

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: P831980

Luminaire Tested: S123RDIP-S1165D365U950-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831980  
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-S1165D365U950-4F0-1E-UDD-G4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: -

**Summary**

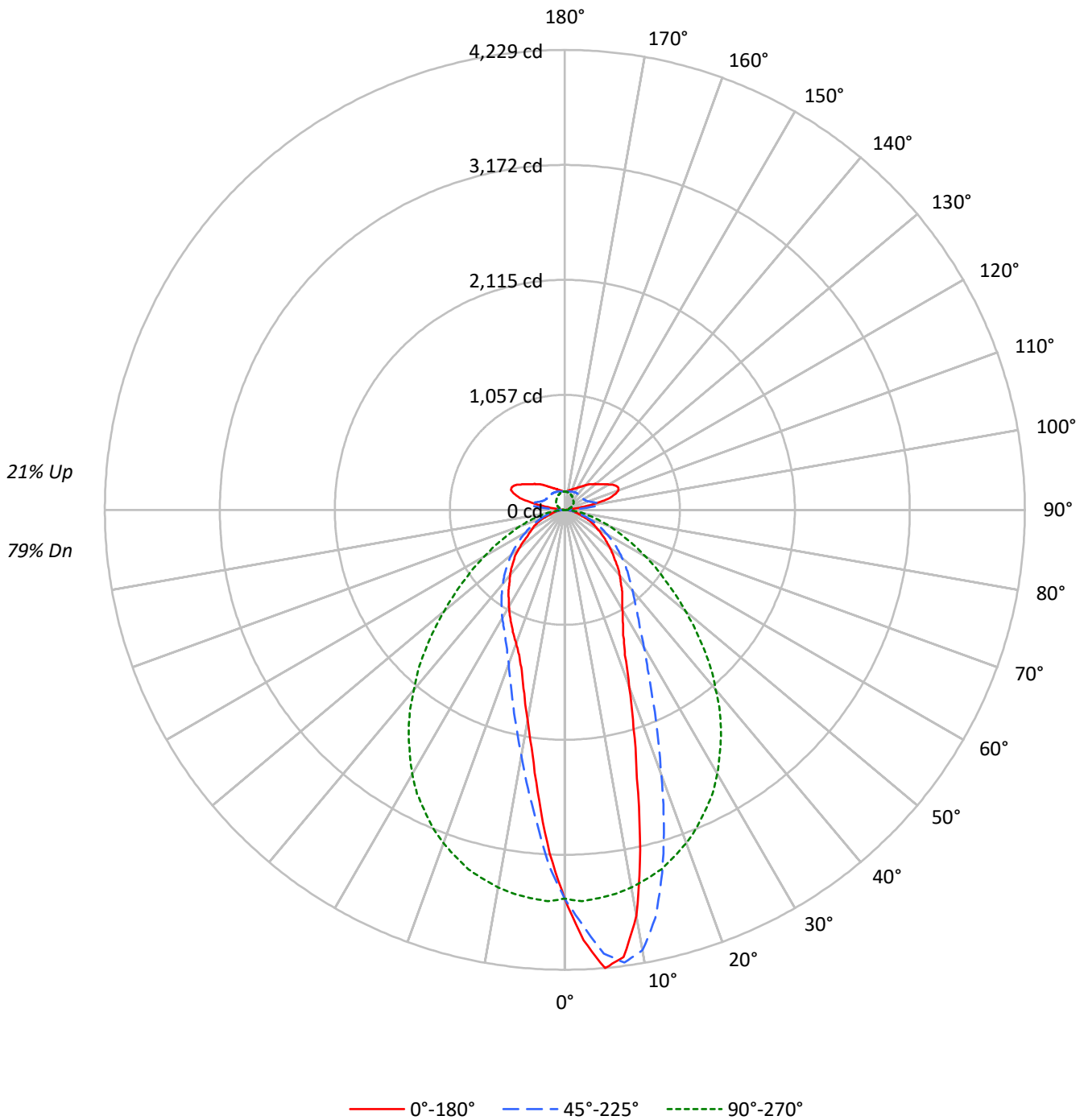
Lumens per Lamp: N/A  
Luminaire Lumens: 5994.1 lumens  
Efficiency: N/A  
Efficacy: 114.8 lumens/watt  
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8  
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 52.2  
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

TEST NUMBER: P831980

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G4

### Luminous Intensity Polar Plot





TEST NUMBER: P831980

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G4

**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	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	79				
1	106	102	98	95	101	97	94	91	89	87	85	82	80	78	75	74	72	69				
2	97	90	84	80	93	87	81	77	80	76	72	74	70	68	68	65	63	60				
3	90	81	74	68	86	78	71	66	72	67	63	66	62	59	61	58	55	53				
4	83	73	65	59	79	70	63	58	65	59	55	60	56	52	56	52	49	47				
5	77	66	58	52	74	64	56	51	59	53	49	55	50	46	51	47	44	42				
6	72	60	52	47	69	58	51	46	54	48	44	51	46	42	47	43	40	37				
7	67	55	47	42	64	53	46	41	50	44	39	47	42	38	44	39	36	34				
8	63	51	43	38	60	49	42	37	46	40	36	43	38	34	41	36	33	31				
9	59	47	40	35	56	46	39	34	43	37	33	40	35	32	38	34	30	29				
10	55	44	37	32	53	42	36	31	40	34	30	38	33	29	36	31	28	26				

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

	0°	45°	90°	135°	180°
0°	38485	38485	38485	38485	38485
5°	45697	44239	38727	31306	29066
10°	41402	44935	38534	25083	21518
15°	28505	38528	38128	20501	17022
20°	19832	29662	37362	17287	14961
25°	15112	22607	36248	15365	13789
30°	13155	18074	34855	14266	12772
35°	12077	15247	32881	13340	11846
40°	11020	13616	30300	12431	10999
45°	9952	12452	27515	11571	10153
50°	9034	11489	24229	10727	9108
55°	8171	10550	21073	9903	7812
60°	7322	9593	18303	8994	7384
65°	6757	8512	15755	8084	6981
70°	5489	7358	13747	7311	5674
75°	4816	5852	11645	6068	4999
80°	4364	4953	9540	5089	4723
85°	3989	4347	7237	4619	4347

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 29032 cd/sqm



TEST NUMBER: P831980

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	325.9	5.4
10°-20°	754.1	12.6
20°-30°	865.2	14.4
30°-40°	852.8	14.2
40°-50°	752.1	12.5
50°-60°	578.6	9.7
60°-70°	380.4	6.3
70°-80°	184.7	3.1
80°-90°	47.5	0.8
90°-100°	90.4	1.5
100°-110°	264.6	4.4
110°-120°	258.4	4.3
120°-130°	205.8	3.4
130°-140°	162.3	2.7
140°-150°	121.1	2.0
150°-160°	84.4	1.4
160°-170°	49.6	0.8
170°-180°	16.1	0.3
0°-30°	1945.2	32.5
0°-40°	2798.0	46.7
0°-60°	4128.7	68.9
0°-90°	4741.3	79.1
90°-120°	613.3	10.2
90°-150°	1102.5	18.4
90°-180°	1253.0	20.9
0°-180°	5994.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	3575	3575	3575	3575	3575	
5°	4229	4094	3584	2897	2690	386
15°	2558	3457	3422	1840	1528	722
25°	1272	1904	3052	1294	1161	601
35°	919	1160	2502	1015	902	573
45°	654	818	1808	760	667	508
55°	435	562	1123	528	416	391
65°	265	334	619	317	274	260
75°	116	141	280	146	120	125
85°	32	35	59	37	35	34
90°	10	8	1	8	10	7
95°	39	200	12	200	39	64
105°	429	271	39	271	429	428
115°	522	207	69	207	522	509
125°	411	194	96	194	411	372
135°	333	191	113	191	333	259
145°	261	188	128	188	261	165
155°	216	182	146	182	216	101
165°	188	175	160	175	188	54
175°	170	168	166	168	170	16
180°	166	166	166	166	166	



TEST NUMBER: P831980

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4
2.5°	3962.4	3949.9	3937.5	3933.8	3930.1	3918.4	3906.7	3880.3	3853.9	3826.8	3799.7
5°	4229.2	4230.6	4232.1	4228.4	4224.8	4209.4	4194.0	4161.7	4129.5	4094.3	4059.1
7.5°	4147.1	4170.5	4194.0	4198.4	4202.8	4214.5	4226.2	4218.9	4211.6	4198.4	4185.2
10°	3787.9	3786.5	3785.0	3811.4	3837.8	3916.2	3994.6	4034.9	4075.3	4111.2	4147.1
12.5°	3201.6	3203.8	3206.0	3292.5	3378.9	3453.0	3527.0	3629.6	3732.2	3842.9	3953.6
15°	2558.0	2593.9	2629.9	2706.8	2783.8	2895.2	3006.6	3144.4	3282.2	3457.4	3632.6
17.5°	2100.7	2116.1	2131.4	2205.5	2279.5	2385.1	2490.6	2646.7	2802.8	3028.6	3254.3
20°	1731.3	1745.2	1759.1	1812.6	1866.1	1967.3	2068.4	2217.2	2366.0	2589.5	2813.1
22.5°	1445.4	1472.5	1499.6	1535.6	1571.5	1644.8	1718.1	1869.8	2021.5	2225.3	2429.0
25°	1272.4	1284.9	1297.3	1328.1	1358.9	1429.3	1499.6	1600.1	1700.5	1903.5	2106.5
27.5°	1155.1	1158.8	1162.5	1185.2	1207.9	1253.4	1298.8	1391.9	1485.0	1652.1	1819.2
30°	1058.4	1065.0	1071.6	1089.2	1106.8	1139.8	1172.7	1238.7	1304.7	1454.2	1603.7
32.5°	983.6	987.3	991.0	1005.6	1020.3	1044.5	1068.7	1120.7	1172.7	1287.1	1401.4
35°	919.1	919.9	920.6	931.6	942.6	966.0	989.5	1032.7	1076.0	1160.3	1244.6
37.5°	845.8	851.0	856.1	864.2	872.2	892.7	913.3	948.5	983.6	1053.3	1122.9
40°	784.3	788.7	793.1	802.6	812.1	828.2	844.4	876.6	908.9	969.0	1029.1
42.5°	722.7	725.6	728.6	738.1	747.6	767.4	787.2	812.9	838.5	888.3	938.2
45°	653.8	661.1	668.5	678.7	689.0	705.8	722.7	749.1	775.5	818.0	860.5
47.5°	596.6	600.3	604.0	612.8	621.6	642.1	662.6	686.1	709.5	749.1	788.7
50°	539.5	540.9	542.4	550.5	558.5	576.8	595.2	622.3	649.4	686.1	722.7
52.5°	485.2	488.9	492.5	500.6	508.7	521.1	533.6	561.4	589.3	625.2	661.1
55°	435.4	437.6	439.8	445.6	451.5	466.2	480.8	505.0	529.2	562.2	595.2
57.5°	388.5	391.4	394.3	398.7	403.1	416.3	429.5	450.8	472.0	505.0	538.0
60°	340.1	343.8	347.4	352.6	357.7	367.9	378.2	397.3	416.3	445.6	475.0
62.5°	304.9	305.6	306.4	310.8	315.2	322.5	329.8	345.2	360.6	389.9	419.3
65°	265.3	267.5	269.7	271.9	274.1	280.0	285.9	299.0	312.2	334.2	356.2
67.5°	224.3	226.5	228.7	232.3	236.0	241.1	246.3	255.1	263.9	284.4	304.9
70°	174.4	174.4	174.4	180.3	186.2	195.0	203.8	210.4	217.0	233.8	250.7
72.5°	142.2	142.9	143.7	144.4	145.1	150.3	155.4	166.4	177.4	187.6	197.9
75°	115.8	116.5	117.3	118.0	118.7	120.2	121.7	125.3	129.0	140.7	152.5
77.5°	92.4	93.1	93.8	94.6	95.3	96.8	98.2	99.7	101.1	105.5	109.9
80°	70.4	71.1	71.8	72.6	73.3	74.0	74.8	76.2	77.7	79.9	82.1
82.5°	51.3	51.3	51.3	51.3	51.3	52.8	54.2	54.2	54.2	55.7	57.2
85°	32.3	32.3	32.3	33.0	33.7	33.7	33.7	34.4	35.2	35.2	35.2
87.5°	14.7	13.9	13.2	13.9	14.7	14.7	14.7	15.4	16.1	16.1	16.1
90°	9.8	10.1	9.8	9.4	9.8	9.1	8.8	8.4	8.1	8.4	7.4
92.5°	17.9	18.5	18.2	19.6	20.2	22.6	26.0	33.4	46.9	62.7	69.4
95°	39.1	40.5	42.8	45.8	52.3	64.4	82.3	121.4	162.2	199.9	178.0
97.5°	80.2	83.9	92.0	104.8	127.4	165.9	210.4	278.8	317.9	307.5	229.6
100°	211.4	211.0	224.2	248.8	282.8	330.7	370.2	397.5	385.7	319.3	215.8
102.5°	334.8	344.5	355.0	373.2	397.8	423.8	442.6	436.9	389.0	297.3	195.5
105°	428.8	430.5	441.3	454.1	469.6	478.4	472.0	438.3	367.8	271.0	179.7
107.5°	490.2	493.9	498.3	504.3	506.4	497.3	471.0	418.0	337.5	247.8	168.2
110°	525.2	525.9	526.6	523.9	514.5	490.9	448.4	386.3	309.1	228.6	162.2



TEST NUMBER: P831980

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	532.3	532.0	528.6	518.8	499.6	467.6	418.7	355.0	284.5	215.8	158.8
115°	521.5	519.8	513.1	498.3	473.0	436.2	386.7	328.0	265.7	207.3	158.4
117.5°	497.9	495.6	485.5	468.9	442.6	404.6	359.0	307.1	253.2	201.6	158.8
120°	466.9	464.9	456.8	437.9	411.3	377.2	336.8	291.3	243.7	197.9	160.1
122.5°	437.9	435.2	426.1	409.6	386.7	355.7	318.9	278.8	236.0	195.5	162.5
125°	411.3	408.9	400.5	385.7	364.1	337.1	304.8	268.0	229.6	193.5	164.9
127.5°	388.4	386.3	378.6	365.8	346.2	321.3	291.6	258.2	223.5	192.5	167.6
130°	369.5	366.8	359.7	347.6	329.7	306.8	279.5	249.1	218.8	191.5	170.2
132.5°	350.9	349.3	343.2	331.1	314.5	293.0	268.0	240.7	214.4	191.2	172.3
135°	333.4	331.1	325.0	314.9	298.4	279.1	257.2	233.3	210.7	190.8	174.3
137.5°	314.9	312.9	307.8	297.3	283.2	266.0	246.4	226.2	207.3	190.1	175.6
140°	295.3	295.7	290.3	280.8	268.0	253.5	237.3	220.1	204.3	189.8	177.0
142.5°	277.1	277.5	272.7	264.6	254.2	242.1	228.6	214.4	201.6	189.1	178.0
145°	260.6	259.9	257.2	250.1	241.7	231.9	221.2	210.0	199.2	188.5	178.3
147.5°	246.4	246.1	243.4	238.3	231.6	224.5	215.4	206.3	196.9	187.4	178.3
150°	234.3	234.3	232.3	228.6	223.5	217.1	210.0	202.3	194.5	186.1	178.3
152.5°	224.2	224.2	223.2	219.8	216.1	211.0	205.0	198.6	191.8	184.4	177.3
155°	216.1	215.8	215.1	212.4	209.4	205.3	200.3	194.9	189.1	182.4	176.7
157.5°	208.3	208.3	207.7	205.6	202.9	199.6	195.5	190.8	186.1	180.7	175.6
160°	200.9	201.3	201.3	199.2	196.9	194.5	191.2	187.4	183.1	178.7	175.0
162.5°	194.2	194.5	194.5	192.8	191.5	189.5	186.4	183.4	180.0	176.7	173.6
165°	188.5	188.5	188.8	187.4	186.1	184.4	182.0	180.0	177.3	174.6	172.3
167.5°	182.7	182.7	183.1	182.0	181.4	180.0	178.7	177.0	174.6	172.6	170.9
170°	177.7	177.7	178.0	177.3	177.0	176.3	175.0	174.0	172.3	170.6	169.6
172.5°	172.9	173.3	174.0	173.3	173.3	172.9	171.9	171.3	169.9	168.9	168.6
175°	169.6	169.9	170.2	169.9	169.9	169.9	169.2	168.9	168.2	167.6	167.6
177.5°	167.2	167.2	167.9	167.6	167.9	167.9	167.6	167.2	166.9	166.5	166.9
180°	166.5	166.5	166.5	166.5	166.5	166.5	166.5	166.5	166.5	166.5	166.5



TEST NUMBER: P831980

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4
2.5°	3796.0	3792.3	3757.2	3722.0	3687.5	3653.1	3627.4	3601.8	3558.5	3515.3	3488.2
5°	4031.3	4003.4	3947.7	3892.0	3808.5	3724.9	3654.5	3584.2	3494.8	3405.3	3330.6
7.5°	4162.5	4139.8	4072.3	4004.9	3894.2	3783.5	3673.6	3563.7	3431.7	3299.8	3186.9
10°	4166.1	4185.2	4129.5	4073.8	3949.2	3824.6	3675.1	3525.5	3348.2	3170.8	3024.9
12.5°	4035.7	4117.8	4106.0	4094.3	3967.5	3840.7	3658.9	3477.2	3259.5	3041.8	2859.3
15°	3791.6	3950.7	3997.6	4044.5	3939.7	3834.8	3628.2	3421.5	3165.7	2909.9	2700.2
17.5°	3477.2	3700.0	3823.9	3947.7	3871.5	3795.3	3568.8	3342.3	3054.2	2766.2	2538.2
20°	3104.8	3396.5	3590.8	3785.0	3757.2	3729.3	3495.5	3261.7	2950.9	2640.1	2393.1
22.5°	2736.9	3044.7	3313.0	3581.2	3609.8	3638.4	3402.4	3166.4	2826.3	2486.2	2234.8
25°	2419.5	2732.5	3052.0	3371.6	3436.1	3500.6	3276.3	3052.0	2699.5	2346.9	2097.0
27.5°	2116.8	2414.4	2766.2	3118.0	3235.3	3352.6	3147.3	2942.1	2574.9	2207.7	1958.5
30°	1869.8	2135.8	2495.0	2854.1	3017.6	3181.0	2992.7	2804.3	2440.0	2075.7	1831.7
32.5°	1639.6	1877.8	2238.5	2599.1	2788.9	2978.8	2816.0	2653.3	2303.0	1952.6	1711.5
35°	1457.9	1671.1	2007.6	2344.0	2556.6	2769.1	2635.7	2502.3	2160.0	1817.7	1589.8
37.5°	1301.7	1480.6	1796.5	2112.4	2338.1	2563.9	2452.5	2341.1	2019.3	1697.5	1482.0
40°	1172.7	1316.4	1610.3	1904.2	2125.6	2346.9	2251.7	2156.4	1868.3	1580.3	1378.7
42.5°	1062.1	1185.9	1449.8	1713.7	1916.7	2119.7	2056.7	1993.7	1732.7	1471.8	1284.9
45°	964.6	1068.7	1301.0	1533.4	1720.3	1907.2	1857.3	1807.5	1582.5	1357.4	1185.9
47.5°	878.1	967.5	1174.9	1382.4	1550.2	1718.1	1671.9	1625.7	1439.5	1253.4	1097.2
50°	798.9	875.2	1048.1	1221.1	1372.1	1523.1	1485.0	1446.9	1292.9	1139.0	1004.2
52.5°	724.2	787.2	942.6	1098.0	1219.6	1341.3	1312.0	1282.7	1163.9	1045.2	922.8
55°	653.1	711.0	842.2	973.4	1077.5	1181.5	1152.2	1122.9	1030.5	938.2	830.4
57.5°	588.6	639.1	745.4	851.7	934.5	1017.3	1003.4	989.5	912.5	835.6	746.9
60°	520.4	565.8	657.5	749.1	815.8	882.5	866.4	850.2	795.3	740.3	664.1
62.5°	459.6	499.9	573.2	646.5	700.7	754.9	743.2	731.5	689.7	647.9	584.9
65°	395.8	435.4	494.7	554.1	596.6	639.1	628.9	618.6	587.1	555.6	505.0
67.5°	337.9	370.9	422.2	473.5	502.1	530.7	524.8	518.9	494.7	470.6	431.0
70°	279.3	307.8	350.4	392.9	412.7	432.4	434.6	436.8	414.9	392.9	363.5
72.5°	220.6	243.3	282.9	322.5	337.9	353.3	352.6	351.8	338.6	325.4	299.0
75°	169.3	186.2	217.0	247.7	260.9	274.1	277.1	280.0	267.5	255.1	240.4
77.5°	121.7	133.4	156.9	180.3	195.0	209.6	211.1	212.6	206.7	200.8	186.9
80°	85.8	89.4	104.1	118.7	134.1	149.5	151.7	153.9	148.1	142.2	133.4
82.5°	59.4	61.6	66.7	71.8	84.3	96.8	99.7	102.6	99.7	96.8	87.2
85°	35.9	36.6	38.8	41.0	46.9	52.8	55.7	58.6	57.2	55.7	50.6
87.5°	16.1	16.1	16.9	17.6	19.1	20.5	24.2	27.9	25.7	23.5	21.3
90°	6.4	5.4	4.4	3.7	3.0	2.0	1.3	0.7	1.3	2.0	3.0
92.5°	51.9	34.0	23.3	17.2	13.8	10.8	7.4	5.1	7.4	10.8	13.8
95°	122.7	72.5	43.8	30.7	21.9	16.2	12.5	11.5	12.5	16.2	21.9
97.5°	136.5	78.2	49.9	35.4	26.6	21.6	18.5	18.2	18.5	21.6	26.6
100°	127.1	77.2	53.6	40.5	32.4	27.6	25.3	24.9	25.3	27.6	32.4
102.5°	119.0	78.6	58.0	46.2	39.1	34.7	32.7	32.0	32.7	34.7	39.1
105°	116.0	81.2	63.0	52.6	46.2	42.1	40.1	39.1	40.1	42.1	46.2
107.5°	115.3	85.6	69.4	59.7	53.6	49.6	47.5	46.5	47.5	49.6	53.6
110°	117.0	91.4	76.2	66.8	61.0	57.3	55.6	54.6	55.6	57.3	61.0





TEST NUMBER: P831980

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	120.4	97.1	83.3	74.2	68.4	64.7	63.0	62.0	63.0	64.7	68.4
115°	124.1	103.5	90.7	81.6	75.9	72.5	70.5	69.1	70.5	72.5	75.9
117.5°	128.8	110.2	97.4	89.0	82.6	79.6	77.9	76.2	77.9	79.6	82.6
120°	134.2	116.6	104.5	96.1	89.7	86.3	84.6	83.6	84.6	86.3	89.7
122.5°	139.2	123.4	111.6	102.5	96.4	92.7	91.0	90.0	91.0	92.7	96.4
125°	144.6	129.8	118.0	108.9	102.5	98.8	96.8	96.1	96.8	98.8	102.5
127.5°	149.0	135.5	124.1	115.0	107.9	104.2	101.8	100.8	101.8	104.2	107.9
130°	153.4	140.6	129.5	120.4	113.3	109.2	106.2	105.2	106.2	109.2	113.3
132.5°	157.4	145.0	134.2	125.4	118.3	113.3	109.9	108.6	109.9	113.3	118.3
135°	160.8	149.3	138.9	129.8	122.7	117.7	113.9	112.6	113.9	117.7	122.7
137.5°	163.5	152.4	142.3	133.8	126.8	121.4	117.7	116.3	117.7	121.4	126.8
140°	165.5	155.4	145.6	137.2	130.5	125.1	121.7	120.0	121.7	125.1	130.5
142.5°	167.6	157.8	148.3	140.6	133.8	129.1	125.4	124.1	125.4	129.1	133.8
145°	168.9	159.8	151.0	143.3	137.5	132.5	129.5	128.4	129.5	132.5	137.5
147.5°	169.9	161.5	153.4	146.6	140.9	136.5	133.5	132.8	133.5	136.5	140.9
150°	170.2	163.2	155.4	149.3	144.6	140.2	137.5	137.2	137.5	140.2	144.6
152.5°	170.9	164.2	157.8	152.0	148.0	144.3	141.6	141.6	141.6	144.3	148.0
155°	170.9	165.5	159.8	155.1	151.4	148.0	146.0	146.0	146.0	148.0	151.4
157.5°	171.3	166.2	161.5	157.8	154.4	151.4	149.7	149.3	149.7	151.4	154.4
160°	171.3	167.2	163.2	159.8	157.4	154.7	153.4	153.4	153.4	154.7	157.4
162.5°	170.9	167.6	164.2	161.5	159.5	157.4	156.4	156.4	156.4	157.4	159.5
165°	170.2	167.9	165.2	162.8	161.5	159.8	159.1	159.5	159.1	159.8	161.5
167.5°	169.9	167.9	165.9	164.2	163.2	161.8	161.5	161.8	161.5	161.8	163.2
170°	168.9	167.6	165.9	165.2	164.5	163.5	163.2	163.8	163.2	163.5	164.5
172.5°	168.6	167.6	166.2	165.9	165.5	164.9	164.9	165.2	164.9	164.9	165.5
175°	167.9	167.2	166.5	166.2	166.2	165.5	165.9	166.2	165.9	165.5	166.2
177.5°	167.6	166.9	166.5	166.5	166.5	166.2	166.5	166.9	166.5	166.2	166.5
180°	166.5	166.5	166.5	166.5	166.5	166.5	166.5	166.5	166.5	166.5	166.5



TEST NUMBER: P831980

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4
2.5°	3461.0	3419.3	3377.5	3347.4	3317.4	3280.0	3242.6	3241.2	3239.7	3211.8	3184.0
5°	3255.8	3183.2	3110.7	3039.6	2968.5	2897.4	2826.3	2810.2	2794.0	2769.9	2745.7
7.5°	3074.0	2958.2	2842.4	2751.5	2660.6	2589.5	2518.5	2470.1	2421.7	2384.3	2346.9
10°	2879.1	2735.4	2591.7	2481.8	2371.9	2294.9	2217.9	2162.2	2106.5	2080.1	2053.8
12.5°	2676.8	2520.7	2364.5	2256.8	2149.0	2056.7	1964.3	1913.8	1863.2	1826.5	1789.9
15°	2490.6	2322.8	2154.9	2040.6	1926.2	1839.7	1753.2	1702.7	1652.1	1615.4	1578.8
17.5°	2310.3	2141.0	1971.7	1855.9	1740.0	1661.6	1583.2	1534.1	1485.0	1462.3	1439.5
20°	2146.1	1975.3	1804.5	1695.3	1586.1	1509.2	1432.2	1405.8	1379.4	1358.2	1336.9
22.5°	1983.4	1819.2	1655.0	1550.2	1445.4	1389.7	1334.0	1312.7	1291.5	1275.4	1259.2
25°	1847.1	1683.6	1520.2	1428.5	1336.9	1293.7	1250.4	1236.5	1222.6	1206.5	1190.3
27.5°	1709.3	1553.9	1398.5	1325.2	1251.9	1216.7	1181.5	1163.9	1146.3	1133.2	1120.0
30°	1587.6	1443.9	1300.3	1239.4	1178.6	1147.8	1117.0	1098.0	1078.9	1066.5	1054.0
32.5°	1470.3	1342.8	1215.2	1163.2	1111.2	1081.1	1051.1	1032.7	1014.4	999.8	985.1
35°	1361.8	1251.2	1140.5	1092.8	1045.2	1015.2	985.1	966.8	948.5	933.8	919.1
37.5°	1266.6	1166.1	1065.7	1021.0	976.3	949.9	923.5	904.5	885.4	870.0	854.6
40°	1177.1	1088.4	999.8	956.5	913.3	884.7	856.1	839.2	822.4	808.5	794.5
42.5°	1098.0	1016.6	935.3	892.7	850.2	823.1	796.0	776.2	756.4	748.4	740.3
45°	1014.4	942.6	870.8	829.7	788.7	760.1	731.5	714.6	697.8	690.4	683.1
47.5°	941.1	874.4	807.7	767.4	727.1	701.4	675.8	662.6	649.4	639.1	628.9
50°	869.3	804.8	740.3	701.4	662.6	640.6	618.6	602.5	586.4	579.0	571.7
52.5°	800.4	741.8	683.1	643.5	604.0	582.7	561.4	547.5	533.6	518.2	502.8
55°	722.7	671.4	620.1	584.9	549.7	527.7	505.7	489.6	473.5	457.4	441.2
57.5°	658.2	607.6	557.0	525.5	494.0	472.8	451.5	433.9	416.3	403.1	389.9
60°	587.8	543.9	499.9	469.1	438.3	417.8	397.3	380.4	363.5	357.0	350.4
62.5°	521.9	480.8	439.8	412.7	385.5	365.7	346.0	335.0	324.0	319.6	315.2
65°	454.4	419.3	384.1	359.2	334.2	317.4	300.5	295.4	290.3	286.6	282.9
67.5°	391.4	361.3	331.3	309.3	287.3	275.6	263.9	258.0	252.1	247.7	243.3
70°	334.2	307.8	281.5	262.4	243.3	232.3	221.4	216.2	211.1	203.0	195.0
72.5°	272.7	252.1	231.6	217.0	202.3	192.8	183.2	173.0	162.7	155.4	148.1
75°	225.8	205.2	184.7	170.8	156.9	145.9	134.9	131.2	127.5	125.3	123.1
77.5°	173.0	155.4	137.8	126.8	115.8	110.7	105.5	103.3	101.1	100.4	99.7
80°	124.6	109.9	95.3	89.4	83.6	82.1	80.6	79.2	77.7	77.0	76.2
82.5°	77.7	70.4	63.0	61.6	60.1	59.4	58.6	57.9	57.2	56.4	55.7
85°	45.4	42.5	39.6	38.8	38.1	37.4	36.6	36.6	36.6	36.6	36.6
87.5°	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	18.3	17.6
90°	3.7	4.4	5.4	6.4	7.4	8.4	8.1	8.4	8.8	9.1	9.8
92.5°	17.2	23.3	34.0	51.9	69.4	62.7	46.9	33.4	26.0	22.6	20.2
95°	30.7	43.8	72.5	122.7	178.0	199.9	162.2	121.4	82.3	64.4	52.3
97.5°	35.4	49.9	78.2	136.5	229.6	307.5	317.9	278.8	210.4	165.9	127.4
100°	40.5	53.6	77.2	127.1	215.8	319.3	385.7	397.5	370.2	330.7	282.8
102.5°	46.2	58.0	78.6	119.0	195.5	297.3	389.0	436.9	442.6	423.8	397.8
105°	52.6	63.0	81.2	116.0	179.7	271.0	367.8	438.3	472.0	478.4	469.6
107.5°	59.7	69.4	85.6	115.3	168.2	247.8	337.5	418.0	471.0	497.3	506.4
110°	66.8	76.2	91.4	117.0	162.2	228.6	309.1	386.3	448.4	490.9	514.5



TEST NUMBER: P831980

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	74.2	83.3	97.1	120.4	158.8	215.8	284.5	355.0	418.7	467.6	499.6
115°	81.6	90.7	103.5	124.1	158.4	207.3	265.7	328.0	386.7	436.2	473.0
117.5°	89.0	97.4	110.2	128.8	158.8	201.6	253.2	307.1	359.0	404.6	442.6
120°	96.1	104.5	116.6	134.2	160.1	197.9	243.7	291.3	336.8	377.2	411.3
122.5°	102.5	111.6	123.4	139.2	162.5	195.5	236.0	278.8	318.9	355.7	386.7
125°	108.9	118.0	129.8	144.6	164.9	193.5	229.6	268.0	304.8	337.1	364.1
127.5°	115.0	124.1	135.5	149.0	167.6	192.5	223.5	258.2	291.6	321.3	346.2
130°	120.4	129.5	140.6	153.4	170.2	191.5	218.8	249.1	279.5	306.8	329.7
132.5°	125.4	134.2	145.0	157.4	172.3	191.2	214.4	240.7	268.0	293.0	314.5
135°	129.8	138.9	149.3	160.8	174.3	190.8	210.7	233.3	257.2	279.1	298.4
137.5°	133.8	142.3	152.4	163.5	175.6	190.1	207.3	226.2	246.4	266.0	283.2
140°	137.2	145.6	155.4	165.5	177.0	189.8	204.3	220.1	237.3	253.5	268.0
142.5°	140.6	148.3	157.8	167.6	178.0	189.1	201.6	214.4	228.6	242.1	254.2
145°	143.3	151.0	159.8	168.9	178.3	188.5	199.2	210.0	221.2	231.9	241.7
147.5°	146.6	153.4	161.5	169.9	178.3	187.4	196.9	206.3	215.4	224.5	231.6
150°	149.3	155.4	163.2	170.2	178.3	186.1	194.5	202.3	210.0	217.1	223.5
152.5°	152.0	157.8	164.2	170.9	177.3	184.4	191.8	198.6	205.0	211.0	216.1
155°	155.1	159.8	165.5	170.9	176.7	182.4	189.1	194.9	200.3	205.3	209.4
157.5°	157.8	161.5	166.2	171.3	175.6	180.7	186.1	190.8	195.5	199.6	202.9
160°	159.8	163.2	167.2	171.3	175.0	178.7	183.1	187.4	191.2	194.5	196.9
162.5°	161.5	164.2	167.6	170.9	173.6	176.7	180.0	183.4	186.4	189.5	191.5
165°	162.8	165.2	167.9	170.2	172.3	174.6	177.3	180.0	182.0	184.4	186.1
167.5°	164.2	165.9	167.9	169.9	170.9	172.6	174.6	177.0	178.7	180.0	181.4
170°	165.2	165.9	167.6	168.9	169.6	170.6	172.3	174.0	175.0	176.3	177.0
172.5°	165.9	166.2	167.6	168.6	168.6	168.9	169.9	171.3	171.9	172.9	173.3
175°	166.2	166.5	167.2	167.9	167.6	167.6	168.2	168.9	169.2	169.9	169.9
177.5°	166.5	166.5	166.9	167.6	166.9	166.5	166.9	167.2	167.6	167.9	167.9
180°	166.5	166.5	166.5	166.5	166.5	166.5	166.5	166.5	166.5	166.5	166.5



TEST NUMBER: P831980

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	3575.4	3575.4	3575.4	3575.4
2.5°	3176.7	3169.3	3166.4	3163.5
5°	2722.9	2700.2	2695.1	2690.0
7.5°	2337.4	2327.9	2296.4	2264.8
10°	2024.4	1995.1	1981.9	1968.7
12.5°	1762.8	1735.7	1731.3	1726.9
15°	1559.7	1540.7	1534.1	1527.5
17.5°	1426.3	1413.1	1405.1	1397.0
20°	1327.4	1317.9	1312.0	1306.1
22.5°	1251.9	1244.6	1240.2	1235.8
25°	1179.3	1168.3	1164.7	1161.0
27.5°	1110.4	1100.9	1097.2	1093.6
30°	1045.9	1037.9	1032.7	1027.6
32.5°	975.6	966.0	963.1	960.2
35°	913.3	907.4	904.5	901.5
37.5°	847.3	840.0	835.6	831.2
40°	790.9	787.2	785.0	782.8
42.5°	733.7	727.1	726.4	725.6
45°	676.5	669.9	668.5	667.0
47.5°	623.0	617.2	616.4	615.7
50°	563.6	555.6	549.7	543.9
52.5°	495.5	488.2	483.0	477.9
55°	433.2	425.1	420.7	416.3
57.5°	386.3	382.6	380.4	378.2
60°	348.2	346.0	344.5	343.0
62.5°	313.0	310.8	310.8	310.8
65°	280.7	278.5	276.3	274.1
67.5°	238.9	234.5	233.8	233.1
70°	188.4	181.8	181.0	180.3
72.5°	147.3	146.6	145.1	143.7
75°	121.7	120.2	120.2	120.2
77.5°	98.2	96.8	96.8	96.8
80°	75.5	74.8	75.5	76.2
82.5°	55.7	55.7	55.0	54.2
85°	35.9	35.2	35.2	35.2
87.5°	17.6	17.6	17.6	17.6
90°	9.4	9.8	10.1	9.8
92.5°	19.6	18.2	18.5	17.9
95°	45.8	42.8	40.5	39.1
97.5°	104.8	92.0	83.9	80.2
100°	248.8	224.2	211.0	211.4
102.5°	373.2	355.0	344.5	334.8
105°	454.1	441.3	430.5	428.8
107.5°	504.3	498.3	493.9	490.2
110°	523.9	526.6	525.9	525.2



TEST NUMBER: P831980

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	518.8	528.6	532.0	532.3
115°	498.3	513.1	519.8	521.5
117.5°	468.9	485.5	495.6	497.9
120°	437.9	456.8	464.9	466.9
122.5°	409.6	426.1	435.2	437.9
125°	385.7	400.5	408.9	411.3
127.5°	365.8	378.6	386.3	388.4
130°	347.6	359.7	366.8	369.5
132.5°	331.1	343.2	349.3	350.9
135°	314.9	325.0	331.1	333.4
137.5°	297.3	307.8	312.9	314.9
140°	280.8	290.3	295.7	295.3
142.5°	264.6	272.7	277.5	277.1
145°	250.1	257.2	259.9	260.6
147.5°	238.3	243.4	246.1	246.4
150°	228.6	232.3	234.3	234.3
152.5°	219.8	223.2	224.2	224.2
155°	212.4	215.1	215.8	216.1
157.5°	205.6	207.7	208.3	208.3
160°	199.2	201.3	201.3	200.9
162.5°	192.8	194.5	194.5	194.2
165°	187.4	188.8	188.5	188.5
167.5°	182.0	183.1	182.7	182.7
170°	177.3	178.0	177.7	177.7
172.5°	173.3	174.0	173.3	172.9
175°	169.9	170.2	169.9	169.6
177.5°	167.6	167.9	167.2	167.2
180°	166.5	166.5	166.5	166.5

TEST NUMBER: P831980

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-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	15.84	16.94	16.51	17.62	18.40	20.50	21.60	21.17	22.28	23.07
	3H	17.08	18.06	17.76	18.75	19.57	22.02	23.00	22.71	23.69	24.52
	4H	17.47	18.40	18.18	19.10	19.93	22.52	23.45	23.23	24.15	24.98
	6H	17.77	18.62	18.48	19.33	20.18	22.85	23.70	23.56	24.41	25.26
	8H	17.86	18.67	18.59	19.40	20.25	22.93	23.74	23.66	24.47	25.32
	12H	17.92	18.69	18.65	19.42	20.29	22.97	23.74	23.71	24.47	25.35
4H	2H	16.59	17.52	17.30	18.22	19.05	20.53	21.45	21.24	22.15	22.99
	3H	17.98	18.75	18.70	19.49	20.34	22.21	22.97	22.93	23.71	24.57
	4H	18.45	19.14	19.18	19.88	20.77	22.83	23.52	23.56	24.26	25.14
	6H	18.83	19.43	19.59	20.19	21.09	23.28	23.87	24.03	24.64	25.53
	8H	18.96	19.52	19.72	20.28	21.18	23.41	23.97	24.17	24.73	25.64
	12H	19.05	19.55	19.83	20.33	21.24	23.49	23.99	24.26	24.77	25.68
8H	4H	18.78	19.34	19.54	20.10	21.00	22.81	23.37	23.57	24.13	25.03
	6H	19.26	19.71	20.04	20.52	21.43	23.32	23.78	24.10	24.58	25.49
	8H	19.45	19.86	20.25	20.66	21.58	23.50	23.91	24.30	24.72	25.64
	12H	19.60	19.96	20.40	20.75	21.74	23.63	23.99	24.43	24.78	25.77
12H	4H	18.81	19.30	19.58	20.09	21.00	22.77	23.27	23.55	24.06	24.97
	6H	19.31	19.72	20.11	20.53	21.45	23.29	23.70	24.09	24.50	25.43
	8H	19.54	19.90	20.34	20.70	21.68	23.50	23.85	24.30	24.65	25.63