

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: P831918

Luminaire Tested: S123RDIP-S1165D1025U935-4F0-1E-UDD-G

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831918  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDIP-S1165D1025U935-4F0-1E-UDD-G  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 1025 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: -

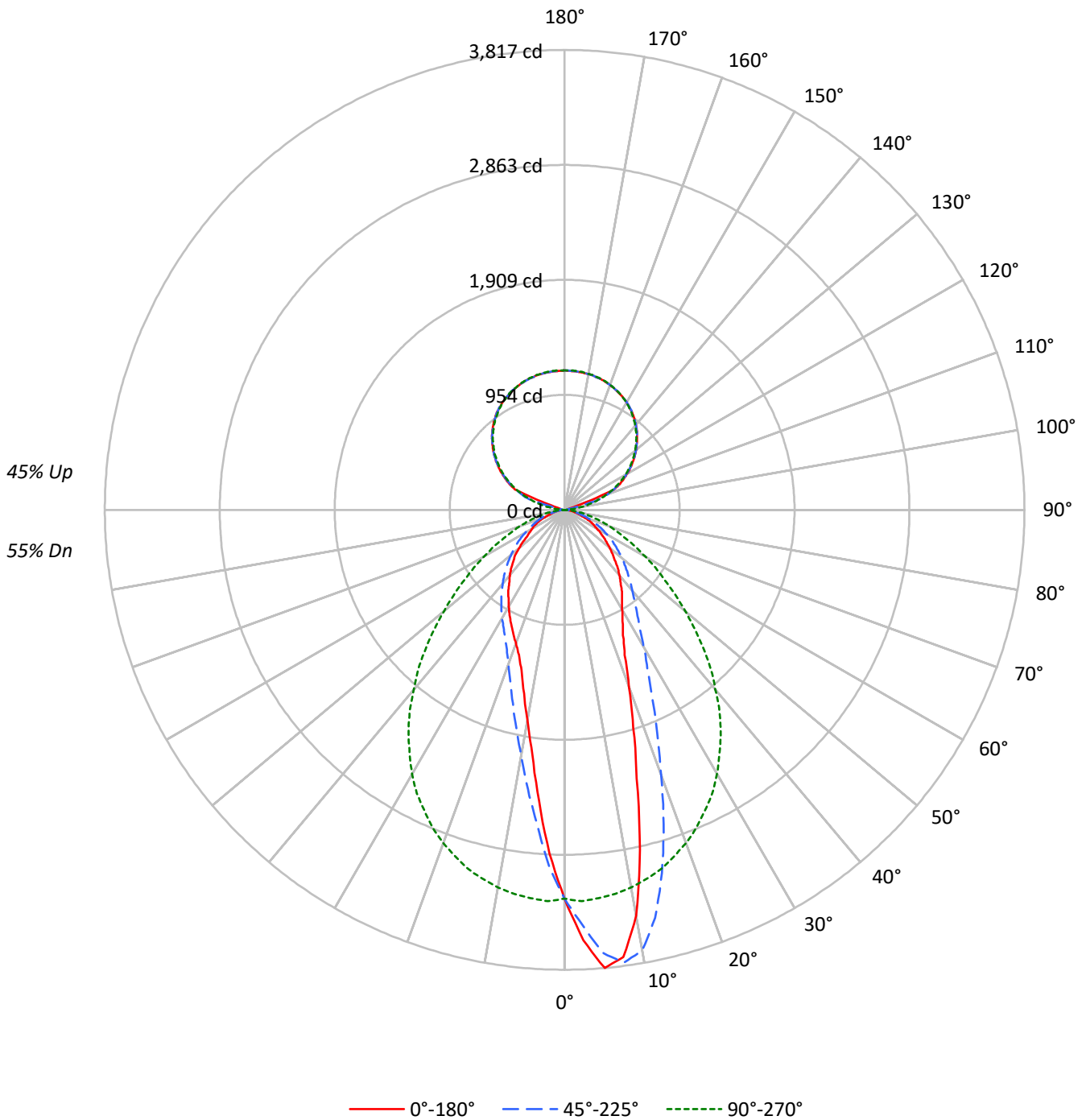
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7806.9 lumens  
Efficiency: N/A  
Efficacy: 114.6 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: 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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55				55
1	100	96	92	89	93	89	86	83	77	74	72	65	64	62	55	54	53				48	
2	92	85	79	74	85	79	74	70	68	65	61	59	56	54	49	48	46				42	
3	84	75	68	63	78	70	64	60	61	57	53	53	49	46	45	42	40				36	
4	78	67	60	54	72	63	57	51	55	50	46	48	44	41	41	38	36				32	
5	72	61	53	47	67	57	50	45	50	45	41	43	39	36	37	34	32				29	
6	66	55	47	42	62	52	45	40	46	40	36	40	36	32	34	31	29				26	
7	62	50	43	37	58	47	40	36	42	36	32	37	32	29	32	28	26				24	
8	58	46	39	33	54	43	37	32	38	33	29	34	30	26	29	26	24				22	
9	54	42	35	30	50	40	33	29	36	30	27	31	27	24	28	24	22				20	
10	51	39	32	28	47	37	31	26	33	28	24	29	25	22	26	23	20				18	

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

	0°	45°	90°	135°	180°
0°	34733	34733	34733	34733	34733
5°	41242	39927	34952	28254	26231
10°	37366	40555	34777	22638	19420
15°	25727	34771	34410	18503	15363
20°	17898	26771	33719	15601	13503
25°	13639	20403	32714	13867	12444
30°	11872	16312	31457	12875	11527
35°	10900	13761	29676	12039	10692
40°	9946	12288	27347	11219	9927
45°	8983	11237	24832	10443	9164
50°	8153	10369	21867	9682	8219
55°	7373	9522	19018	8938	7051
60°	6607	8658	16518	8118	6665
65°	6100	7682	14220	7294	6301
70°	4954	6641	12409	6600	5120
75°	4346	5282	10509	5473	4512
80°	3936	4469	8610	4593	4265
85°	3594	3927	6533	4162	3927

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 26201 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	294.1	3.8
10°-20°	680.6	8.7
20°-30°	780.9	10.0
30°-40°	769.7	9.9
40°-50°	678.8	8.7
50°-60°	522.2	6.7
60°-70°	343.3	4.4
70°-80°	166.7	2.1
80°-90°	44.4	0.6
90°-100°	40.8	0.5
100°-110°	197.2	2.5
110°-120°	483.3	6.2
120°-130°	613.5	7.9
130°-140°	655.4	8.4
140°-150°	612.9	7.9
150°-160°	494.3	6.3
160°-170°	319.0	4.1
170°-180°	109.9	1.4
0°-30°	1755.6	22.5
0°-40°	2525.3	32.3
0°-60°	3726.2	47.7
0°-90°	4280.6	54.8
90°-120°	721.2	9.2
90°-150°	2603.0	33.3
90°-180°	3526.0	45.2
0°-180°	7806.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	3227	3227	3227	3227	3227	
5°	3817	3695	3235	2615	2428	349
15°	2309	3120	3088	1660	1379	652
25°	1148	1718	2754	1168	1048	542
35°	830	1047	2258	916	814	517
45°	590	738	1631	686	602	458
55°	393	507	1013	476	376	352
65°	240	302	558	286	247	235
75°	104	127	253	132	108	112
85°	29	32	53	34	32	31
90°	26	21	1	21	26	13
95°	33	27	52	27	33	27
105°	38	188	256	188	38	79
115°	505	493	480	493	505	475
125°	691	688	677	688	691	617
135°	852	852	843	852	852	657
145°	982	981	973	981	982	613
155°	1070	1071	1072	1071	1070	494
165°	1128	1127	1130	1127	1128	319
175°	1152	1153	1157	1153	1152	110
180°	1157	1157	1157	1157	1157	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8
2.5°	3576.1	3564.9	3553.6	3550.3	3547.0	3536.4	3525.8	3502.0	3478.2	3453.7	3429.3
5°	3816.9	3818.2	3819.5	3816.2	3812.9	3799.0	3785.1	3756.0	3726.9	3695.2	3663.4
7.5°	3742.8	3764.0	3785.1	3789.1	3793.1	3803.7	3814.2	3807.6	3801.0	3789.1	3777.2
10°	3418.7	3417.3	3416.0	3439.8	3463.6	3534.4	3605.2	3641.6	3678.0	3710.4	3742.8
12.5°	2889.5	2891.4	2893.4	2971.5	3049.5	3116.4	3183.2	3275.8	3368.4	3468.3	3568.2
15°	2308.7	2341.1	2373.5	2442.9	2512.4	2613.0	2713.5	2837.9	2962.2	3120.3	3278.4
17.5°	1895.9	1909.8	1923.7	1990.5	2057.3	2152.5	2247.8	2388.7	2529.6	2733.3	2937.1
20°	1562.5	1575.0	1587.6	1635.9	1684.2	1775.5	1866.8	2001.1	2135.3	2337.1	2538.9
22.5°	1304.5	1329.0	1353.4	1385.9	1418.3	1484.4	1550.6	1687.5	1824.4	2008.3	2192.2
25°	1148.4	1159.6	1170.9	1198.6	1226.4	1289.9	1353.4	1444.1	1534.7	1717.9	1901.2
27.5°	1042.5	1045.8	1049.1	1069.7	1090.2	1131.2	1172.2	1256.2	1340.2	1491.0	1641.9
30°	955.2	961.2	967.1	983.0	998.9	1028.6	1058.4	1117.9	1177.5	1312.4	1447.4
32.5°	887.7	891.0	894.4	907.6	920.8	942.6	964.5	1011.4	1058.4	1161.6	1264.8
35°	829.5	830.2	830.9	840.8	850.7	871.9	893.0	932.1	971.1	1047.2	1123.2
37.5°	763.4	768.0	772.6	779.9	787.2	805.7	824.2	856.0	887.7	950.6	1013.4
40°	707.8	711.8	715.8	724.3	732.9	747.5	762.1	791.2	820.3	874.5	928.8
42.5°	652.2	654.9	657.5	666.1	674.7	692.6	710.5	733.6	756.8	801.7	846.7
45°	590.1	596.7	603.3	612.6	621.8	637.0	652.2	676.1	699.9	738.2	776.6
47.5°	538.5	541.8	545.1	553.0	561.0	579.5	598.0	619.2	640.3	676.1	711.8
50°	486.9	488.2	489.5	496.8	504.1	520.6	537.1	561.6	586.1	619.2	652.2
52.5°	437.9	441.2	444.5	451.8	459.1	470.3	481.6	506.7	531.9	564.3	596.7
55°	392.9	394.9	396.9	402.2	407.5	420.7	433.9	455.8	477.6	507.4	537.1
57.5°	350.6	353.2	355.9	359.9	363.8	375.7	387.6	406.8	426.0	455.8	485.5
60°	306.9	310.2	313.6	318.2	322.8	332.1	341.3	358.5	375.7	402.2	428.7
62.5°	275.2	275.8	276.5	280.5	284.4	291.1	297.7	311.6	325.5	351.9	378.4
65°	239.5	241.4	243.4	245.4	247.4	252.7	258.0	269.9	281.8	301.6	321.5
67.5°	202.4	204.4	206.4	209.7	213.0	217.6	222.3	230.2	238.1	256.7	275.2
70°	157.4	157.4	157.4	162.7	168.0	176.0	183.9	189.9	195.8	211.0	226.2
72.5°	128.3	129.0	129.7	130.3	131.0	135.6	140.2	150.2	160.1	169.3	178.6
75°	104.5	105.2	105.8	106.5	107.2	108.5	109.8	113.1	116.4	127.0	137.6
77.5°	83.3	84.0	84.7	85.3	86.0	87.3	88.6	90.0	91.3	95.3	99.2
80°	63.5	64.2	64.8	65.5	66.2	66.8	67.5	68.8	70.1	72.1	74.1
82.5°	46.3	46.3	46.3	46.3	46.3	47.6	49.0	49.0	49.0	50.3	51.6
85°	29.1	29.1	29.1	29.8	30.4	30.4	30.4	31.1	31.8	31.8	31.8
87.5°	13.2	12.6	11.9	12.6	13.2	13.2	13.2	13.9	14.6	14.6	14.6
90°	25.8	25.4	25.0	24.6	24.3	23.7	22.9	22.2	21.4	20.6	18.1
92.5°	29.2	29.0	28.8	28.6	28.5	27.7	26.4	25.0	23.7	22.3	20.6
95°	32.7	32.7	32.7	32.7	32.7	32.0	30.7	29.3	28.0	26.6	24.5
97.5°	35.2	35.0	34.9	34.7	34.5	33.6	32.1	30.6	29.0	27.5	37.2
100°	36.1	35.9	35.7	35.5	35.3	34.5	32.9	31.4	29.9	28.4	58.2
102.5°	37.0	36.6	36.2	35.8	35.4	38.4	44.7	51.0	57.3	63.6	96.8
105°	37.8	37.4	37.0	36.7	36.3	53.0	86.8	120.6	154.4	188.2	205.4
107.5°	89.4	114.4	139.4	164.4	189.5	216.7	246.1	275.5	304.9	334.3	331.4
110°	236.3	263.6	291.0	318.3	345.6	362.4	368.7	375.0	381.3	387.6	385.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	447.7	448.1	448.5	448.9	449.3	448.6	446.9	445.2	443.5	441.7	439.6
115°	505.3	504.6	503.8	503.0	502.3	500.9	499.0	497.1	495.2	493.3	491.6
117.5°	551.7	551.5	551.4	551.2	551.0	550.1	548.6	547.1	545.5	544.0	543.0
120°	599.9	599.9	599.9	599.9	599.9	599.1	597.6	596.0	594.5	593.0	592.4
122.5°	647.1	646.9	646.7	646.6	646.4	645.8	644.8	643.9	642.9	642.0	641.2
125°	691.0	690.6	690.2	689.8	689.4	689.0	688.7	688.3	687.9	687.5	686.8
127.5°	733.9	734.3	734.7	735.1	735.5	735.4	734.8	734.2	733.6	733.1	732.1
130°	775.2	775.6	775.9	776.3	776.7	776.5	775.8	775.0	774.2	773.5	772.7
132.5°	813.0	813.6	814.1	814.7	815.3	815.2	814.4	813.7	812.9	812.1	811.6
135°	851.7	852.2	852.8	853.4	854.0	854.0	853.4	852.8	852.2	851.7	850.9
137.5°	888.6	889.0	889.4	889.8	890.1	889.9	888.9	888.0	887.0	886.0	885.7
140°	921.3	921.7	922.0	922.4	922.8	922.6	921.9	921.1	920.3	919.6	919.0
142.5°	951.4	951.9	952.5	953.1	953.6	953.6	953.1	952.5	951.9	951.4	950.8
145°	982.3	982.3	982.3	982.3	982.3	982.1	981.7	981.3	981.0	980.6	980.2
147.5°	1004.6	1005.6	1006.6	1007.5	1008.5	1008.7	1008.4	1008.0	1007.6	1007.2	1006.8
150°	1030.4	1031.0	1031.6	1032.1	1032.7	1032.8	1032.4	1032.0	1031.7	1031.3	1030.9
152.5°	1051.0	1052.0	1053.0	1053.9	1054.9	1055.0	1054.2	1053.4	1052.7	1051.9	1051.7
155°	1070.0	1071.1	1072.2	1073.4	1074.5	1074.6	1073.7	1072.7	1071.8	1070.8	1070.6
157.5°	1086.3	1087.8	1089.3	1090.9	1092.4	1092.6	1091.4	1090.3	1089.1	1088.0	1088.2
160°	1101.8	1103.1	1104.4	1105.8	1107.1	1107.2	1106.1	1104.9	1103.8	1102.6	1102.8
162.5°	1116.4	1117.5	1118.7	1119.8	1120.9	1120.9	1119.5	1118.2	1116.8	1115.5	1115.7
165°	1127.5	1128.9	1130.2	1131.5	1132.9	1132.8	1131.3	1129.7	1128.2	1126.7	1126.9
167.5°	1136.1	1137.7	1139.2	1140.7	1142.2	1142.2	1140.7	1139.2	1137.7	1136.1	1136.1
170°	1143.9	1145.4	1146.9	1148.4	1150.0	1150.0	1148.4	1146.9	1145.4	1143.9	1143.9
172.5°	1148.2	1149.9	1151.6	1153.3	1155.0	1155.1	1153.6	1152.1	1150.5	1149.0	1148.8
175°	1152.5	1154.0	1155.5	1157.0	1158.6	1158.7	1157.3	1156.0	1154.7	1153.3	1153.1
177.5°	1153.3	1155.2	1157.1	1159.0	1161.0	1161.1	1159.6	1158.1	1156.6	1155.0	1154.8
180°	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8
2.5°	3425.9	3422.6	3390.9	3359.1	3328.0	3296.9	3273.8	3250.6	3211.6	3172.6	3148.1
5°	3638.3	3613.1	3562.9	3512.6	3437.2	3361.8	3298.3	3234.8	3154.1	3073.4	3005.9
7.5°	3756.7	3736.2	3675.3	3614.5	3514.6	3414.7	3315.5	3216.2	3097.2	2978.1	2876.2
10°	3760.0	3777.2	3726.9	3676.7	3564.2	3451.7	3316.8	3181.8	3021.8	2861.7	2730.0
12.5°	3642.3	3716.3	3705.8	3695.2	3580.7	3466.3	3302.2	3138.2	2941.7	2745.3	2580.5
15°	3422.0	3565.5	3607.9	3650.2	3555.6	3461.0	3274.5	3087.9	2857.0	2626.2	2437.0
17.5°	3138.2	3339.3	3451.1	3562.9	3494.1	3425.3	3220.9	3016.5	2756.5	2496.5	2290.8
20°	2802.1	3065.4	3240.7	3416.0	3390.9	3365.7	3154.7	2943.7	2663.2	2382.7	2159.8
22.5°	2470.1	2747.9	2990.0	3232.1	3257.9	3283.7	3070.7	2857.7	2550.8	2243.8	2016.9
25°	2183.6	2466.1	2754.5	3042.9	3101.1	3159.4	2956.9	2754.5	2436.3	2118.1	1892.6
27.5°	1910.4	2179.0	2496.5	2814.0	2919.9	3025.7	2840.5	2655.3	2323.9	1992.5	1767.5
30°	1687.5	1927.6	2251.8	2575.9	2723.4	2870.9	2700.9	2530.9	2202.2	1873.4	1653.1
32.5°	1479.8	1694.8	2020.2	2345.7	2517.0	2688.4	2541.5	2394.7	2078.5	1762.3	1544.6
35°	1315.7	1508.2	1811.9	2115.5	2307.3	2499.2	2378.8	2258.4	1949.5	1640.5	1434.8
37.5°	1174.8	1336.2	1621.4	1906.5	2110.2	2314.0	2213.4	2112.9	1822.5	1532.0	1337.6
40°	1058.4	1188.1	1453.3	1718.6	1918.4	2118.1	2032.1	1946.2	1686.2	1426.2	1244.3
42.5°	958.5	1070.3	1308.5	1546.6	1729.8	1913.1	1856.2	1799.3	1563.8	1328.3	1159.6
45°	870.5	964.5	1174.2	1383.9	1552.6	1721.2	1676.3	1631.3	1428.2	1225.1	1070.3
47.5°	792.5	873.2	1060.4	1247.6	1399.1	1550.6	1508.9	1467.2	1299.2	1131.2	990.3
50°	721.0	789.8	946.0	1102.1	1238.3	1374.6	1340.2	1305.8	1166.9	1028.0	906.3
52.5°	653.6	710.5	850.7	990.9	1100.7	1210.6	1184.1	1157.6	1050.5	943.3	832.8
55°	589.4	641.7	760.1	878.5	972.4	1066.3	1039.9	1013.4	930.1	846.7	749.5
57.5°	531.2	576.8	672.8	768.7	843.4	918.2	905.6	893.0	823.6	754.1	674.1
60°	469.7	510.7	593.4	676.1	736.3	796.5	781.9	767.3	717.7	668.1	599.3
62.5°	414.8	451.1	517.3	583.4	632.4	681.4	670.8	660.2	622.5	584.8	527.9
65°	357.2	392.9	446.5	500.1	538.5	576.8	567.6	558.3	529.9	501.4	455.8
67.5°	305.0	334.7	381.0	427.3	453.1	478.9	473.6	468.3	446.5	424.7	389.0
70°	252.0	277.8	316.2	354.6	372.4	390.3	392.3	394.3	374.4	354.6	328.1
72.5°	199.1	219.6	255.3	291.1	305.0	318.8	318.2	317.5	305.6	293.7	269.9
75°	152.8	168.0	195.8	223.6	235.5	247.4	250.0	252.7	241.4	230.2	217.0
77.5°	109.8	120.4	141.6	162.7	176.0	189.2	190.5	191.8	186.5	181.3	168.7
80°	77.4	80.7	93.9	107.2	121.1	134.9	136.9	138.9	133.6	128.3	120.4
82.5°	53.6	55.6	60.2	64.8	76.1	87.3	90.0	92.6	90.0	87.3	78.7
85°	32.4	33.1	35.1	37.0	42.3	47.6	50.3	52.9	51.6	50.3	45.6
87.5°	14.6	14.6	15.2	15.9	17.2	18.5	21.8	25.1	23.2	21.2	19.2
90°	15.7	13.2	10.7	8.5	6.6	4.7	2.8	0.9	2.8	4.7	6.6
92.5°	18.9	17.2	15.5	15.2	16.3	17.5	18.6	19.8	18.6	17.5	16.3
95°	22.4	20.3	18.2	21.1	28.9	36.8	44.6	52.4	44.6	36.8	28.9
97.5°	47.0	56.7	66.5	74.0	79.4	84.7	90.0	95.4	90.0	84.7	79.4
100°	87.9	117.7	147.5	160.5	156.7	152.9	149.1	145.2	149.1	152.9	156.7
102.5°	130.1	163.3	196.5	211.9	209.4	206.9	204.4	202.0	204.4	206.9	209.4
105°	222.6	239.8	257.0	264.5	262.4	260.3	258.2	256.1	258.2	260.3	262.4
107.5°	328.6	325.7	322.8	320.6	318.8	317.1	315.4	313.7	315.4	317.1	318.8
110°	383.4	381.3	379.2	377.4	375.8	374.3	372.8	371.3	372.8	374.3	375.8





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CATALOG NUMBER: S123RDIP-S1165D1025U935-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	437.5	435.4	433.3	431.6	430.3	428.9	427.6	426.3	427.6	428.9	430.3
115°	489.9	488.1	486.4	485.0	483.8	482.7	481.6	480.4	481.6	482.7	483.8
117.5°	542.1	541.1	540.2	539.0	537.7	536.4	535.0	533.7	535.0	536.4	537.7
120°	591.8	591.3	590.7	589.5	587.8	586.1	584.4	582.7	584.4	586.1	587.8
122.5°	640.4	639.7	638.9	637.9	636.5	635.2	633.9	632.5	633.9	635.2	636.5
125°	686.0	685.2	684.5	683.3	681.8	680.3	678.7	677.2	678.7	680.3	681.8
127.5°	731.2	730.2	729.3	728.0	726.5	725.0	723.4	721.9	723.4	725.0	726.5
130°	771.9	771.2	770.4	769.3	767.7	766.2	764.7	763.1	764.7	766.2	767.7
132.5°	811.0	810.4	809.8	808.8	807.3	805.7	804.2	802.7	804.2	805.7	807.3
135°	850.1	849.4	848.6	847.7	846.5	845.4	844.2	843.1	844.2	845.4	846.5
137.5°	885.3	884.9	884.5	883.6	882.0	880.5	879.0	877.4	879.0	880.5	882.0
140°	918.4	917.8	917.3	916.4	915.3	914.1	913.0	911.8	913.0	914.1	915.3
142.5°	950.2	949.6	949.1	948.2	947.1	945.9	944.8	943.6	944.8	945.9	947.1
145°	979.8	979.4	979.1	978.2	976.9	975.5	974.2	972.8	974.2	975.5	976.9
147.5°	1006.5	1006.1	1005.7	1005.0	1004.1	1003.1	1002.2	1001.2	1002.2	1003.1	1004.1
150°	1030.5	1030.1	1029.8	1029.3	1028.7	1028.1	1027.6	1027.0	1027.6	1028.1	1028.7
152.5°	1051.5	1051.3	1051.1	1051.0	1050.8	1050.6	1050.4	1050.2	1050.4	1050.6	1050.8
155°	1070.4	1070.2	1070.1	1070.1	1070.5	1070.9	1071.3	1071.7	1071.3	1070.9	1070.5
157.5°	1088.4	1088.6	1088.8	1088.9	1088.9	1088.9	1088.9	1088.9	1088.9	1088.9	1088.9
160°	1103.0	1103.2	1103.4	1103.6	1103.8	1103.9	1104.1	1104.3	1104.1	1103.9	1103.8
162.5°	1115.9	1116.1	1116.3	1116.6	1117.2	1117.8	1118.4	1118.9	1118.4	1117.8	1117.2
165°	1127.1	1127.2	1127.4	1127.8	1128.4	1129.0	1129.5	1130.1	1129.5	1129.0	1128.4
167.5°	1136.1	1136.1	1136.1	1136.5	1137.3	1138.0	1138.8	1139.6	1138.8	1138.0	1137.3
170°	1143.9	1143.9	1143.9	1144.2	1145.0	1145.8	1146.5	1147.3	1146.5	1145.8	1145.0
172.5°	1148.6	1148.4	1148.3	1148.6	1149.6	1150.5	1151.5	1152.5	1151.5	1150.5	1149.6
175°	1152.9	1152.7	1152.6	1152.9	1153.9	1154.8	1155.8	1156.8	1155.8	1154.8	1153.9
177.5°	1154.7	1154.5	1154.3	1154.7	1155.6	1156.6	1157.5	1158.5	1157.5	1156.6	1155.6
180°	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8



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**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8
2.5°	3123.6	3085.9	3048.2	3021.1	2994.0	2960.2	2926.5	2925.2	2923.9	2898.7	2873.6
5°	2938.4	2872.9	2807.4	2743.3	2679.1	2614.9	2550.8	2536.2	2521.7	2499.8	2478.0
7.5°	2774.4	2669.8	2565.3	2483.3	2401.3	2337.1	2272.9	2229.3	2185.6	2151.9	2118.1
10°	2598.4	2468.7	2339.1	2239.9	2140.6	2071.2	2001.7	1951.4	1901.2	1877.4	1853.5
12.5°	2415.8	2274.9	2134.0	2036.8	1939.5	1856.2	1772.8	1727.2	1681.5	1648.5	1615.4
15°	2247.8	2096.3	1944.8	1841.6	1738.4	1660.4	1582.3	1536.7	1491.0	1458.0	1424.9
17.5°	2085.1	1932.3	1779.5	1674.9	1570.4	1499.6	1428.9	1384.5	1340.2	1319.7	1299.2
20°	1936.9	1782.8	1628.6	1530.1	1431.5	1362.0	1292.6	1268.8	1245.0	1225.8	1206.6
22.5°	1790.0	1641.9	1493.7	1399.1	1304.5	1254.2	1203.9	1184.8	1165.6	1151.0	1136.5
25°	1667.0	1519.5	1372.0	1289.3	1206.6	1167.6	1128.5	1116.0	1103.4	1088.8	1074.3
27.5°	1542.6	1402.4	1262.2	1196.0	1129.9	1098.1	1066.3	1050.5	1034.6	1022.7	1010.8
30°	1432.8	1303.2	1173.5	1118.6	1063.7	1035.9	1008.1	990.9	973.7	962.5	951.2
32.5°	1327.0	1211.9	1096.8	1049.8	1002.8	975.7	948.6	932.1	915.5	902.3	889.1
35°	1229.1	1129.2	1029.3	986.3	943.3	916.2	889.1	872.5	856.0	842.8	829.5
37.5°	1143.1	1052.5	961.8	921.5	881.1	857.3	833.5	816.3	799.1	785.2	771.3
40°	1062.4	982.3	902.3	863.3	824.2	798.4	772.6	757.4	742.2	729.6	717.1
42.5°	990.9	917.5	844.1	805.7	767.3	742.9	718.4	700.5	682.7	675.4	668.1
45°	915.5	850.7	785.9	748.8	711.8	686.0	660.2	645.0	629.8	623.1	616.5
47.5°	849.4	789.2	729.0	692.6	656.2	633.1	609.9	598.0	586.1	576.8	567.6
50°	784.5	726.3	668.1	633.1	598.0	578.2	558.3	543.8	529.2	522.6	516.0
52.5°	722.4	669.4	616.5	580.8	545.1	525.9	506.7	494.1	481.6	467.7	453.8
55°	652.2	605.9	559.6	527.9	496.1	476.3	456.4	441.9	427.3	412.8	398.2
57.5°	594.0	548.4	502.7	474.3	445.9	426.7	407.5	391.6	375.7	363.8	351.9
60°	530.5	490.8	451.1	423.4	395.6	377.1	358.5	343.3	328.1	322.2	316.2
62.5°	471.0	433.9	396.9	372.4	348.0	330.1	312.2	302.3	292.4	288.4	284.4
65°	410.1	378.4	346.6	324.1	301.6	286.4	271.2	266.6	262.0	258.6	255.3
67.5°	353.2	326.1	299.0	279.2	259.3	248.7	238.1	232.9	227.6	223.6	219.6
70°	301.6	277.8	254.0	236.8	219.6	209.7	199.8	195.1	190.5	183.2	176.0
72.5°	246.1	227.6	209.0	195.8	182.6	174.0	165.4	156.1	146.9	140.2	133.6
75°	203.7	185.2	166.7	154.1	141.6	131.6	121.7	118.4	115.1	113.1	111.1
77.5°	156.1	140.2	124.4	114.4	104.5	99.9	95.3	93.3	91.3	90.6	90.0
80°	112.5	99.2	86.0	80.7	75.4	74.1	72.8	71.4	70.1	69.5	68.8
82.5°	70.1	63.5	56.9	55.6	54.2	53.6	52.9	52.3	51.6	50.9	50.3
85°	41.0	38.4	35.7	35.1	34.4	33.7	33.1	33.1	33.1	33.1	33.1
87.5°	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	16.5	15.9
90°	8.5	10.7	13.2	15.7	18.1	20.6	21.4	22.2	22.9	23.7	24.3
92.5°	15.2	15.5	17.2	18.9	20.6	22.3	23.7	25.0	26.4	27.7	28.5
95°	21.1	18.2	20.3	22.4	24.5	26.6	28.0	29.3	30.7	32.0	32.7
97.5°	74.0	66.5	56.7	47.0	37.2	27.5	29.0	30.6	32.1	33.6	34.5
100°	160.5	147.5	117.7	87.9	58.2	28.4	29.9	31.4	32.9	34.5	35.3
102.5°	211.9	196.5	163.3	130.1	96.8	63.6	57.3	51.0	44.7	38.4	35.4
105°	264.5	257.0	239.8	222.6	205.4	188.2	154.4	120.6	86.8	53.0	36.3
107.5°	320.6	322.8	325.7	328.6	331.4	334.3	304.9	275.5	246.1	216.7	189.5
110°	377.4	379.2	381.3	383.4	385.5	387.6	381.3	375.0	368.7	362.4	345.6



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CATALOG NUMBER: S123RDIP-S1165D1025U935-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	431.6	433.3	435.4	437.5	439.6	441.7	443.5	445.2	446.9	448.6	449.3
115°	485.0	486.4	488.1	489.9	491.6	493.3	495.2	497.1	499.0	500.9	502.3
117.5°	539.0	540.2	541.1	542.1	543.0	544.0	545.5	547.1	548.6	550.1	551.0
120°	589.5	590.7	591.3	591.8	592.4	593.0	594.5	596.0	597.6	599.1	599.9
122.5°	637.9	638.9	639.7	640.4	641.2	642.0	642.9	643.9	644.8	645.8	646.4
125°	683.3	684.5	685.2	686.0	686.8	687.5	687.9	688.3	688.7	689.0	689.4
127.5°	728.0	729.3	730.2	731.2	732.1	733.1	733.6	734.2	734.8	735.4	735.5
130°	769.3	770.4	771.2	771.9	772.7	773.5	774.2	775.0	775.8	776.5	776.7
132.5°	808.8	809.8	810.4	811.0	811.6	812.1	812.9	813.7	814.4	815.2	815.3
135°	847.7	848.6	849.4	850.1	850.9	851.7	852.2	852.8	853.4	854.0	854.0
137.5°	883.6	884.5	884.9	885.3	885.7	886.0	887.0	888.0	888.9	889.9	890.1
140°	916.4	917.3	917.8	918.4	919.0	919.6	920.3	921.1	921.9	922.6	922.8
142.5°	948.2	949.1	949.6	950.2	950.8	951.4	951.9	952.5	953.1	953.6	953.6
145°	978.2	979.1	979.4	979.8	980.2	980.6	981.0	981.3	981.7	982.1	982.3
147.5°	1005.0	1005.7	1006.1	1006.5	1006.8	1007.2	1007.6	1008.0	1008.4	1008.7	1008.5
150°	1029.3	1029.8	1030.1	1030.5	1030.9	1031.3	1031.7	1032.0	1032.4	1032.8	1032.7
152.5°	1051.0	1051.1	1051.3	1051.5	1051.7	1051.9	1052.7	1053.4	1054.2	1055.0	1054.9
155°	1070.1	1070.1	1070.2	1070.4	1070.6	1070.8	1071.8	1072.7	1073.7	1074.6	1074.5
157.5°	1088.9	1088.8	1088.6	1088.4	1088.2	1088.0	1089.1	1090.3	1091.4	1092.6	1092.4
160°	1103.6	1103.4	1103.2	1103.0	1102.8	1102.6	1103.8	1104.9	1106.1	1107.2	1107.1
162.5°	1116.6	1116.3	1116.1	1115.9	1115.7	1115.5	1116.8	1118.2	1119.5	1120.9	1120.9
165°	1127.8	1127.4	1127.2	1127.1	1126.9	1126.7	1128.2	1129.7	1131.3	1132.8	1132.9
167.5°	1136.5	1136.1	1136.1	1136.1	1136.1	1136.1	1137.7	1139.2	1140.7	1142.2	1142.2
170°	1144.2	1143.9	1143.9	1143.9	1143.9	1143.9	1145.4	1146.9	1148.4	1150.0	1150.0
172.5°	1148.6	1148.3	1148.4	1148.6	1148.8	1149.0	1150.5	1152.1	1153.6	1155.1	1155.0
175°	1152.9	1152.6	1152.7	1152.9	1153.1	1153.3	1154.7	1156.0	1157.3	1158.7	1158.6
177.5°	1154.7	1154.3	1154.5	1154.7	1154.8	1155.0	1156.6	1158.1	1159.6	1161.1	1161.0
180°	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8



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**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	3226.8	3226.8	3226.8	3226.8
2.5°	2867.0	2860.4	2857.7	2855.1
5°	2457.5	2437.0	2432.4	2427.7
7.5°	2109.5	2100.9	2072.5	2044.1
10°	1827.1	1800.6	1788.7	1776.8
12.5°	1590.9	1566.4	1562.5	1558.5
15°	1407.7	1390.5	1384.5	1378.6
17.5°	1287.3	1275.4	1268.1	1260.8
20°	1198.0	1189.4	1184.1	1178.8
22.5°	1129.9	1123.2	1119.3	1115.3
25°	1064.4	1054.4	1051.1	1047.8
27.5°	1002.2	993.6	990.3	987.0
30°	944.0	936.7	932.1	927.4
32.5°	880.5	871.9	869.2	866.6
35°	824.2	818.9	816.3	813.7
37.5°	764.7	758.1	754.1	750.1
40°	713.8	710.5	708.5	706.5
42.5°	662.2	656.2	655.6	654.9
45°	610.6	604.6	603.3	602.0
47.5°	562.3	557.0	556.3	555.7
50°	508.7	501.4	496.1	490.8
52.5°	447.2	440.6	435.9	431.3
55°	391.0	383.7	379.7	375.7
57.5°	348.6	345.3	343.3	341.3
60°	314.2	312.2	310.9	309.6
62.5°	282.5	280.5	280.5	280.5
65°	253.4	251.4	249.4	247.4
67.5°	215.7	211.7	211.0	210.4
70°	170.0	164.1	163.4	162.7
72.5°	133.0	132.3	131.0	129.7
75°	109.8	108.5	108.5	108.5
77.5°	88.6	87.3	87.3	87.3
80°	68.1	67.5	68.1	68.8
82.5°	50.3	50.3	49.6	49.0
85°	32.4	31.8	31.8	31.8
87.5°	15.9	15.9	15.9	15.9
90°	24.6	25.0	25.4	25.8
92.5°	28.6	28.8	29.0	29.2
95°	32.7	32.7	32.7	32.7
97.5°	34.7	34.9	35.0	35.2
100°	35.5	35.7	35.9	36.1
102.5°	35.8	36.2	36.6	37.0
105°	36.7	37.0	37.4	37.8
107.5°	164.4	139.4	114.4	89.4
110°	318.3	291.0	263.6	236.3



TEST NUMBER: P831918

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**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	448.9	448.5	448.1	447.7
115°	503.0	503.8	504.6	505.3
117.5°	551.2	551.4	551.5	551.7
120°	599.9	599.9	599.9	599.9
122.5°	646.6	646.7	646.9	647.1
125°	689.8	690.2	690.6	691.0
127.5°	735.1	734.7	734.3	733.9
130°	776.3	775.9	775.6	775.2
132.5°	814.7	814.1	813.6	813.0
135°	853.4	852.8	852.2	851.7
137.5°	889.8	889.4	889.0	888.6
140°	922.4	922.0	921.7	921.3
142.5°	953.1	952.5	951.9	951.4
145°	982.3	982.3	982.3	982.3
147.5°	1007.5	1006.6	1005.6	1004.6
150°	1032.1	1031.6	1031.0	1030.4
152.5°	1053.9	1053.0	1052.0	1051.0
155°	1073.4	1072.2	1071.1	1070.0
157.5°	1090.9	1089.3	1087.8	1086.3
160°	1105.8	1104.4	1103.1	1101.8
162.5°	1119.8	1118.7	1117.5	1116.4
165°	1131.5	1130.2	1128.9	1127.5
167.5°	1140.7	1139.2	1137.7	1136.1
170°	1148.4	1146.9	1145.4	1143.9
172.5°	1153.3	1151.6	1149.9	1148.2
175°	1157.0	1155.5	1154.0	1152.5
177.5°	1159.0	1157.1	1155.2	1153.3
180°	1156.8	1156.8	1156.8	1156.8



TEST NUMBER: P831918

CATALOG NUMBER: S123RDIP-S1165D1025U935-4F0-1E-UDD-G

**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	13.52	14.36	14.44	15.30	16.50	18.18	19.03	19.11	19.96	21.17
	3H	14.74	15.49	15.68	16.44	17.67	19.68	20.44	20.62	21.38	22.61
	4H	15.12	15.83	16.07	16.78	18.02	20.17	20.88	21.12	21.83	23.07
	6H	15.40	16.06	16.37	17.01	18.27	20.48	21.14	21.45	22.10	23.35
	8H	15.49	16.11	16.46	17.09	18.33	20.56	21.19	21.53	22.16	23.41
	12H	15.54	16.14	16.52	17.10	18.37	20.59	21.19	21.57	22.15	23.43
4H	2H	14.24	14.95	15.20	15.90	17.14	18.18	18.89	19.14	19.84	21.08
	3H	15.61	16.20	16.58	17.18	18.44	19.84	20.43	20.80	21.41	22.66
	4H	16.07	16.61	17.04	17.58	18.86	20.44	20.98	21.42	21.96	23.23
	6H	16.44	16.90	17.42	17.90	19.17	20.88	21.35	21.87	22.34	23.62
	8H	16.56	16.99	17.55	17.98	19.27	21.01	21.45	22.00	22.44	23.73
	12H	16.64	17.03	17.64	18.03	19.33	21.08	21.47	22.08	22.47	23.77
8H	4H	16.38	16.81	17.37	17.81	19.09	20.41	20.84	21.40	21.83	23.12
	6H	16.85	17.20	17.86	18.24	19.52	20.91	21.26	21.92	22.30	23.59
	8H	17.04	17.35	18.06	18.37	19.68	21.09	21.41	22.12	22.43	23.73
	12H	17.18	17.46	18.21	18.47	19.82	21.21	21.49	22.24	22.50	23.85
12H	4H	16.39	16.78	17.40	17.79	19.08	20.36	20.75	21.37	21.76	23.05
	6H	16.90	17.22	17.93	18.24	19.55	20.88	21.20	21.91	22.22	23.52
	8H	17.12	17.40	18.15	18.41	19.77	21.08	21.35	22.10	22.37	23.72