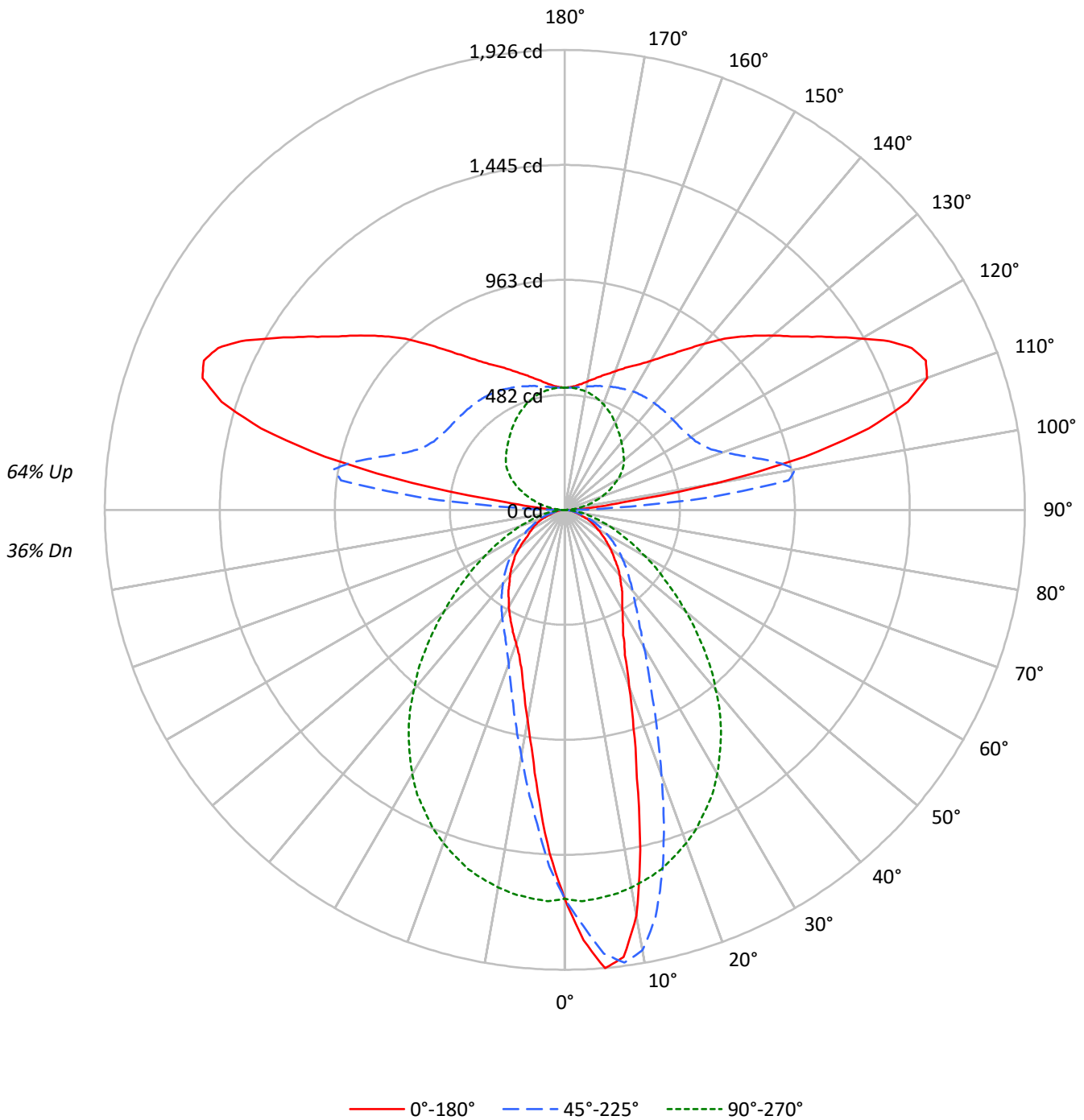
Lumens per Lamp: N/A
Luminaire Lumens: 6011.9 lumens
Efficiency: N/A
Efficacy: 118.8 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Indirect

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°	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	2.5
10°-20°	343.5	5.7
20°-30°	394.1	6.6
30°-40°	388.5	6.5
40°-50°	342.6	5.7
50°-60°	263.5	4.4
60°-70°	173.3	2.9
70°-80°	84.2	1.4
80°-90°	24.0	0.4
90°-100°	277.7	4.6
100°-110°	813.1	13.5
110°-120°	794.0	13.2
120°-130°	632.3	10.5
130°-140°	498.9	8.3
140°-150°	372.2	6.2
150°-160°	259.5	4.3
160°-170°	152.4	2.5
170°-180°	49.6	0.8
0°-30°	886.1	14.7
0°-40°	1274.5	21.2
0°-60°	1880.6	31.3
0°-90°	2162.1	36.0
90°-120°	1884.8	31.4
90°-150°	3388.3	56.4
90°-180°	3850.0	64.0
0°-180°	6011.9	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°	30	26	2	26	30	17
95°	120	614	35	614	120	195
105°	1318	833	120	833	1318	1315
115°	1603	637	212	637	1603	1563
125°	1264	595	295	595	1264	1144
135°	1025	586	346	586	1025	795
145°	801	579	395	579	801	509
155°	664	560	449	560	664	309
165°	579	537	490	537	579	165
175°	521	515	511	515	521	51
180°	512	512	512	512	512	



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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°	30.0	31.1	30.0	29.0	30.0	28.0	26.9	25.9	24.9	25.9	22.8
92.5°	54.9	57.0	55.9	60.1	62.2	69.4	79.8	102.6	144.0	192.7	213.4
95°	120.2	124.3	131.6	140.9	160.6	197.9	252.8	373.0	498.3	614.4	547.0
97.5°	246.6	258.0	282.8	322.2	391.6	509.7	646.5	856.8	977.0	944.9	705.5
100°	649.6	648.6	689.0	764.6	869.2	1016.3	1137.6	1221.5	1185.2	981.1	663.1
102.5°	1028.8	1058.8	1090.9	1146.9	1222.5	1302.3	1360.3	1342.7	1195.6	913.8	600.9
105°	1317.8	1323.0	1356.2	1395.5	1443.2	1470.1	1450.4	1346.8	1130.3	833.0	552.2
107.5°	1506.4	1517.8	1531.3	1549.9	1556.1	1528.1	1447.3	1284.7	1037.1	761.5	517.0
110°	1614.1	1616.2	1618.3	1610.0	1581.0	1508.5	1377.9	1187.3	950.0	702.4	498.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1635.9	1634.9	1624.5	1594.5	1535.4	1437.0	1286.8	1090.9	874.4	663.1	488.0
115°	1602.7	1597.6	1576.8	1531.3	1453.6	1340.6	1188.3	1008.1	816.4	637.2	486.9
117.5°	1530.2	1523.0	1491.9	1441.1	1360.3	1243.2	1103.4	943.8	778.1	619.5	488.0
120°	1434.9	1428.7	1403.8	1345.8	1264.0	1159.3	1035.0	895.1	749.1	608.2	492.1
122.5°	1345.8	1337.5	1309.5	1258.8	1188.3	1093.0	980.1	856.8	725.2	600.9	499.4
125°	1264.0	1256.7	1230.8	1185.2	1118.9	1036.0	936.6	823.6	705.5	594.7	506.6
127.5°	1193.5	1187.3	1163.5	1124.1	1064.0	987.3	896.2	793.6	686.9	591.6	514.9
130°	1135.5	1127.2	1105.4	1068.1	1013.2	942.8	858.9	765.6	672.4	588.5	523.2
132.5°	1078.5	1073.3	1054.7	1017.4	966.6	900.3	823.6	739.7	658.9	587.4	529.4
135°	1024.6	1017.4	998.7	967.7	916.9	857.8	790.5	716.9	647.5	586.4	535.6
137.5°	967.7	961.4	945.9	913.8	870.3	817.4	757.3	695.2	637.2	584.3	539.8
140°	907.6	908.6	892.0	863.0	823.6	779.1	729.4	676.5	627.8	583.3	543.9
142.5°	851.6	852.7	838.1	813.3	781.2	743.9	702.4	658.9	619.5	581.2	547.0
145°	800.9	798.8	790.5	768.7	742.8	712.8	679.6	645.4	612.3	579.1	548.1
147.5°	757.3	756.3	748.0	732.5	711.8	690.0	662.0	634.1	605.0	576.0	548.1
150°	720.0	720.0	713.8	702.4	686.9	667.2	645.4	621.6	597.8	571.9	548.1
152.5°	689.0	689.0	685.9	675.5	664.1	648.6	629.9	610.2	589.5	566.7	545.0
155°	664.1	663.1	661.0	652.7	643.4	630.9	615.4	598.8	581.2	560.5	542.9
157.5°	640.3	640.3	638.2	632.0	623.7	613.3	600.9	586.4	571.9	555.3	539.8
160°	617.5	618.5	618.5	612.3	605.0	597.8	587.4	576.0	562.6	549.1	537.7
162.5°	596.8	597.8	597.8	592.6	588.5	582.2	572.9	563.6	553.2	542.9	533.6
165°	579.1	579.1	580.2	576.0	571.9	566.7	559.5	553.2	545.0	536.7	529.4
167.5°	561.5	561.5	562.6	559.5	557.4	553.2	549.1	543.9	536.7	530.4	525.3
170°	546.0	546.0	547.0	545.0	543.9	541.8	537.7	534.6	529.4	524.2	521.1
172.5°	531.5	532.5	534.6	532.5	532.5	531.5	528.4	526.3	522.2	519.1	518.0
175°	521.1	522.2	523.2	522.2	522.2	522.2	520.1	519.1	517.0	514.9	514.9
177.5°	513.9	513.9	515.9	514.9	515.9	515.9	514.9	513.9	512.8	511.8	512.8
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8



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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°	19.7	16.6	13.5	11.4	9.3	6.2	4.1	2.1	4.1	6.2	9.3
92.5°	159.5	104.6	71.5	52.8	42.5	33.2	22.8	15.5	22.8	33.2	42.5
95°	377.1	222.7	134.7	94.3	67.3	49.7	38.3	35.2	38.3	49.7	67.3
97.5°	419.6	240.4	153.3	108.8	81.8	66.3	57.0	55.9	57.0	66.3	81.8
100°	390.6	237.3	164.7	124.3	99.5	85.0	77.7	76.7	77.7	85.0	99.5
102.5°	365.7	241.4	178.2	141.9	120.2	106.7	100.5	98.4	100.5	106.7	120.2
105°	356.4	249.7	193.7	161.6	141.9	129.5	123.3	120.2	123.3	129.5	141.9
107.5°	354.3	263.2	213.4	183.4	164.7	152.3	146.1	143.0	146.1	152.3	164.7
110°	359.5	280.8	234.1	205.1	187.5	176.1	170.9	167.8	170.9	176.1	187.5



TEST NUMBER: P832220

CATALOG NUMBER: S123RDIP-S560D1195U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	369.9	298.4	255.9	227.9	210.3	198.9	193.7	190.6	193.7	198.9	210.3
115°	381.3	318.1	278.7	250.7	233.1	222.7	216.5	212.4	216.5	222.7	233.1
117.5°	395.8	338.8	299.4	273.5	253.8	244.5	239.3	234.1	239.3	244.5	253.8
120°	412.3	358.5	321.2	295.3	275.6	265.2	260.0	256.9	260.0	265.2	275.6
122.5°	427.9	379.2	342.9	315.0	296.3	284.9	279.7	276.6	279.7	284.9	296.3
125°	444.5	398.9	362.6	334.6	315.0	303.6	297.3	295.3	297.3	303.6	315.0
127.5°	457.9	416.5	381.3	353.3	331.5	320.1	312.9	309.8	312.9	320.1	331.5
130°	471.4	432.0	397.8	369.9	348.1	335.7	326.3	323.2	326.3	335.7	348.1
132.5°	483.8	445.5	412.3	385.4	363.6	348.1	337.7	333.6	337.7	348.1	363.6
135°	494.2	459.0	426.8	398.9	377.1	361.6	350.2	346.0	350.2	361.6	377.1
137.5°	502.5	468.3	437.2	411.3	389.5	373.0	361.6	357.4	361.6	373.0	389.5
140°	508.7	477.6	447.6	421.7	400.9	384.4	374.0	368.8	374.0	384.4	400.9
142.5°	514.9	484.9	455.9	432.0	411.3	396.8	385.4	381.3	385.4	396.8	411.3
145°	519.1	491.1	464.1	440.3	422.7	407.2	397.8	394.7	397.8	407.2	422.7
147.5°	522.2	496.3	471.4	450.7	433.1	419.6	410.3	408.2	410.3	419.6	433.1
150°	523.2	501.4	477.6	459.0	444.5	431.0	422.7	421.7	422.7	431.0	444.5
152.5°	525.3	504.5	484.9	467.3	454.8	443.4	435.1	435.1	435.1	443.4	454.8
155°	525.3	508.7	491.1	476.6	465.2	454.8	448.6	448.6	448.6	454.8	465.2
157.5°	526.3	510.8	496.3	484.9	474.5	465.2	460.0	459.0	460.0	465.2	474.5
160°	526.3	513.9	501.4	491.1	483.8	475.5	471.4	471.4	471.4	475.5	483.8
162.5°	525.3	514.9	504.5	496.3	490.0	483.8	480.7	480.7	480.7	483.8	490.0
165°	523.2	515.9	507.7	500.4	496.3	491.1	489.0	490.0	489.0	491.1	496.3
167.5°	522.2	515.9	509.7	504.5	501.4	497.3	496.3	497.3	496.3	497.3	501.4
170°	519.1	514.9	509.7	507.7	505.6	502.5	501.4	503.5	501.4	502.5	505.6
172.5°	518.0	514.9	510.8	509.7	508.7	506.6	506.6	507.7	506.6	506.6	508.7
175°	515.9	513.9	511.8	510.8	510.8	508.7	509.7	510.8	509.7	508.7	510.8
177.5°	514.9	512.8	511.8	511.8	511.8	510.8	511.8	512.8	511.8	510.8	511.8
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8



TEST NUMBER: P832220

CATALOG NUMBER: S123RDIP-S560D1195U940-4F0-1E-UDD-G4

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°	11.4	13.5	16.6	19.7	22.8	25.9	24.9	25.9	26.9	28.0	30.0
92.5°	52.8	71.5	104.6	159.5	213.4	192.7	144.0	102.6	79.8	69.4	62.2
95°	94.3	134.7	222.7	377.1	547.0	614.4	498.3	373.0	252.8	197.9	160.6
97.5°	108.8	153.3	240.4	419.6	705.5	944.9	977.0	856.8	646.5	509.7	391.6
100°	124.3	164.7	237.3	390.6	663.1	981.1	1185.2	1221.5	1137.6	1016.3	869.2
102.5°	141.9	178.2	241.4	365.7	600.9	913.8	1195.6	1342.7	1360.3	1302.3	1222.5
105°	161.6	193.7	249.7	356.4	552.2	833.0	1130.3	1346.8	1450.4	1470.1	1443.2
107.5°	183.4	213.4	263.2	354.3	517.0	761.5	1037.1	1284.7	1447.3	1528.1	1556.1
110°	205.1	234.1	280.8	359.5	498.3	702.4	950.0	1187.3	1377.9	1508.5	1581.0



TEST NUMBER: P832220

CATALOG NUMBER: S123RDIP-S560D1195U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	227.9	255.9	298.4	369.9	488.0	663.1	874.4	1090.9	1286.8	1437.0	1535.4
115°	250.7	278.7	318.1	381.3	486.9	637.2	816.4	1008.1	1188.3	1340.6	1453.6
117.5°	273.5	299.4	338.8	395.8	488.0	619.5	778.1	943.8	1103.4	1243.2	1360.3
120°	295.3	321.2	358.5	412.3	492.1	608.2	749.1	895.1	1035.0	1159.3	1264.0
122.5°	315.0	342.9	379.2	427.9	499.4	600.9	725.2	856.8	980.1	1093.0	1188.3
125°	334.6	362.6	398.9	444.5	506.6	594.7	705.5	823.6	936.6	1036.0	1118.9
127.5°	353.3	381.3	416.5	457.9	514.9	591.6	686.9	793.6	896.2	987.3	1064.0
130°	369.9	397.8	432.0	471.4	523.2	588.5	672.4	765.6	858.9	942.8	1013.2
132.5°	385.4	412.3	445.5	483.8	529.4	587.4	658.9	739.7	823.6	900.3	966.6
135°	398.9	426.8	459.0	494.2	535.6	586.4	647.5	716.9	790.5	857.8	916.9
137.5°	411.3	437.2	468.3	502.5	539.8	584.3	637.2	695.2	757.3	817.4	870.3
140°	421.7	447.6	477.6	508.7	543.9	583.3	627.8	676.5	729.4	779.1	823.6
142.5°	432.0	455.9	484.9	514.9	547.0	581.2	619.5	658.9	702.4	743.9	781.2
145°	440.3	464.1	491.1	519.1	548.1	579.1	612.3	645.4	679.6	712.8	742.8
147.5°	450.7	471.4	496.3	522.2	548.1	576.0	605.0	634.1	662.0	690.0	711.8
150°	459.0	477.6	501.4	523.2	548.1	571.9	597.8	621.6	645.4	667.2	686.9
152.5°	467.3	484.9	504.5	525.3	545.0	566.7	589.5	610.2	629.9	648.6	664.1
155°	476.6	491.1	508.7	525.3	542.9	560.5	581.2	598.8	615.4	630.9	643.4
157.5°	484.9	496.3	510.8	526.3	539.8	555.3	571.9	586.4	600.9	613.3	623.7
160°	491.1	501.4	513.9	526.3	537.7	549.1	562.6	576.0	587.4	597.8	605.0
162.5°	496.3	504.5	514.9	525.3	533.6	542.9	553.2	563.6	572.9	582.2	588.5
165°	500.4	507.7	515.9	523.2	529.4	536.7	545.0	553.2	559.5	566.7	571.9
167.5°	504.5	509.7	515.9	522.2	525.3	530.4	536.7	543.9	549.1	553.2	557.4
170°	507.7	509.7	514.9	519.1	521.1	524.2	529.4	534.6	537.7	541.8	543.9
172.5°	509.7	510.8	514.9	518.0	518.0	519.1	522.2	526.3	528.4	531.5	532.5
175°	510.8	511.8	513.9	515.9	514.9	514.9	517.0	519.1	520.1	522.2	522.2
177.5°	511.8	511.8	512.8	514.9	512.8	511.8	512.8	513.9	514.9	515.9	515.9
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8

TEST NUMBER: P832220

CATALOG NUMBER: S123RDIP-S560D1195U940-4F0-1E-UDD-G4

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°	29.0	30.0	31.1	30.0
92.5°	60.1	55.9	57.0	54.9
95°	140.9	131.6	124.3	120.2
97.5°	322.2	282.8	258.0	246.6
100°	764.6	689.0	648.6	649.6
102.5°	1146.9	1090.9	1058.8	1028.8
105°	1395.5	1356.2	1323.0	1317.8
107.5°	1549.9	1531.3	1517.8	1506.4
110°	1610.0	1618.3	1616.2	1614.1



TEST NUMBER: P832220

CATALOG NUMBER: S123RDIP-S560D1195U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1594.5	1624.5	1634.9	1635.9
115°	1531.3	1576.8	1597.6	1602.7
117.5°	1441.1	1491.9	1523.0	1530.2
120°	1345.8	1403.8	1428.7	1434.9
122.5°	1258.8	1309.5	1337.5	1345.8
125°	1185.2	1230.8	1256.7	1264.0
127.5°	1124.1	1163.5	1187.3	1193.5
130°	1068.1	1105.4	1127.2	1135.5
132.5°	1017.4	1054.7	1073.3	1078.5
135°	967.7	998.7	1017.4	1024.6
137.5°	913.8	945.9	961.4	967.7
140°	863.0	892.0	908.6	907.6
142.5°	813.3	838.1	852.7	851.6
145°	768.7	790.5	798.8	800.9
147.5°	732.5	748.0	756.3	757.3
150°	702.4	713.8	720.0	720.0
152.5°	675.5	685.9	689.0	689.0
155°	652.7	661.0	663.1	664.1
157.5°	632.0	638.2	640.3	640.3
160°	612.3	618.5	618.5	617.5
162.5°	592.6	597.8	597.8	596.8
165°	576.0	580.2	579.1	579.1
167.5°	559.5	562.6	561.5	561.5
170°	545.0	547.0	546.0	546.0
172.5°	532.5	534.6	532.5	531.5
175°	522.2	523.2	522.2	521.1
177.5°	514.9	515.9	513.9	513.9
180°	511.8	511.8	511.8	511.8



TEST NUMBER: P832220

CATALOG NUMBER: S123RDIP-S560D1195U940-4F0-1E-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	9.21	9.93	10.29	11.00	12.46	13.88	14.59	14.96	15.66	17.13
	3H	10.43	11.06	11.51	12.15	13.63	15.37	16.01	16.46	17.09	18.57
	4H	10.80	11.41	11.90	12.49	13.98	15.85	16.46	16.95	17.54	19.03
	6H	11.08	11.64	12.19	12.72	14.22	16.16	16.71	17.27	17.80	19.30
	8H	11.17	11.69	12.28	12.79	14.29	16.24	16.76	17.35	17.86	19.36
	12H	11.21	11.71	12.33	12.81	14.32	16.26	16.76	17.38	17.86	19.37
4H	2H	9.92	10.53	11.03	11.61	13.10	13.86	14.46	14.96	15.55	17.03
	3H	11.28	11.78	12.39	12.89	14.39	15.51	16.01	16.62	17.12	18.62
	4H	11.73	12.19	12.85	13.29	14.81	16.11	16.57	17.22	17.67	19.19
	6H	12.10	12.49	13.22	13.61	15.13	16.54	16.94	17.66	18.06	19.57
	8H	12.22	12.59	13.34	13.70	15.23	16.67	17.04	17.79	18.15	19.68
	12H	12.29	12.62	13.43	13.75	15.28	16.73	17.06	17.87	18.19	19.72
8H	4H	12.04	12.41	13.16	13.52	15.05	16.07	16.44	17.19	17.55	19.08
	6H	12.50	12.80	13.64	13.96	15.48	16.56	16.86	17.70	18.02	19.54
	8H	12.69	12.96	13.84	14.10	15.64	16.75	17.01	17.90	18.15	19.69
	12H	12.83	13.06	13.98	14.20	15.78	16.86	17.09	18.01	18.22	19.80
12H	4H	12.05	12.38	13.18	13.51	15.04	16.01	16.35	17.15	17.47	19.01
	6H	12.56	12.82	13.71	13.96	15.51	16.54	16.80	17.68	17.94	19.48
	8H	12.77	13.01	13.92	14.14	15.72	16.72	16.96	17.88	18.09	19.67