

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: P831917

Luminaire Tested: S123RDIP-S1165D1025U930-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831917  
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-S1165D1025U930-4F0-1E-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: -

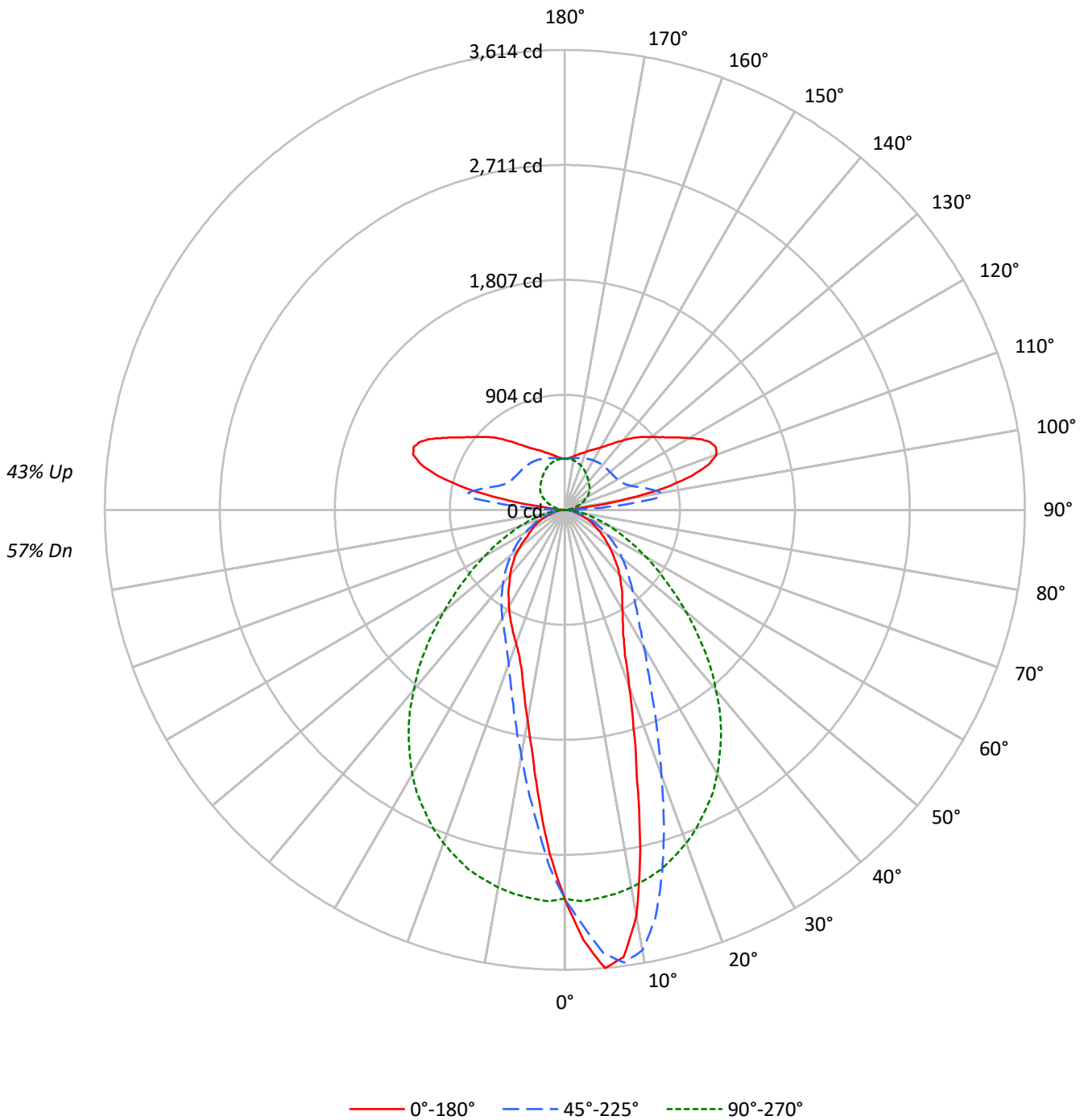
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7077.5 lumens  
Efficiency: N/A  
Efficacy: 103.9 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°	32890	32890	32890	32890	32890
5°	39053	37807	33097	26754	24840
10°	35382	38402	32932	21436	18390
15°	24361	32926	32584	17521	14547
20°	16947	25350	31930	14773	12786
25°	12915	19320	30978	13131	11784
30°	11242	15447	29788	12192	10915
35°	10322	13030	28101	11401	10125
40°	9417	11636	25895	10624	9400
45°	8505	10642	23514	9889	8677
50°	7720	9818	20706	9168	7783
55°	6983	9015	18008	8464	6677
60°	6256	8198	15642	7685	6312
65°	5777	7274	13466	6907	5968
70°	4692	6288	11748	6250	4850
75°	4117	5003	9952	5186	4271
80°	3725	4234	8151	4351	4035
85°	3409	3717	6187	3940	3717

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 24811 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	278.5	3.9
10°-20°	644.5	9.1
20°-30°	739.4	10.4
30°-40°	728.8	10.3
40°-50°	642.7	9.1
50°-60°	494.5	7.0
60°-70°	325.1	4.6
70°-80°	157.9	2.2
80°-90°	42.0	0.6
90°-100°	218.2	3.1
100°-110°	638.7	9.0
110°-120°	623.7	8.8
120°-130°	496.7	7.0
130°-140°	391.9	5.5
140°-150°	292.4	4.1
150°-160°	203.8	2.9
160°-170°	119.7	1.7
170°-180°	38.9	0.6
0°-30°	1662.4	23.5
0°-40°	2391.2	33.8
0°-60°	3528.4	49.9
0°-90°	4053.4	57.3
90°-120°	1480.6	20.9
90°-150°	2661.5	37.6
90°-180°	3024.0	42.7
0°-180°	7077.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	3056	3056	3056	3056	3056	
5°	3614	3499	3063	2476	2299	330
15°	2186	2955	2924	1572	1305	617
25°	1087	1627	2608	1106	992	514
35°	786	992	2138	868	770	490
45°	559	699	1545	650	570	434
55°	372	480	960	451	356	334
65°	227	286	529	271	234	222
75°	99	120	239	125	103	107
85°	28	30	50	32	30	29
90°	24	20	2	20	24	14
95°	94	483	28	483	94	153
105°	1035	654	94	654	1035	1033
115°	1259	500	167	500	1259	1228
125°	993	467	232	467	993	899
135°	805	461	272	461	805	624
145°	629	455	310	455	629	399
155°	522	440	352	440	522	243
165°	455	422	385	422	455	130
175°	409	404	401	404	409	40
180°	402	402	402	402	402	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6
2.5°	3386.3	3375.6	3365.0	3361.9	3358.7	3348.7	3338.7	3316.1	3293.6	3270.4	3247.2
5°	3614.3	3615.6	3616.8	3613.7	3610.5	3597.4	3584.2	3556.7	3529.1	3499.0	3469.0
7.5°	3544.1	3564.2	3584.2	3588.0	3591.8	3601.8	3611.8	3605.5	3599.3	3588.0	3576.7
10°	3237.2	3236.0	3234.7	3257.3	3279.8	3346.8	3413.9	3448.3	3482.8	3513.5	3544.1
12.5°	2736.1	2738.0	2739.9	2813.8	2887.7	2950.9	3014.2	3101.9	3189.6	3284.2	3378.8
15°	2186.1	2216.8	2247.5	2313.3	2379.1	2474.3	2569.5	2687.2	2805.0	2954.7	3104.4
17.5°	1795.2	1808.4	1821.6	1884.8	1948.1	2038.3	2128.5	2261.9	2395.3	2588.3	2781.2
20°	1479.5	1491.4	1503.3	1549.1	1594.8	1681.2	1767.7	1894.8	2022.0	2213.1	2404.1
22.5°	1235.3	1258.4	1281.6	1312.3	1343.0	1405.6	1468.3	1597.9	1727.6	1901.7	2075.9
25°	1087.4	1098.1	1108.7	1135.0	1161.3	1221.5	1281.6	1367.4	1453.2	1626.7	1800.3
27.5°	987.2	990.3	993.5	1012.9	1032.3	1071.1	1110.0	1189.5	1269.1	1411.9	1554.7
30°	904.5	910.2	915.8	930.8	945.9	974.0	1002.2	1058.6	1115.0	1242.8	1370.6
32.5°	840.6	843.8	846.9	859.4	871.9	892.6	913.3	957.8	1002.2	1100.0	1197.7
35°	785.5	786.1	786.8	796.1	805.5	825.6	845.6	882.6	919.5	991.6	1063.6
37.5°	722.9	727.2	731.6	738.5	745.4	762.9	780.5	810.6	840.6	900.1	959.6
40°	670.2	674.0	677.8	685.9	694.0	707.8	721.6	749.2	776.7	828.1	879.5
42.5°	617.6	620.1	622.6	630.8	638.9	655.8	672.7	694.7	716.6	759.2	801.8
45°	558.7	565.0	571.3	580.0	588.8	603.2	617.6	640.2	662.7	699.1	735.4
47.5°	509.9	513.0	516.1	523.7	531.2	548.7	566.3	586.3	606.4	640.2	674.0
50°	461.0	462.3	463.5	470.4	477.3	493.0	508.6	531.8	555.0	586.3	617.6
52.5°	414.7	417.8	420.9	427.8	434.7	445.4	456.0	479.8	503.6	534.3	565.0
55°	372.1	374.0	375.8	380.8	385.9	398.4	410.9	431.6	452.3	480.4	508.6
57.5°	332.0	334.5	337.0	340.8	344.5	355.8	367.1	385.2	403.4	431.6	459.8
60°	290.6	293.8	296.9	301.3	305.7	314.5	323.2	339.5	355.8	380.8	405.9
62.5°	260.6	261.2	261.8	265.6	269.4	275.6	281.9	295.0	308.2	333.2	358.3
65°	226.8	228.6	230.5	232.4	234.3	239.3	244.3	255.6	266.8	285.6	304.4
67.5°	191.7	193.6	195.4	198.6	201.7	206.1	210.5	218.0	225.5	243.0	260.6
70°	149.1	149.1	149.1	154.1	159.1	166.6	174.1	179.8	185.4	199.8	214.2
72.5°	121.5	122.1	122.8	123.4	124.0	128.4	132.8	142.2	151.6	160.4	169.1
75°	99.0	99.6	100.2	100.8	101.5	102.7	104.0	107.1	110.2	120.3	130.3
77.5°	78.9	79.6	80.2	80.8	81.4	82.7	83.9	85.2	86.4	90.2	94.0
80°	60.1	60.8	61.4	62.0	62.6	63.3	63.9	65.1	66.4	68.3	70.2
82.5°	43.8	43.8	43.8	43.8	43.8	45.1	46.4	46.4	46.4	47.6	48.9
85°	27.6	27.6	27.6	28.2	28.8	28.8	28.8	29.4	30.1	30.1	30.1
87.5°	12.5	11.9	11.3	11.9	12.5	12.5	12.5	13.2	13.8	13.8	13.8
90°	23.6	24.4	23.6	22.8	23.6	22.0	21.2	20.3	19.5	20.3	17.9
92.5°	43.1	44.8	43.9	47.2	48.8	54.5	62.7	80.6	113.1	151.4	167.6
95°	94.4	97.7	103.4	110.7	126.1	155.4	198.6	293.0	391.4	482.6	429.7
97.5°	193.7	202.6	222.2	253.1	307.6	400.4	507.8	673.0	767.4	742.2	554.2
100°	510.3	509.4	541.2	600.6	682.8	798.4	893.6	959.5	931.0	770.7	520.8
102.5°	808.1	831.7	856.9	900.9	960.3	1023.0	1068.5	1054.7	939.1	717.8	472.0
105°	1035.2	1039.2	1065.3	1096.2	1133.6	1154.8	1139.3	1058.0	887.9	654.3	433.8
107.5°	1183.3	1192.2	1202.8	1217.5	1222.3	1200.4	1136.9	1009.1	814.6	598.2	406.1
110°	1267.9	1269.5	1271.2	1264.7	1241.9	1184.9	1082.4	932.6	746.3	551.8	391.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1285.0	1284.2	1276.1	1252.5	1206.1	1128.8	1010.8	856.9	686.9	520.8	383.3
115°	1259.0	1254.9	1238.6	1202.8	1141.8	1053.1	933.4	791.8	641.3	500.5	382.5
117.5°	1202.0	1196.3	1171.9	1132.0	1068.5	976.6	866.7	741.4	611.2	486.7	383.3
120°	1127.1	1122.2	1102.7	1057.1	992.9	910.7	813.0	703.1	588.4	477.7	386.6
122.5°	1057.1	1050.6	1028.7	988.8	933.4	858.6	769.9	673.0	569.7	472.0	392.3
125°	992.9	987.2	966.8	931.0	878.9	813.8	735.7	647.0	554.2	467.1	398.0
127.5°	937.5	932.6	913.9	883.0	835.8	775.6	703.9	623.4	539.6	464.7	404.5
130°	891.9	885.4	868.3	839.0	795.9	740.6	674.7	601.4	528.2	462.2	411.0
132.5°	847.2	843.1	828.5	799.2	759.3	707.2	647.0	581.1	517.6	461.4	415.9
135°	804.9	799.2	784.5	760.1	720.2	673.8	620.9	563.2	508.6	460.6	420.7
137.5°	760.1	755.2	743.0	717.8	683.6	642.1	594.9	546.1	500.5	459.0	424.0
140°	712.9	713.7	700.7	677.9	647.0	612.0	572.9	531.4	493.2	458.2	427.3
142.5°	669.0	669.8	658.4	638.8	613.6	584.3	551.8	517.6	486.7	456.5	429.7
145°	629.1	627.5	620.9	603.8	583.5	559.9	533.9	507.0	481.0	454.9	430.5
147.5°	594.9	594.1	587.6	575.4	559.1	542.0	520.0	498.1	475.3	452.5	430.5
150°	565.6	565.6	560.7	551.8	539.6	524.1	507.0	488.3	469.6	449.2	430.5
152.5°	541.2	541.2	538.7	530.6	521.7	509.4	494.8	479.3	463.1	445.2	428.1
155°	521.7	520.8	519.2	512.7	505.4	495.6	483.4	470.4	456.5	440.3	426.4
157.5°	502.9	502.9	501.3	496.4	489.9	481.8	472.0	460.6	449.2	436.2	424.0
160°	485.0	485.8	485.8	481.0	475.3	469.6	461.4	452.5	441.9	431.3	422.4
162.5°	468.8	469.6	469.6	465.5	462.2	457.4	450.0	442.7	434.6	426.4	419.1
165°	454.9	454.9	455.7	452.5	449.2	445.2	439.5	434.6	428.1	421.6	415.9
167.5°	441.1	441.1	441.9	439.5	437.8	434.6	431.3	427.3	421.6	416.7	412.6
170°	428.9	428.9	429.7	428.1	427.3	425.6	422.4	419.9	415.9	411.8	409.3
172.5°	417.5	418.3	419.9	418.3	418.3	417.5	415.0	413.4	410.2	407.7	406.9
175°	409.3	410.2	411.0	410.2	410.2	410.2	408.5	407.7	406.1	404.5	404.5
177.5°	403.7	403.7	405.3	404.5	405.3	405.3	404.5	403.7	402.8	402.0	402.8
180°	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6
2.5°	3244.1	3241.0	3210.9	3180.8	3151.4	3122.0	3100.0	3078.1	3041.2	3004.2	2981.0
5°	3445.2	3421.4	3373.8	3326.2	3254.8	3183.3	3123.2	3063.1	2986.7	2910.2	2846.3
7.5°	3557.3	3537.9	3480.3	3422.6	3328.0	3233.5	3139.5	3045.5	2932.8	2820.0	2723.6
10°	3560.4	3576.7	3529.1	3481.5	3375.0	3268.5	3140.7	3013.0	2861.4	2709.8	2585.1
12.5°	3448.9	3519.1	3509.1	3499.0	3390.7	3282.3	3127.0	2971.6	2785.6	2599.5	2443.6
15°	3240.3	3376.3	3416.4	3456.5	3366.9	3277.3	3100.7	2924.0	2705.4	2486.8	2307.6
17.5°	2971.6	3162.0	3267.9	3373.8	3308.6	3243.5	3049.9	2856.4	2610.2	2364.0	2169.2
20°	2653.4	2902.7	3068.7	3234.7	3210.9	3187.1	2987.3	2787.5	2521.9	2256.3	2045.2
22.5°	2339.0	2602.0	2831.3	3060.6	3085.0	3109.4	2907.7	2706.0	2415.4	2124.7	1909.9
25°	2067.7	2335.2	2608.3	2881.4	2936.5	2991.7	2800.0	2608.3	2307.0	2005.7	1792.1
27.5°	1809.0	2063.3	2364.0	2664.7	2764.9	2865.1	2689.7	2514.4	2200.5	1886.7	1673.7
30°	1597.9	1825.3	2132.3	2439.2	2578.9	2718.6	2557.6	2396.6	2085.3	1774.0	1565.4
32.5°	1401.2	1604.8	1913.0	2221.2	2383.4	2545.7	2406.6	2267.6	1968.1	1668.7	1462.6
35°	1245.9	1428.2	1715.7	2003.2	2184.9	2366.5	2252.5	2138.5	1846.0	1553.5	1358.7
37.5°	1112.5	1265.3	1535.3	1805.3	1998.2	2191.1	2095.9	2000.7	1725.7	1450.7	1266.6
40°	1002.2	1125.0	1376.2	1627.4	1816.5	2005.7	1924.3	1842.9	1596.7	1350.5	1178.2
42.5°	907.6	1013.5	1239.0	1464.5	1638.0	1811.5	1757.7	1703.8	1480.8	1257.8	1098.1
45°	824.3	913.3	1111.9	1310.4	1470.2	1629.9	1587.3	1544.7	1352.4	1160.1	1013.5
47.5°	750.4	826.8	1004.1	1181.4	1324.8	1468.3	1428.8	1389.3	1230.2	1071.1	937.7
50°	682.8	747.9	895.7	1043.6	1172.6	1301.6	1269.1	1236.5	1105.0	973.4	858.2
52.5°	618.9	672.7	805.5	938.3	1042.3	1146.3	1121.2	1096.2	994.7	893.2	788.6
55°	558.1	607.6	719.7	831.9	920.8	1009.7	984.7	959.6	880.7	801.8	709.7
57.5°	503.0	546.2	637.0	727.9	798.7	869.4	857.5	845.6	779.9	714.1	638.3
60°	444.7	483.6	561.9	640.2	697.2	754.2	740.4	726.6	679.6	632.7	567.5
62.5°	392.7	427.2	489.8	552.5	598.8	645.2	635.2	625.1	589.4	553.7	499.9
65°	338.3	372.1	422.8	473.6	509.9	546.2	537.4	528.7	501.7	474.8	431.6
67.5°	288.8	317.0	360.8	404.7	429.1	453.5	448.5	443.5	422.8	402.1	368.3
70°	238.7	263.1	299.4	335.7	352.7	369.6	371.5	373.3	354.5	335.7	310.7
72.5°	188.5	208.0	241.8	275.6	288.8	301.9	301.3	300.7	289.4	278.1	255.6
75°	144.7	159.1	185.4	211.7	223.0	234.3	236.8	239.3	228.6	218.0	205.5
77.5°	104.0	114.0	134.0	154.1	166.6	179.1	180.4	181.7	176.6	171.6	159.7
80°	73.3	76.4	88.9	101.5	114.6	127.8	129.7	131.5	126.5	121.5	114.0
82.5°	50.7	52.6	57.0	61.4	72.0	82.7	85.2	87.7	85.2	82.7	74.5
85°	30.7	31.3	33.2	35.1	40.1	45.1	47.6	50.1	48.9	47.6	43.2
87.5°	13.8	13.8	14.4	15.0	16.3	17.5	20.7	23.8	21.9	20.0	18.2
90°	15.5	13.0	10.6	9.0	7.3	4.9	3.3	1.6	3.3	4.9	7.3
92.5°	125.3	82.2	56.2	41.5	33.4	26.0	17.9	12.2	17.9	26.0	33.4
95°	296.2	175.0	105.8	74.1	52.9	39.1	30.1	27.7	30.1	39.1	52.9
97.5°	329.6	188.8	120.4	85.5	64.3	52.1	44.8	43.9	44.8	52.1	64.3
100°	306.8	186.4	129.4	97.7	78.1	66.7	61.0	60.2	61.0	66.7	78.1
102.5°	287.3	189.6	140.0	111.5	94.4	83.8	78.9	77.3	78.9	83.8	94.4
105°	280.0	196.1	152.2	127.0	111.5	101.7	96.8	94.4	96.8	101.7	111.5
107.5°	278.3	206.7	167.6	144.0	129.4	119.6	114.7	112.3	114.7	119.6	129.4
110°	282.4	220.5	183.9	161.1	147.3	138.3	134.3	131.8	134.3	138.3	147.3





TEST NUMBER: P831917

CATALOG NUMBER: S123RDIP-S1165D1025U930-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	290.5	234.4	201.0	179.0	165.2	156.3	152.2	149.7	152.2	156.3	165.2
115°	299.5	249.8	218.9	196.9	183.1	175.0	170.1	166.8	170.1	175.0	183.1
117.5°	310.9	266.1	235.2	214.8	199.4	192.1	188.0	183.9	188.0	192.1	199.4
120°	323.9	281.6	252.3	231.9	216.5	208.3	204.3	201.8	204.3	208.3	216.5
122.5°	336.1	297.9	269.4	247.4	232.8	223.8	219.7	217.3	219.7	223.8	232.8
125°	349.1	313.3	284.8	262.9	247.4	238.4	233.6	231.9	233.6	238.4	247.4
127.5°	359.7	327.2	299.5	277.5	260.4	251.5	245.8	243.3	245.8	251.5	260.4
130°	370.3	339.4	312.5	290.5	273.4	263.7	256.4	253.9	256.4	263.7	273.4
132.5°	380.1	349.9	323.9	302.7	285.6	273.4	265.3	262.0	265.3	273.4	285.6
135°	388.2	360.5	335.3	313.3	296.2	284.0	275.1	271.8	275.1	284.0	296.2
137.5°	394.7	367.8	343.4	323.1	306.0	293.0	284.0	280.8	284.0	293.0	306.0
140°	399.6	375.2	351.6	331.2	314.9	301.9	293.8	289.7	293.8	301.9	314.9
142.5°	404.5	380.9	358.1	339.4	323.1	311.7	302.7	299.5	302.7	311.7	323.1
145°	407.7	385.7	364.6	345.9	332.0	319.8	312.5	310.1	312.5	319.8	332.0
147.5°	410.2	389.8	370.3	354.0	340.2	329.6	322.3	320.6	322.3	329.6	340.2
150°	411.0	393.9	375.2	360.5	349.1	338.5	332.0	331.2	332.0	338.5	349.1
152.5°	412.6	396.3	380.9	367.0	357.3	348.3	341.8	341.8	341.8	348.3	357.3
155°	412.6	399.6	385.7	374.4	365.4	357.3	352.4	352.4	352.4	357.3	365.4
157.5°	413.4	401.2	389.8	380.9	372.7	365.4	361.3	360.5	361.3	365.4	372.7
160°	413.4	403.7	393.9	385.7	380.1	373.5	370.3	370.3	370.3	373.5	380.1
162.5°	412.6	404.5	396.3	389.8	384.9	380.1	377.6	377.6	377.6	380.1	384.9
165°	411.0	405.3	398.8	393.1	389.8	385.7	384.1	384.9	384.1	385.7	389.8
167.5°	410.2	405.3	400.4	396.3	393.9	390.6	389.8	390.6	389.8	390.6	393.9
170°	407.7	404.5	400.4	398.8	397.1	394.7	393.9	395.5	393.9	394.7	397.1
172.5°	406.9	404.5	401.2	400.4	399.6	398.0	398.0	398.8	398.0	398.0	399.6
175°	405.3	403.7	402.0	401.2	401.2	399.6	400.4	401.2	400.4	399.6	401.2
177.5°	404.5	402.8	402.0	402.0	402.0	401.2	402.0	402.8	402.0	401.2	402.0
180°	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0



TEST NUMBER: P831917

CATALOG NUMBER: S123RDIP-S1165D1025U930-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6
2.5°	2957.8	2922.1	2886.4	2860.7	2835.1	2803.1	2771.2	2769.9	2768.7	2744.9	2721.1
5°	2782.4	2720.4	2658.4	2597.7	2536.9	2476.1	2415.4	2401.6	2387.8	2367.1	2346.5
7.5°	2627.1	2528.1	2429.2	2351.5	2273.8	2213.1	2152.3	2111.0	2069.6	2037.7	2005.7
10°	2460.5	2337.7	2214.9	2121.0	2027.0	1961.2	1895.5	1847.9	1800.3	1777.7	1755.2
12.5°	2287.6	2154.2	2020.8	1928.7	1836.6	1757.7	1678.7	1635.5	1592.3	1561.0	1529.7
15°	2128.5	1985.0	1841.6	1743.9	1646.2	1572.3	1498.3	1455.1	1411.9	1380.6	1349.3
17.5°	1974.4	1829.7	1685.0	1586.0	1487.1	1420.0	1353.0	1311.0	1269.1	1249.7	1230.2
20°	1834.1	1688.1	1542.2	1448.9	1355.5	1289.7	1224.0	1201.4	1178.9	1160.7	1142.5
22.5°	1695.0	1554.7	1414.4	1324.8	1235.3	1187.6	1140.0	1121.9	1103.7	1089.9	1076.1
25°	1578.5	1438.8	1299.1	1220.8	1142.5	1105.6	1068.6	1056.7	1044.8	1031.0	1017.3
27.5°	1460.8	1328.0	1195.2	1132.5	1069.9	1039.8	1009.7	994.7	979.7	968.4	957.1
30°	1356.8	1234.0	1111.2	1059.2	1007.2	980.9	954.6	938.3	922.1	911.4	900.8
32.5°	1256.5	1147.6	1038.6	994.1	949.6	923.9	898.3	882.6	866.9	854.4	841.9
35°	1163.8	1069.3	974.7	934.0	893.2	867.6	841.9	826.2	810.6	798.0	785.5
37.5°	1082.4	996.6	910.8	872.6	834.4	811.8	789.3	773.0	756.7	743.5	730.4
40°	1006.0	930.2	854.4	817.4	780.5	756.1	731.6	717.2	702.8	690.9	679.0
42.5°	938.3	868.8	799.3	762.9	726.6	703.4	680.3	663.4	646.4	639.5	632.7
45°	866.9	805.5	744.2	709.1	674.0	649.6	625.1	610.7	596.3	590.1	583.8
47.5°	804.3	747.3	690.3	655.8	621.4	599.5	577.5	566.3	555.0	546.2	537.4
50°	742.9	687.8	632.7	599.5	566.3	547.5	528.7	514.9	501.1	494.9	488.6
52.5°	684.0	633.9	583.8	550.0	516.1	498.0	479.8	467.9	456.0	442.9	429.7
55°	617.6	573.8	529.9	499.9	469.8	451.0	432.2	418.4	404.7	390.9	377.1
57.5°	562.5	519.3	476.1	449.1	422.2	404.0	385.9	370.8	355.8	344.5	333.2
60°	502.4	464.8	427.2	400.9	374.6	357.0	339.5	325.1	310.7	305.1	299.4
62.5°	446.0	410.9	375.8	352.7	329.5	312.6	295.7	286.3	276.9	273.1	269.4
65°	388.4	358.3	328.2	306.9	285.6	271.2	256.8	252.4	248.1	244.9	241.8
67.5°	334.5	308.8	283.1	264.3	245.5	235.5	225.5	220.5	215.5	211.7	208.0
70°	285.6	263.1	240.5	224.2	208.0	198.6	189.2	184.8	180.4	173.5	166.6
72.5°	233.0	215.5	197.9	185.4	172.9	164.7	156.6	147.8	139.1	132.8	126.5
75°	192.9	175.4	157.9	146.0	134.0	124.7	115.3	112.1	109.0	107.1	105.2
77.5°	147.8	132.8	117.8	108.4	99.0	94.6	90.2	88.3	86.4	85.8	85.2
80°	106.5	94.0	81.4	76.4	71.4	70.2	68.9	67.7	66.4	65.8	65.1
82.5°	66.4	60.1	53.9	52.6	51.4	50.7	50.1	49.5	48.9	48.2	47.6
85°	38.8	36.3	33.8	33.2	32.6	31.9	31.3	31.3	31.3	31.3	31.3
87.5°	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	15.7	15.0
90°	9.0	10.6	13.0	15.5	17.9	20.3	19.5	20.3	21.2	22.0	23.6
92.5°	41.5	56.2	82.2	125.3	167.6	151.4	113.1	80.6	62.7	54.5	48.8
95°	74.1	105.8	175.0	296.2	429.7	482.6	391.4	293.0	198.6	155.4	126.1
97.5°	85.5	120.4	188.8	329.6	554.2	742.2	767.4	673.0	507.8	400.4	307.6
100°	97.7	129.4	186.4	306.8	520.8	770.7	931.0	959.5	893.6	798.4	682.8
102.5°	111.5	140.0	189.6	287.3	472.0	717.8	939.1	1054.7	1068.5	1023.0	960.3
105°	127.0	152.2	196.1	280.0	433.8	654.3	887.9	1058.0	1139.3	1154.8	1133.6
107.5°	144.0	167.6	206.7	278.3	406.1	598.2	814.6	1009.1	1136.9	1200.4	1222.3
110°	161.1	183.9	220.5	282.4	391.4	551.8	746.3	932.6	1082.4	1184.9	1241.9



TEST NUMBER: P831917

CATALOG NUMBER: S123RDIP-S1165D1025U930-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	179.0	201.0	234.4	290.5	383.3	520.8	686.9	856.9	1010.8	1128.8	1206.1
115°	196.9	218.9	249.8	299.5	382.5	500.5	641.3	791.8	933.4	1053.1	1141.8
117.5°	214.8	235.2	266.1	310.9	383.3	486.7	611.2	741.4	866.7	976.6	1068.5
120°	231.9	252.3	281.6	323.9	386.6	477.7	588.4	703.1	813.0	910.7	992.9
122.5°	247.4	269.4	297.9	336.1	392.3	472.0	569.7	673.0	769.9	858.6	933.4
125°	262.9	284.8	313.3	349.1	398.0	467.1	554.2	647.0	735.7	813.8	878.9
127.5°	277.5	299.5	327.2	359.7	404.5	464.7	539.6	623.4	703.9	775.6	835.8
130°	290.5	312.5	339.4	370.3	411.0	462.2	528.2	601.4	674.7	740.6	795.9
132.5°	302.7	323.9	349.9	380.1	415.9	461.4	517.6	581.1	647.0	707.2	759.3
135°	313.3	335.3	360.5	388.2	420.7	460.6	508.6	563.2	620.9	673.8	720.2
137.5°	323.1	343.4	367.8	394.7	424.0	459.0	500.5	546.1	594.9	642.1	683.6
140°	331.2	351.6	375.2	399.6	427.3	458.2	493.2	531.4	572.9	612.0	647.0
142.5°	339.4	358.1	380.9	404.5	429.7	456.5	486.7	517.6	551.8	584.3	613.6
145°	345.9	364.6	385.7	407.7	430.5	454.9	481.0	507.0	533.9	559.9	583.5
147.5°	354.0	370.3	389.8	410.2	430.5	452.5	475.3	498.1	520.0	542.0	559.1
150°	360.5	375.2	393.9	411.0	430.5	449.2	469.6	488.3	507.0	524.1	539.6
152.5°	367.0	380.9	396.3	412.6	428.1	445.2	463.1	479.3	494.8	509.4	521.7
155°	374.4	385.7	399.6	412.6	426.4	440.3	456.5	470.4	483.4	495.6	505.4
157.5°	380.9	389.8	401.2	413.4	424.0	436.2	449.2	460.6	472.0	481.8	489.9
160°	385.7	393.9	403.7	413.4	422.4	431.3	441.9	452.5	461.4	469.6	475.3
162.5°	389.8	396.3	404.5	412.6	419.1	426.4	434.6	442.7	450.0	457.4	462.2
165°	393.1	398.8	405.3	411.0	415.9	421.6	428.1	434.6	439.5	445.2	449.2
167.5°	396.3	400.4	405.3	410.2	412.6	416.7	421.6	427.3	431.3	434.6	437.8
170°	398.8	400.4	404.5	407.7	409.3	411.8	415.9	419.9	422.4	425.6	427.3
172.5°	400.4	401.2	404.5	406.9	406.9	407.7	410.2	413.4	415.0	417.5	418.3
175°	401.2	402.0	403.7	405.3	404.5	404.5	406.1	407.7	408.5	410.2	410.2
177.5°	402.0	402.0	402.8	404.5	402.8	402.0	402.8	403.7	404.5	405.3	405.3
180°	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0



TEST NUMBER: P831917

CATALOG NUMBER: S123RDIP-S1165D1025U930-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	3055.6	3055.6	3055.6	3055.6
2.5°	2714.8	2708.5	2706.0	2703.5
5°	2327.1	2307.6	2303.3	2298.9
7.5°	1997.6	1989.4	1962.5	1935.6
10°	1730.1	1705.0	1693.8	1682.5
12.5°	1506.5	1483.3	1479.5	1475.8
15°	1333.0	1316.7	1311.0	1305.4
17.5°	1219.0	1207.7	1200.8	1193.9
20°	1134.4	1126.3	1121.2	1116.2
22.5°	1069.9	1063.6	1059.9	1056.1
25°	1007.9	998.5	995.3	992.2
27.5°	949.0	940.8	937.7	934.6
30°	893.9	887.0	882.6	878.2
32.5°	833.7	825.6	823.1	820.6
35°	780.5	775.5	773.0	770.5
37.5°	724.1	717.8	714.1	710.3
40°	675.9	672.7	670.9	669.0
42.5°	627.0	621.4	620.8	620.1
45°	578.2	572.5	571.3	570.0
47.5°	532.4	527.4	526.8	526.2
50°	481.7	474.8	469.8	464.8
52.5°	423.4	417.2	412.8	408.4
55°	370.2	363.3	359.6	355.8
57.5°	330.1	327.0	325.1	323.2
60°	297.5	295.7	294.4	293.2
62.5°	267.5	265.6	265.6	265.6
65°	239.9	238.0	236.2	234.3
67.5°	204.2	200.4	199.8	199.2
70°	161.0	155.3	154.7	154.1
72.5°	125.9	125.3	124.0	122.8
75°	104.0	102.7	102.7	102.7
77.5°	83.9	82.7	82.7	82.7
80°	64.5	63.9	64.5	65.1
82.5°	47.6	47.6	47.0	46.4
85°	30.7	30.1	30.1	30.1
87.5°	15.0	15.0	15.0	15.0
90°	22.8	23.6	24.4	23.6
92.5°	47.2	43.9	44.8	43.1
95°	110.7	103.4	97.7	94.4
97.5°	253.1	222.2	202.6	193.7
100°	600.6	541.2	509.4	510.3
102.5°	900.9	856.9	831.7	808.1
105°	1096.2	1065.3	1039.2	1035.2
107.5°	1217.5	1202.8	1192.2	1183.3
110°	1264.7	1271.2	1269.5	1267.9



TEST NUMBER: P831917

CATALOG NUMBER: S123RDIP-S1165D1025U930-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	1252.5	1276.1	1284.2	1285.0
115°	1202.8	1238.6	1254.9	1259.0
117.5°	1132.0	1171.9	1196.3	1202.0
120°	1057.1	1102.7	1122.2	1127.1
122.5°	988.8	1028.7	1050.6	1057.1
125°	931.0	966.8	987.2	992.9
127.5°	883.0	913.9	932.6	937.5
130°	839.0	868.3	885.4	891.9
132.5°	799.2	828.5	843.1	847.2
135°	760.1	784.5	799.2	804.9
137.5°	717.8	743.0	755.2	760.1
140°	677.9	700.7	713.7	712.9
142.5°	638.8	658.4	669.8	669.0
145°	603.8	620.9	627.5	629.1
147.5°	575.4	587.6	594.1	594.9
150°	551.8	560.7	565.6	565.6
152.5°	530.6	538.7	541.2	541.2
155°	512.7	519.2	520.8	521.7
157.5°	496.4	501.3	502.9	502.9
160°	481.0	485.8	485.8	485.0
162.5°	465.5	469.6	469.6	468.8
165°	452.5	455.7	454.9	454.9
167.5°	439.5	441.9	441.1	441.1
170°	428.1	429.7	428.9	428.9
172.5°	418.3	419.9	418.3	417.5
175°	410.2	411.0	410.2	409.3
177.5°	404.5	405.3	403.7	403.7
180°	402.0	402.0	402.0	402.0



TEST NUMBER: P831917

CATALOG NUMBER: S123RDIP-S1165D1025U930-4F0-1E-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	13.54	14.41	14.45	15.32	16.49	18.20	19.07	19.11	19.99	21.15
	3H	14.76	15.54	15.68	16.46	17.66	19.71	20.48	20.62	21.41	22.60
	4H	15.15	15.88	16.08	16.81	18.01	20.20	20.93	21.13	21.86	23.06
	6H	15.43	16.10	16.37	17.04	18.25	20.51	21.18	21.45	22.12	23.33
	8H	15.52	16.16	16.47	17.11	18.32	20.59	21.23	21.54	22.18	23.40
	12H	15.57	16.18	16.53	17.13	18.36	20.62	21.23	21.58	22.18	23.42
4H	2H	14.27	15.00	15.20	15.93	17.13	18.20	18.93	19.14	19.86	21.07
	3H	15.64	16.25	16.59	17.21	18.42	19.87	20.47	20.81	21.43	22.65
	4H	16.10	16.65	17.05	17.60	18.85	20.47	21.03	21.43	21.98	23.22
	6H	16.47	16.94	17.44	17.92	19.16	20.91	21.39	21.88	22.37	23.61
	8H	16.59	17.04	17.56	18.01	19.26	21.04	21.49	22.02	22.46	23.71
	12H	16.67	17.07	17.66	18.06	19.32	21.11	21.51	22.10	22.50	23.76
8H	4H	16.41	16.86	17.38	17.83	19.08	20.44	20.89	21.41	21.86	23.11
	6H	16.88	17.24	17.87	18.26	19.51	20.94	21.31	21.94	22.32	23.57
	8H	17.07	17.39	18.08	18.40	19.67	21.13	21.45	22.13	22.45	23.72
	12H	17.21	17.50	18.22	18.49	19.81	21.24	21.53	22.25	22.52	23.84
12H	4H	16.43	16.83	17.41	17.81	19.07	20.40	20.79	21.38	21.78	23.04
	6H	16.94	17.26	17.94	18.26	19.53	20.92	21.24	21.92	22.24	23.51
	8H	17.16	17.44	18.16	18.44	19.75	21.11	21.39	22.12	22.39	23.71