

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: P831902

Luminaire Tested: S123RDIP-S1165D1025U830-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831902  
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-S1165D1025U830-4F0-1E-UDD-G4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: -

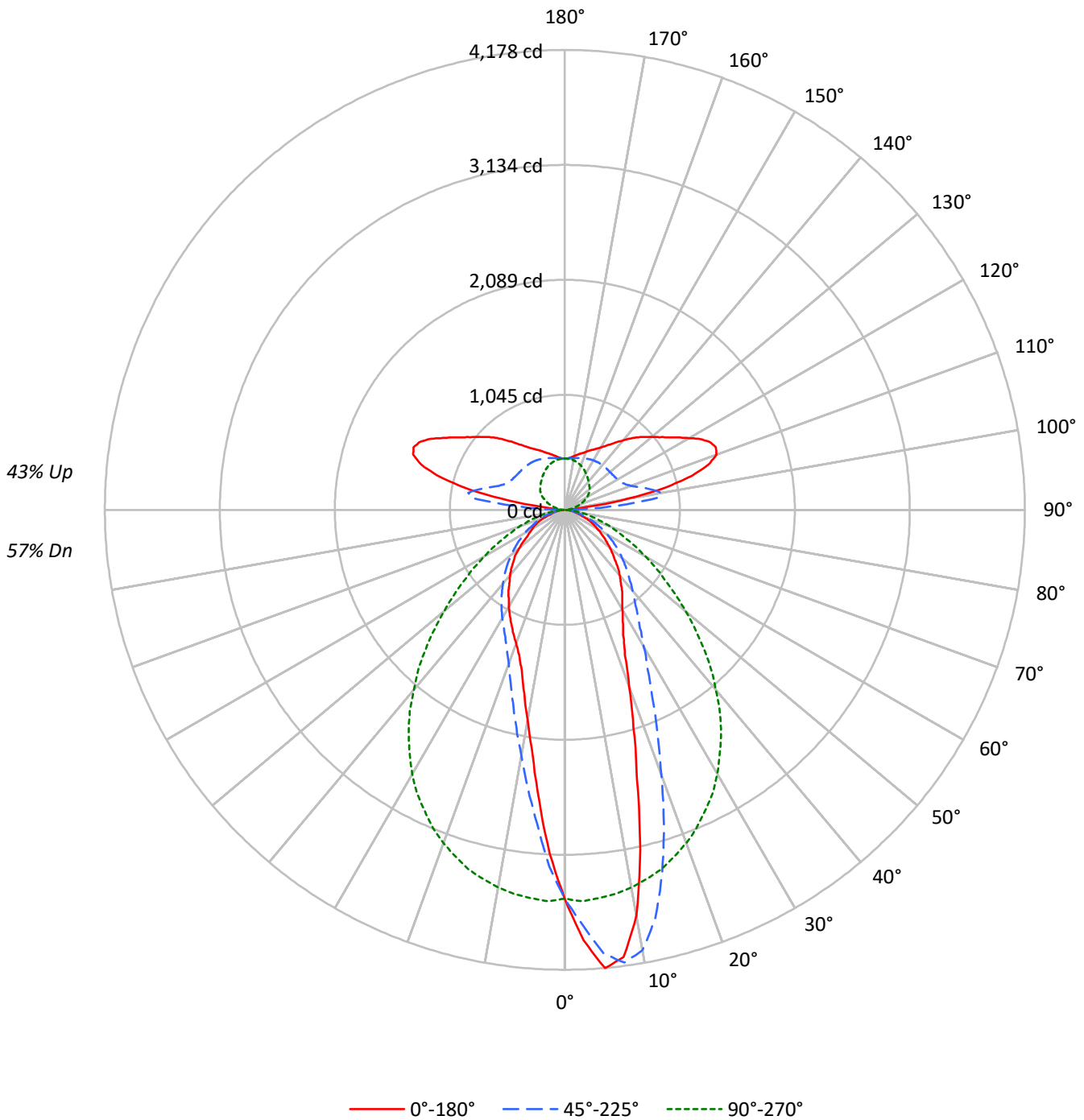
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8182.1 lumens  
Efficiency: N/A  
Efficacy: 120.1 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: General Diffuse  
  
Input Watts (W): 68.1  
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	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63	57	57	57	57	
1	100	96	93	89	93	90	87	84	78	76	74	67	65	64	57	56	55	50	50	50	50	
2	92	85	79	75	86	80	75	71	69	66	63	60	57	55	51	49	48	43	43	43	43	
3	85	76	69	63	79	71	65	60	62	58	54	54	51	48	46	44	42	38	38	38	38	
4	78	68	60	55	73	64	57	52	56	51	47	49	45	42	42	39	37	34	34	34	34	
5	72	61	54	48	67	58	51	46	51	45	41	45	40	37	39	36	33	30	30	30	30	
6	67	55	48	42	62	52	45	40	46	41	37	41	37	33	36	32	30	27	27	27	27	
7	62	51	43	38	58	48	41	36	43	37	33	38	33	30	33	30	27	25	25	25	25	
8	58	46	39	34	54	44	37	33	39	34	30	35	30	27	31	27	25	22	22	22	22	
9	54	43	36	31	51	41	34	30	36	31	27	32	28	25	29	25	23	21	21	21	21	
10	51	40	33	28	48	38	31	27	34	29	25	30	26	23	27	23	21	19	19	19	19	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	38022	38022	38022	38022	38022
5°	45148	43707	38262	30930	28717
10°	40904	44395	38071	24782	21260
15°	28163	38066	37670	20255	16817
20°	19593	29306	36913	17079	14781
25°	14930	22335	35813	15180	13624
30°	12997	17857	34436	14095	12619
35°	11933	15063	32487	13180	11704
40°	10887	13451	29936	12282	10867
45°	9832	12303	27184	11432	10032
50°	8925	11350	23938	10598	8997
55°	8071	10423	20819	9785	7719
60°	7233	9479	18083	8887	7296
65°	6676	8410	15567	7987	6897
70°	5423	7270	13583	7226	5605
75°	4758	5781	11503	5993	4941
80°	4308	4891	9428	5027	4668
85°	3940	4298	7151	4557	4298

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 28684 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	322.0	3.9
10°-20°	745.0	9.1
20°-30°	854.8	10.4
30°-40°	842.6	10.3
40°-50°	743.0	9.1
50°-60°	571.6	7.0
60°-70°	375.8	4.6
70°-80°	182.5	2.2
80°-90°	48.6	0.6
90°-100°	252.2	3.1
100°-110°	738.4	9.0
110°-120°	721.0	8.8
120°-130°	574.2	7.0
130°-140°	453.1	5.5
140°-150°	338.0	4.1
150°-160°	235.7	2.9
160°-170°	138.4	1.7
170°-180°	45.0	0.6
0°-30°	1921.9	23.5
0°-40°	2764.4	33.8
0°-60°	4079.1	49.9
0°-90°	4686.0	57.3
90°-120°	1711.6	20.9
90°-150°	3076.9	37.6
90°-180°	3496.0	42.7
0°-180°	8182.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	3532	3532	3532	3532	3532	
5°	4178	4045	3541	2863	2658	382
15°	2527	3416	3380	1818	1509	713
25°	1257	1881	3015	1278	1147	594
35°	908	1146	2472	1003	891	566
45°	646	808	1786	751	659	501
55°	430	555	1109	521	411	386
65°	262	330	611	314	271	257
75°	114	139	277	144	119	123
85°	32	35	58	37	35	34
90°	27	24	2	24	27	16
95°	109	558	32	558	109	177
105°	1197	756	109	756	1197	1194
115°	1456	579	193	579	1456	1419
125°	1148	540	268	540	1148	1039
135°	930	532	314	532	930	722
145°	727	526	358	526	727	462
155°	603	509	407	509	603	281
165°	526	487	445	487	526	150
175°	473	468	464	468	473	46
180°	465	465	465	465	465	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4
2.5°	3914.8	3902.5	3890.2	3886.6	3882.9	3871.3	3859.8	3833.7	3807.6	3780.8	3754.0
5°	4178.4	4179.8	4181.3	4177.7	4174.0	4158.8	4143.6	4111.8	4079.9	4045.1	4010.4
7.5°	4097.3	4120.5	4143.6	4148.0	4152.3	4163.9	4175.5	4168.2	4161.0	4148.0	4134.9
10°	3742.4	3741.0	3739.5	3765.6	3791.7	3869.2	3946.7	3986.5	4026.3	4061.8	4097.3
12.5°	3163.1	3165.3	3167.5	3252.9	3338.4	3411.5	3484.6	3586.0	3687.4	3796.8	3906.1
15°	2527.3	2562.8	2598.3	2674.3	2750.3	2860.4	2970.5	3106.6	3242.8	3415.9	3588.9
17.5°	2075.4	2090.6	2105.8	2179.0	2252.1	2356.4	2460.7	2614.9	2769.2	2992.2	3215.3
20°	1710.5	1724.2	1738.0	1790.8	1843.7	1943.6	2043.6	2190.6	2337.6	2558.4	2779.3
22.5°	1428.0	1454.8	1481.6	1517.1	1552.6	1625.0	1697.4	1847.3	1997.2	2198.5	2399.9
25°	1257.1	1269.4	1281.8	1312.2	1342.6	1412.1	1481.6	1580.8	1680.0	1880.6	2081.2
27.5°	1141.3	1144.9	1148.5	1171.0	1193.4	1238.3	1283.2	1375.2	1467.1	1632.3	1797.4
30°	1045.7	1052.2	1058.7	1076.1	1093.5	1126.1	1158.7	1223.8	1289.0	1436.7	1584.5
32.5°	971.8	975.4	979.1	993.5	1008.0	1031.9	1055.8	1107.2	1158.7	1271.6	1384.6
35°	908.1	908.8	909.5	920.4	931.3	954.4	977.6	1020.3	1063.1	1146.3	1229.6
37.5°	835.7	840.7	845.8	853.8	861.7	882.0	902.3	937.1	971.8	1040.6	1109.4
40°	774.8	779.2	783.5	793.0	802.4	818.3	834.2	866.1	898.0	957.3	1016.7
42.5°	714.0	716.9	719.8	729.2	738.6	758.2	777.7	803.1	828.4	877.7	926.9
45°	645.9	653.2	660.4	670.6	680.7	697.4	714.0	740.1	766.2	808.2	850.2
47.5°	589.5	593.1	596.7	605.4	614.1	634.4	654.6	677.8	701.0	740.1	779.2
50°	533.0	534.4	535.9	543.8	551.8	569.9	588.0	614.8	641.6	677.8	714.0
52.5°	479.4	483.0	486.6	494.6	502.6	514.9	527.2	554.7	582.2	617.7	653.2
55°	430.1	432.3	434.5	440.3	446.1	460.6	475.0	498.9	522.8	555.4	588.0
57.5°	383.8	386.7	389.6	393.9	398.3	411.3	424.4	445.4	466.4	498.9	531.5
60°	336.0	339.6	343.3	348.3	353.4	363.5	373.7	392.5	411.3	440.3	469.3
62.5°	301.2	302.0	302.7	307.0	311.4	318.6	325.9	341.1	356.3	385.3	414.2
65°	262.1	264.3	266.5	268.7	270.8	276.6	282.4	295.5	308.5	330.2	351.9
67.5°	221.6	223.8	225.9	229.6	233.2	238.2	243.3	252.0	260.7	281.0	301.2
70°	172.3	172.3	172.3	178.1	183.9	192.6	201.3	207.8	214.4	231.0	247.7
72.5°	140.5	141.2	141.9	142.7	143.4	148.5	153.5	164.4	175.2	185.4	195.5
75°	114.4	115.1	115.9	116.6	117.3	118.8	120.2	123.8	127.5	139.0	150.6
77.5°	91.2	92.0	92.7	93.4	94.1	95.6	97.0	98.5	99.9	104.3	108.6
80°	69.5	70.2	71.0	71.7	72.4	73.1	73.9	75.3	76.8	78.9	81.1
82.5°	50.7	50.7	50.7	50.7	50.7	52.1	53.6	53.6	53.6	55.0	56.5
85°	31.9	31.9	31.9	32.6	33.3	33.3	33.3	34.0	34.8	34.8	34.8
87.5°	14.5	13.8	13.0	13.8	14.5	14.5	14.5	15.2	15.9	15.9	15.9
90°	27.3	28.2	27.3	26.3	27.3	25.4	24.5	23.5	22.6	23.5	20.7
92.5°	49.9	51.7	50.8	54.6	56.4	63.0	72.4	93.1	130.8	175.0	193.8
95°	109.1	112.9	119.5	128.0	145.8	179.7	229.6	338.7	452.5	557.9	496.8
97.5°	223.9	234.3	256.8	292.6	355.6	462.9	587.1	778.1	887.2	858.0	640.7
100°	589.9	589.0	625.6	694.3	789.4	923.0	1033.0	1109.2	1076.3	891.0	602.1
102.5°	934.2	961.5	990.7	1041.5	1110.2	1182.6	1235.3	1219.3	1085.7	829.8	545.7
105°	1196.7	1201.4	1231.5	1267.3	1310.6	1335.0	1317.2	1223.1	1026.4	756.4	501.5
107.5°	1368.0	1378.3	1390.5	1407.5	1413.1	1387.7	1314.3	1166.6	941.8	691.5	469.5
110°	1465.8	1467.7	1469.6	1462.0	1435.7	1369.8	1251.3	1078.2	862.7	637.9	452.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1485.6	1484.6	1475.2	1447.9	1394.3	1304.9	1168.5	990.7	794.1	602.1	443.1
115°	1455.5	1450.8	1431.9	1390.5	1320.0	1217.4	1079.1	915.4	741.4	578.6	442.2
117.5°	1389.6	1383.0	1354.8	1308.7	1235.3	1129.0	1002.0	857.1	706.6	562.6	443.1
120°	1303.0	1297.4	1274.8	1222.1	1147.8	1052.8	939.9	812.9	680.2	552.3	446.9
122.5°	1222.1	1214.6	1189.2	1143.1	1079.1	992.6	890.0	778.1	658.6	545.7	453.5
125°	1147.8	1141.2	1117.7	1076.3	1016.1	940.8	850.5	748.0	640.7	540.0	460.1
127.5°	1083.8	1078.2	1056.5	1020.8	966.2	896.6	813.8	720.7	623.8	537.2	467.6
130°	1031.1	1023.6	1003.9	970.0	920.1	856.2	779.9	695.3	610.6	534.4	475.1
132.5°	979.4	974.7	957.8	923.9	877.8	817.6	748.0	671.7	598.4	533.4	480.8
135°	930.5	923.9	907.0	878.7	832.6	779.0	717.9	651.1	588.0	532.5	486.4
137.5°	878.7	873.1	859.0	829.8	790.3	742.3	687.7	631.3	578.6	530.6	490.2
140°	824.2	825.1	810.1	783.7	748.0	707.5	662.3	614.4	570.1	529.7	493.9
142.5°	773.4	774.3	761.1	738.5	709.4	675.5	637.9	598.4	562.6	527.8	496.8
145°	727.3	725.4	717.9	698.1	674.6	647.3	617.2	586.1	556.0	525.9	497.7
147.5°	687.7	686.8	679.3	665.2	646.3	626.6	601.2	575.8	549.4	523.1	497.7
150°	653.9	653.9	648.2	637.9	623.8	605.9	586.1	564.5	542.9	519.3	497.7
152.5°	625.6	625.6	622.8	613.4	603.1	589.0	572.0	554.1	535.3	514.6	494.9
155°	603.1	602.1	600.2	592.7	584.3	573.0	558.9	543.8	527.8	509.0	493.0
157.5°	581.4	581.4	579.5	573.9	566.4	557.0	545.7	532.5	519.3	504.3	490.2
160°	560.7	561.7	561.7	556.0	549.4	542.9	533.4	523.1	510.9	498.6	488.3
162.5°	541.9	542.9	542.9	538.2	534.4	528.7	520.3	511.8	502.4	493.0	484.5
165°	525.9	525.9	526.9	523.1	519.3	514.6	508.0	502.4	494.9	487.3	480.8
167.5°	509.9	509.9	510.9	508.0	506.2	502.4	498.6	493.9	487.3	481.7	477.0
170°	495.8	495.8	496.8	494.9	493.9	492.1	488.3	485.5	480.8	476.1	473.2
172.5°	482.6	483.6	485.5	483.6	483.6	482.6	479.8	477.9	474.2	471.4	470.4
175°	473.2	474.2	475.1	474.2	474.2	474.2	472.3	471.4	469.5	467.6	467.6
177.5°	466.6	466.6	468.5	467.6	468.5	468.5	467.6	466.6	465.7	464.8	465.7
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4
2.5°	3750.4	3746.8	3712.0	3677.3	3643.2	3609.2	3583.9	3558.5	3515.8	3473.1	3446.3
5°	3982.9	3955.3	3900.3	3845.3	3762.7	3680.2	3610.6	3541.1	3452.8	3364.4	3290.6
7.5°	4112.5	4090.0	4023.4	3956.8	3847.4	3738.1	3629.5	3520.9	3390.5	3260.2	3148.6
10°	4116.1	4134.9	4079.9	4024.9	3901.8	3778.7	3630.9	3483.2	3308.0	3132.7	2988.6
12.5°	3987.2	4068.3	4056.7	4045.1	3919.9	3794.6	3615.0	3435.4	3220.3	3005.3	2824.9
15°	3746.1	3903.2	3949.6	3995.9	3892.3	3788.8	3584.6	3380.4	3127.6	2874.9	2667.8
17.5°	3435.4	3655.5	3777.9	3900.3	3825.0	3749.7	3525.9	3302.2	3017.6	2733.0	2507.8
20°	3067.5	3355.7	3547.6	3739.5	3712.0	3684.5	3453.5	3222.5	2915.5	2608.4	2364.4
22.5°	2704.0	3008.1	3273.2	3538.2	3566.5	3594.7	3361.5	3128.4	2792.4	2456.3	2208.0
25°	2390.4	2699.7	3015.4	3331.1	3394.8	3458.6	3237.0	3015.4	2667.1	2318.8	2071.8
27.5°	2091.4	2385.4	2733.0	3080.6	3196.4	3312.3	3109.5	2906.8	2544.0	2181.2	1934.9
30°	1847.3	2110.2	2465.0	2819.9	2981.4	3142.8	2956.7	2770.6	2410.7	2050.8	1809.7
32.5°	1619.9	1855.3	2211.6	2567.9	2755.4	2943.0	2782.2	2621.4	2275.3	1929.2	1690.9
35°	1440.3	1651.1	1983.5	2315.9	2525.9	2735.9	2604.1	2472.3	2134.1	1795.9	1570.7
37.5°	1286.1	1462.8	1774.9	2087.0	2310.1	2533.1	2423.0	2313.0	1995.1	1677.1	1464.2
40°	1158.7	1300.6	1591.0	1881.4	2100.1	2318.8	2224.6	2130.5	1845.9	1561.3	1362.1
42.5°	1049.3	1171.7	1432.4	1693.1	1893.7	2094.3	2032.0	1969.7	1711.9	1454.1	1269.4
45°	953.0	1055.8	1285.4	1514.9	1699.6	1884.3	1835.0	1785.8	1563.5	1341.1	1171.7
47.5°	867.5	955.9	1160.8	1365.8	1531.6	1697.4	1651.8	1606.2	1422.2	1238.3	1084.1
50°	789.3	864.6	1035.5	1206.4	1355.6	1504.8	1467.1	1429.5	1277.4	1125.3	992.1
52.5°	715.5	777.7	931.3	1084.8	1205.0	1325.2	1296.2	1267.3	1150.0	1032.6	911.7
55°	645.2	702.4	832.1	961.7	1064.5	1167.3	1138.4	1109.4	1018.2	926.9	820.5
57.5°	581.5	631.5	736.5	841.5	923.3	1005.1	991.4	977.6	901.6	825.5	737.9
60°	514.2	559.0	649.6	740.1	806.0	871.9	856.0	840.0	785.7	731.4	656.1
62.5°	454.0	493.9	566.3	638.7	692.3	745.9	734.3	722.7	681.4	640.2	577.9
65°	391.0	430.1	488.8	547.5	589.5	631.5	621.3	611.2	580.1	548.9	498.9
67.5°	333.8	366.4	417.1	467.8	496.0	524.3	518.5	512.7	488.8	464.9	425.8
70°	275.9	304.1	346.1	388.1	407.7	427.3	429.4	431.6	409.9	388.1	359.2
72.5°	218.0	240.4	279.5	318.6	333.8	349.0	348.3	347.6	334.6	321.5	295.5
75°	167.3	183.9	214.4	244.8	257.8	270.8	273.7	276.6	264.3	252.0	237.5
77.5°	120.2	131.8	155.0	178.1	192.6	207.1	208.6	210.0	204.2	198.4	184.7
80°	84.7	88.3	102.8	117.3	132.5	147.7	149.9	152.1	146.3	140.5	131.8
82.5°	58.7	60.8	65.9	71.0	83.3	95.6	98.5	101.4	98.5	95.6	86.2
85°	35.5	36.2	38.4	40.6	46.3	52.1	55.0	57.9	56.5	55.0	50.0
87.5°	15.9	15.9	16.7	17.4	18.8	20.3	23.9	27.5	25.3	23.2	21.0
90°	17.9	15.1	12.2	10.3	8.5	5.6	3.8	1.9	3.8	5.6	8.5
92.5°	144.9	95.0	64.9	48.0	38.6	30.1	20.7	14.1	20.7	30.1	38.6
95°	342.5	202.3	122.3	85.6	61.2	45.2	34.8	32.0	34.8	45.2	61.2
97.5°	381.0	218.3	139.2	98.8	74.3	60.2	51.7	50.8	51.7	60.2	74.3
100°	354.7	215.4	149.6	112.9	90.3	77.1	70.6	69.6	70.6	77.1	90.3
102.5°	332.1	219.2	161.8	128.9	109.1	96.9	91.3	89.4	91.3	96.9	109.1
105°	323.6	226.7	175.9	146.8	128.9	117.6	112.0	109.1	112.0	117.6	128.9
107.5°	321.8	239.0	193.8	166.5	149.6	138.3	132.7	129.8	132.7	138.3	149.6
110°	326.5	255.0	212.6	186.3	170.3	159.9	155.2	152.4	155.2	159.9	170.3





TEST NUMBER: P831902

CATALOG NUMBER: S123RDIP-S1165D1025U830-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	335.9	271.0	232.4	207.0	191.0	180.6	175.9	173.1	175.9	180.6	191.0
115°	346.2	288.8	253.1	227.7	211.7	202.3	196.6	192.9	196.6	202.3	211.7
117.5°	359.4	307.7	271.9	248.4	230.5	222.0	217.3	212.6	217.3	222.0	230.5
120°	374.4	325.5	291.7	268.1	250.3	240.9	236.1	233.3	236.1	240.9	250.3
122.5°	388.6	344.3	311.4	286.0	269.1	258.7	254.0	251.2	254.0	258.7	269.1
125°	403.6	362.2	329.3	303.9	286.0	275.7	270.0	268.1	270.0	275.7	286.0
127.5°	415.8	378.2	346.2	320.8	301.1	290.7	284.1	281.3	284.1	290.7	301.1
130°	428.1	392.3	361.3	335.9	316.1	304.8	296.4	293.5	296.4	304.8	316.1
132.5°	439.4	404.6	374.4	350.0	330.2	316.1	306.7	302.9	306.7	316.1	330.2
135°	448.8	416.8	387.6	362.2	342.5	328.3	318.0	314.2	318.0	328.3	342.5
137.5°	456.3	425.3	397.0	373.5	353.8	338.7	328.3	324.6	328.3	338.7	353.8
140°	461.9	433.7	406.4	382.9	364.1	349.0	339.6	334.9	339.6	349.0	364.1
142.5°	467.6	440.3	414.0	392.3	373.5	360.3	350.0	346.2	350.0	360.3	373.5
145°	471.4	446.0	421.5	399.9	383.9	369.7	361.3	358.5	361.3	369.7	383.9
147.5°	474.2	450.7	428.1	409.3	393.3	381.0	372.6	370.7	372.6	381.0	393.3
150°	475.1	455.4	433.7	416.8	403.6	391.4	383.9	382.9	383.9	391.4	403.6
152.5°	477.0	458.2	440.3	424.3	413.0	402.7	395.1	395.1	395.1	402.7	413.0
155°	477.0	461.9	446.0	432.8	422.4	413.0	407.4	407.4	407.4	413.0	422.4
157.5°	477.9	463.8	450.7	440.3	430.9	422.4	417.7	416.8	417.7	422.4	430.9
160°	477.9	466.6	455.4	446.0	439.4	431.8	428.1	428.1	428.1	431.8	439.4
162.5°	477.0	467.6	458.2	450.7	445.0	439.4	436.5	436.5	436.5	439.4	445.0
165°	475.1	468.5	461.0	454.4	450.7	446.0	444.1	445.0	444.1	446.0	450.7
167.5°	474.2	468.5	462.9	458.2	455.4	451.6	450.7	451.6	450.7	451.6	455.4
170°	471.4	467.6	462.9	461.0	459.1	456.3	455.4	457.2	455.4	456.3	459.1
172.5°	470.4	467.6	463.8	462.9	461.9	460.1	460.1	461.0	460.1	460.1	461.9
175°	468.5	466.6	464.8	463.8	463.8	461.9	462.9	463.8	462.9	461.9	463.8
177.5°	467.6	465.7	464.8	464.8	464.8	463.8	464.8	465.7	464.8	463.8	464.8
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8



TEST NUMBER: P831902

CATALOG NUMBER: S123RDIP-S1165D1025U830-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4	3532.4
2.5°	3419.5	3378.2	3336.9	3307.2	3277.5	3240.6	3203.7	3202.2	3200.8	3173.3	3145.7
5°	3216.7	3145.0	3073.3	3003.1	2932.8	2862.6	2792.4	2776.4	2760.5	2736.6	2712.7
7.5°	3037.1	2922.7	2808.3	2718.5	2628.7	2558.4	2488.2	2440.4	2392.6	2355.7	2318.8
10°	2844.5	2702.6	2560.6	2452.0	2343.4	2267.3	2191.3	2136.3	2081.2	2055.2	2029.1
12.5°	2644.6	2490.4	2336.1	2229.7	2123.2	2032.0	1940.7	1890.8	1840.8	1804.6	1768.4
15°	2460.7	2294.9	2129.0	2016.1	1903.1	1817.6	1732.2	1682.2	1632.3	1596.0	1559.8
17.5°	2282.5	2115.3	1948.0	1833.6	1719.1	1641.7	1564.2	1515.7	1467.1	1444.7	1422.2
20°	2120.3	1951.6	1782.9	1675.0	1567.1	1491.0	1415.0	1388.9	1362.9	1341.9	1320.9
22.5°	1959.6	1797.4	1635.1	1531.6	1428.0	1373.0	1318.0	1297.0	1276.0	1260.0	1244.1
25°	1824.9	1663.4	1501.9	1411.4	1320.9	1278.1	1235.4	1221.7	1207.9	1192.0	1176.0
27.5°	1688.7	1535.2	1381.7	1309.3	1236.9	1202.1	1167.3	1150.0	1132.6	1119.5	1106.5
30°	1568.5	1426.6	1284.7	1224.6	1164.4	1134.0	1103.6	1084.8	1066.0	1053.6	1041.3
32.5°	1452.7	1326.7	1200.7	1149.2	1097.8	1068.1	1038.4	1020.3	1002.2	987.8	973.3
35°	1345.5	1236.1	1126.8	1079.7	1032.6	1003.0	973.3	955.2	937.1	922.6	908.1
37.5°	1251.3	1152.1	1052.9	1008.8	964.6	938.5	912.4	893.6	874.8	859.6	844.4
40°	1163.0	1075.4	987.8	945.0	902.3	874.1	845.8	829.2	812.5	798.7	785.0
42.5°	1084.8	1004.4	924.0	882.0	840.0	813.2	786.4	766.9	747.3	739.4	731.4
45°	1002.2	931.3	860.3	819.7	779.2	751.0	722.7	706.1	689.4	682.2	674.9
47.5°	929.8	863.9	798.0	758.2	718.4	693.0	667.7	654.6	641.6	631.5	621.3
50°	858.9	795.1	731.4	693.0	654.6	632.9	611.2	595.3	579.3	572.1	564.8
52.5°	790.8	732.8	674.9	635.8	596.7	575.7	554.7	540.9	527.2	512.0	496.8
55°	714.0	663.3	612.6	577.9	543.1	521.4	499.7	483.7	467.8	451.9	435.9
57.5°	650.3	600.3	550.4	519.2	488.1	467.1	446.1	428.7	411.3	398.3	385.3
60°	580.8	537.3	493.9	463.5	433.0	412.8	392.5	375.8	359.2	352.7	346.1
62.5°	515.6	475.0	434.5	407.7	380.9	361.4	341.8	330.9	320.1	315.7	311.4
65°	449.0	414.2	379.5	354.8	330.2	313.6	296.9	291.8	286.8	283.1	279.5
67.5°	386.7	357.0	327.3	305.6	283.9	272.3	260.7	254.9	249.1	244.8	240.4
70°	330.2	304.1	278.1	259.2	240.4	229.6	218.7	213.6	208.6	200.6	192.6
72.5°	269.4	249.1	228.8	214.4	199.9	190.5	181.0	170.9	160.8	153.5	146.3
75°	223.0	202.8	182.5	168.7	155.0	144.1	133.2	129.6	126.0	123.8	121.7
77.5°	170.9	153.5	136.1	125.3	114.4	109.3	104.3	102.1	99.9	99.2	98.5
80°	123.1	108.6	94.1	88.3	82.6	81.1	79.7	78.2	76.8	76.0	75.3
82.5°	76.8	69.5	62.3	60.8	59.4	58.7	57.9	57.2	56.5	55.8	55.0
85°	44.9	42.0	39.1	38.4	37.7	36.9	36.2	36.2	36.2	36.2	36.2
87.5°	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.1	17.4
90°	10.3	12.2	15.1	17.9	20.7	23.5	22.6	23.5	24.5	25.4	27.3
92.5°	48.0	64.9	95.0	144.9	193.8	175.0	130.8	93.1	72.4	63.0	56.4
95°	85.6	122.3	202.3	342.5	496.8	557.9	452.5	338.7	229.6	179.7	145.8
97.5°	98.8	139.2	218.3	381.0	640.7	858.0	887.2	778.1	587.1	462.9	355.6
100°	112.9	149.6	215.4	354.7	602.1	891.0	1076.3	1109.2	1033.0	923.0	789.4
102.5°	128.9	161.8	219.2	332.1	545.7	829.8	1085.7	1219.3	1235.3	1182.6	1110.2
105°	146.8	175.9	226.7	323.6	501.5	756.4	1026.4	1223.1	1317.2	1335.0	1310.6
107.5°	166.5	193.8	239.0	321.8	469.5	691.5	941.8	1166.6	1314.3	1387.7	1413.1
110°	186.3	212.6	255.0	326.5	452.5	637.9	862.7	1078.2	1251.3	1369.8	1435.7



TEST NUMBER: P831902

CATALOG NUMBER: S123RDIP-S1165D1025U830-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	207.0	232.4	271.0	335.9	443.1	602.1	794.1	990.7	1168.5	1304.9	1394.3
115°	227.7	253.1	288.8	346.2	442.2	578.6	741.4	915.4	1079.1	1217.4	1320.0
117.5°	248.4	271.9	307.7	359.4	443.1	562.6	706.6	857.1	1002.0	1129.0	1235.3
120°	268.1	291.7	325.5	374.4	446.9	552.3	680.2	812.9	939.9	1052.8	1147.8
122.5°	286.0	311.4	344.3	388.6	453.5	545.7	658.6	778.1	890.0	992.6	1079.1
125°	303.9	329.3	362.2	403.6	460.1	540.0	640.7	748.0	850.5	940.8	1016.1
127.5°	320.8	346.2	378.2	415.8	467.6	537.2	623.8	720.7	813.8	896.6	966.2
130°	335.9	361.3	392.3	428.1	475.1	534.4	610.6	695.3	779.9	856.2	920.1
132.5°	350.0	374.4	404.6	439.4	480.8	533.4	598.4	671.7	748.0	817.6	877.8
135°	362.2	387.6	416.8	448.8	486.4	532.5	588.0	651.1	717.9	779.0	832.6
137.5°	373.5	397.0	425.3	456.3	490.2	530.6	578.6	631.3	687.7	742.3	790.3
140°	382.9	406.4	433.7	461.9	493.9	529.7	570.1	614.4	662.3	707.5	748.0
142.5°	392.3	414.0	440.3	467.6	496.8	527.8	562.6	598.4	637.9	675.5	709.4
145°	399.9	421.5	446.0	471.4	497.7	525.9	556.0	586.1	617.2	647.3	674.6
147.5°	409.3	428.1	450.7	474.2	497.7	523.1	549.4	575.8	601.2	626.6	646.3
150°	416.8	433.7	455.4	475.1	497.7	519.3	542.9	564.5	586.1	605.9	623.8
152.5°	424.3	440.3	458.2	477.0	494.9	514.6	535.3	554.1	572.0	589.0	603.1
155°	432.8	446.0	461.9	477.0	493.0	509.0	527.8	543.8	558.9	573.0	584.3
157.5°	440.3	450.7	463.8	477.9	490.2	504.3	519.3	532.5	545.7	557.0	566.4
160°	446.0	455.4	466.6	477.9	488.3	498.6	510.9	523.1	533.4	542.9	549.4
162.5°	450.7	458.2	467.6	477.0	484.5	493.0	502.4	511.8	520.3	528.7	534.4
165°	454.4	461.0	468.5	475.1	480.8	487.3	494.9	502.4	508.0	514.6	519.3
167.5°	458.2	462.9	468.5	474.2	477.0	481.7	487.3	493.9	498.6	502.4	506.2
170°	461.0	462.9	467.6	471.4	473.2	476.1	480.8	485.5	488.3	492.1	493.9
172.5°	462.9	463.8	467.6	470.4	470.4	471.4	474.2	477.9	479.8	482.6	483.6
175°	463.8	464.8	466.6	468.5	467.6	467.6	469.5	471.4	472.3	474.2	474.2
177.5°	464.8	464.8	465.7	467.6	465.7	464.8	465.7	466.6	467.6	468.5	468.5
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8



TEST NUMBER: P831902

CATALOG NUMBER: S123RDIP-S1165D1025U830-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	3532.4	3532.4	3532.4	3532.4
2.5°	3138.5	3131.3	3128.4	3125.5
5°	2690.2	2667.8	2662.7	2657.7
7.5°	2309.3	2299.9	2268.8	2237.6
10°	2000.1	1971.2	1958.1	1945.1
12.5°	1741.6	1714.8	1710.5	1706.1
15°	1541.0	1522.2	1515.7	1509.1
17.5°	1409.2	1396.2	1388.2	1380.2
20°	1311.4	1302.0	1296.2	1290.4
22.5°	1236.9	1229.6	1225.3	1220.9
25°	1165.2	1154.3	1150.7	1147.1
27.5°	1097.1	1087.7	1084.1	1080.4
30°	1033.4	1025.4	1020.3	1015.3
32.5°	963.9	954.4	951.5	948.6
35°	902.3	896.5	893.6	890.7
37.5°	837.1	829.9	825.5	821.2
40°	781.4	777.7	775.6	773.4
42.5°	724.9	718.4	717.6	716.9
45°	668.4	661.9	660.4	659.0
47.5°	615.5	609.7	609.0	608.3
50°	556.9	548.9	543.1	537.3
52.5°	489.5	482.3	477.2	472.2
55°	428.0	420.0	415.7	411.3
57.5°	381.6	378.0	375.8	373.7
60°	344.0	341.8	340.4	338.9
62.5°	309.2	307.0	307.0	307.0
65°	277.4	275.2	273.0	270.8
67.5°	236.1	231.7	231.0	230.3
70°	186.1	179.6	178.9	178.1
72.5°	145.6	144.8	143.4	141.9
75°	120.2	118.8	118.8	118.8
77.5°	97.0	95.6	95.6	95.6
80°	74.6	73.9	74.6	75.3
82.5°	55.0	55.0	54.3	53.6
85°	35.5	34.8	34.8	34.8
87.5°	17.4	17.4	17.4	17.4
90°	26.3	27.3	28.2	27.3
92.5°	54.6	50.8	51.7	49.9
95°	128.0	119.5	112.9	109.1
97.5°	292.6	256.8	234.3	223.9
100°	694.3	625.6	589.0	589.9
102.5°	1041.5	990.7	961.5	934.2
105°	1267.3	1231.5	1201.4	1196.7
107.5°	1407.5	1390.5	1378.3	1368.0
110°	1462.0	1469.6	1467.7	1465.8



TEST NUMBER: P831902

CATALOG NUMBER: S123RDIP-S1165D1025U830-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	1447.9	1475.2	1484.6	1485.6
115°	1390.5	1431.9	1450.8	1455.5
117.5°	1308.7	1354.8	1383.0	1389.6
120°	1222.1	1274.8	1297.4	1303.0
122.5°	1143.1	1189.2	1214.6	1222.1
125°	1076.3	1117.7	1141.2	1147.8
127.5°	1020.8	1056.5	1078.2	1083.8
130°	970.0	1003.9	1023.6	1031.1
132.5°	923.9	957.8	974.7	979.4
135°	878.7	907.0	923.9	930.5
137.5°	829.8	859.0	873.1	878.7
140°	783.7	810.1	825.1	824.2
142.5°	738.5	761.1	774.3	773.4
145°	698.1	717.9	725.4	727.3
147.5°	665.2	679.3	686.8	687.7
150°	637.9	648.2	653.9	653.9
152.5°	613.4	622.8	625.6	625.6
155°	592.7	600.2	602.1	603.1
157.5°	573.9	579.5	581.4	581.4
160°	556.0	561.7	561.7	560.7
162.5°	538.2	542.9	542.9	541.9
165°	523.1	526.9	525.9	525.9
167.5°	508.0	510.9	509.9	509.9
170°	494.9	496.8	495.8	495.8
172.5°	483.6	485.5	483.6	482.6
175°	474.2	475.1	474.2	473.2
177.5°	467.6	468.5	466.6	466.6
180°	464.8	464.8	464.8	464.8



TEST NUMBER: P831902

CATALOG NUMBER: S123RDIP-S1165D1025U830-4F0-1E-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	14.04	14.91	14.95	15.83	16.99	18.71	19.58	19.61	20.49	21.66
	3H	15.27	16.04	16.19	16.97	18.16	20.21	20.98	21.13	21.91	23.10
	4H	15.65	16.38	16.58	17.31	18.52	20.70	21.43	21.63	22.36	23.57
	6H	15.94	16.61	16.88	17.54	18.76	21.02	21.69	21.96	22.62	23.84
	8H	16.02	16.66	16.97	17.61	18.83	21.10	21.73	22.05	22.69	23.90
	12H	16.08	16.68	17.03	17.63	18.87	21.13	21.74	22.08	22.68	23.92
4H	2H	14.77	15.50	15.71	16.43	17.64	18.71	19.44	19.65	20.37	21.57
	3H	16.14	16.75	17.09	17.71	18.93	20.37	20.98	21.32	21.94	23.15
	4H	16.60	17.15	17.56	18.11	19.35	20.98	21.53	21.93	22.48	23.73
	6H	16.97	17.45	17.94	18.42	19.67	21.42	21.89	22.39	22.87	24.11
	8H	17.10	17.54	18.07	18.51	19.77	21.55	21.99	22.52	22.96	24.22
	12H	17.17	17.57	18.16	18.56	19.82	21.61	22.01	22.60	23.00	24.26
8H	4H	16.92	17.36	17.89	18.33	19.59	20.95	21.39	21.92	22.36	23.62
	6H	17.38	17.75	18.38	18.76	20.02	21.44	21.81	22.44	22.82	24.08
	8H	17.58	17.90	18.58	18.90	20.17	21.63	21.95	22.63	22.95	24.23
	12H	17.72	18.00	18.72	19.00	20.31	21.75	22.03	22.75	23.03	24.35
12H	4H	16.93	17.33	17.92	18.32	19.58	20.90	21.30	21.89	22.29	23.55
	6H	17.44	17.76	18.45	18.77	20.04	21.42	21.74	22.42	22.74	24.02
	8H	17.66	17.94	18.67	18.94	20.26	21.61	21.90	22.62	22.89	24.21