

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: P831921

Luminaire Tested: S123RDIP-S1165D1025U940-4F0-1E-UDD-G

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831921  
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-S1165D1025U940-4F0-1E-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: -

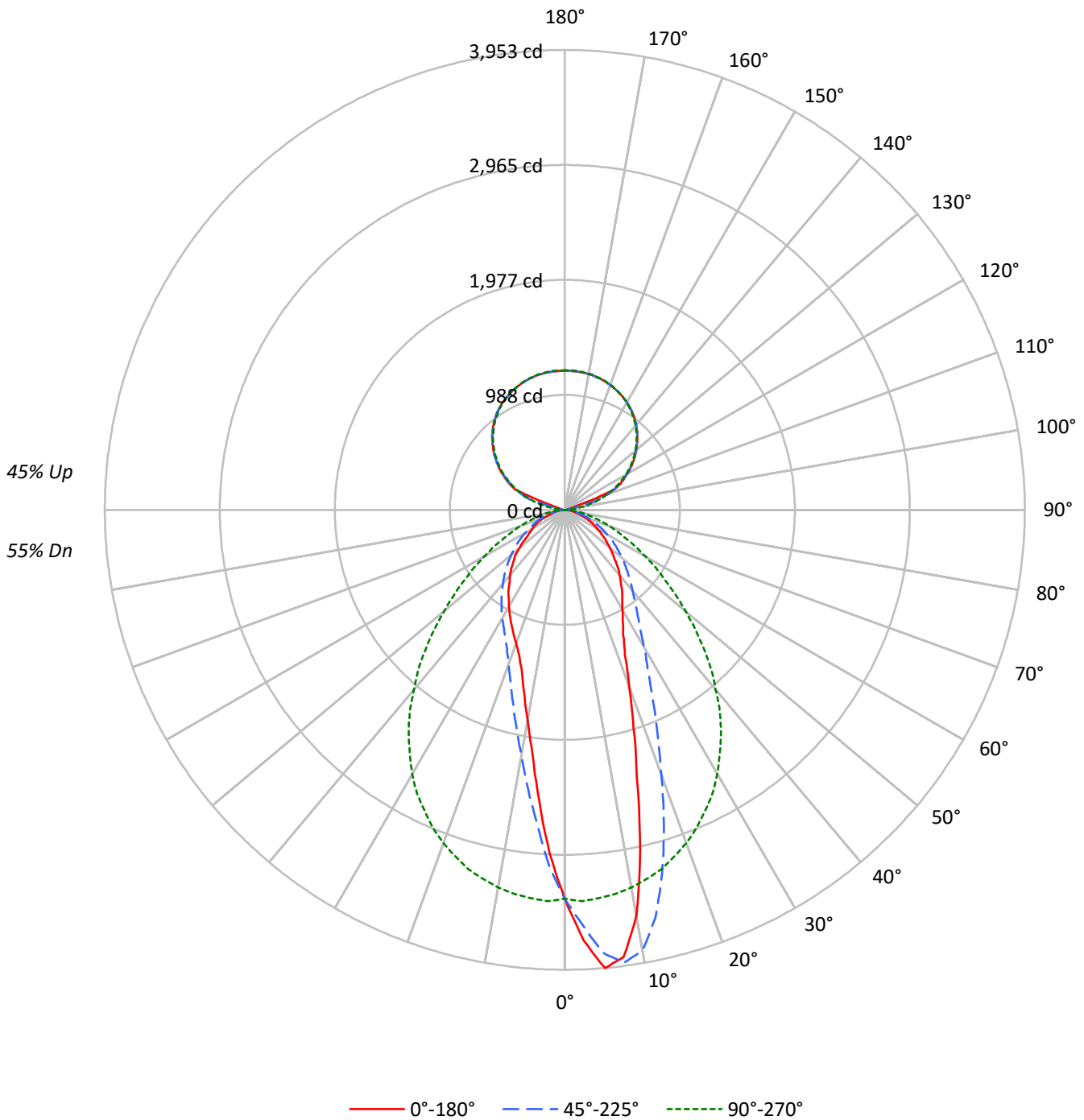
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8085.4 lumens  
Efficiency: N/A  
Efficacy: 118.7 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				
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°	35972	35972	35972	35972	35972
5°	42712	41351	36199	29262	27167
10°	38699	42001	36018	23446	20113
15°	26644	36012	35638	19163	15911
20°	18536	27726	34922	16158	13985
25°	14125	21131	33882	14361	12889
30°	12296	16894	32579	13335	11938
35°	11289	14251	30734	12469	11073
40°	10301	12726	28322	11619	10281
45°	9302	11639	25718	10816	9490
50°	8443	10739	22647	10027	8512
55°	7638	9862	19697	9257	7302
60°	6844	8966	17108	8407	6902
65°	6316	7957	14727	7554	6525
70°	5133	6877	12850	6836	5303
75°	4500	5469	10884	5669	4675
80°	4079	4630	8920	4754	4420
85°	3717	4063	6768	4310	4063

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 27136 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	304.6	3.8
10°-20°	704.9	8.7
20°-30°	808.7	10.0
30°-40°	797.1	9.9
40°-50°	703.0	8.7
50°-60°	540.8	6.7
60°-70°	355.6	4.4
70°-80°	172.7	2.1
80°-90°	45.9	0.6
90°-100°	42.2	0.5
100°-110°	204.2	2.5
110°-120°	500.5	6.2
120°-130°	635.4	7.9
130°-140°	678.8	8.4
140°-150°	634.7	7.9
150°-160°	512.0	6.3
160°-170°	330.4	4.1
170°-180°	113.9	1.4
0°-30°	1818.2	22.5
0°-40°	2615.4	32.3
0°-60°	3859.1	47.7
0°-90°	4433.3	54.8
90°-120°	746.9	9.2
90°-150°	2695.8	33.3
90°-180°	3652.0	45.2
0°-180°	8085.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	3342	3342	3342	3342	3342	
5°	3953	3827	3350	2708	2514	361
15°	2391	3232	3198	1720	1428	675
25°	1189	1779	2853	1209	1085	562
35°	859	1084	2339	949	843	536
45°	611	765	1690	710	623	474
55°	407	526	1050	493	389	365
65°	248	312	578	297	256	243
75°	108	132	262	136	112	116
85°	30	33	55	35	33	32
90°	27	21	1	21	27	13
95°	34	28	54	28	34	28
105°	39	195	265	195	39	82
115°	523	511	498	511	523	492
125°	716	712	701	712	716	639
135°	882	882	873	882	882	680
145°	1017	1016	1008	1016	1017	635
155°	1108	1109	1110	1109	1108	511
165°	1168	1167	1170	1167	1168	330
175°	1194	1194	1198	1194	1194	114
180°	1198	1198	1198	1198	1198	

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9
2.5°	3703.7	3692.0	3680.4	3676.9	3673.5	3662.6	3651.6	3626.9	3602.3	3576.9	3551.6
5°	3953.0	3954.4	3955.8	3952.4	3948.9	3934.5	3920.2	3890.0	3859.9	3827.0	3794.1
7.5°	3876.3	3898.2	3920.2	3924.3	3928.4	3939.3	3950.3	3943.5	3936.6	3924.3	3911.9
10°	3540.6	3539.2	3537.9	3562.5	3587.2	3660.5	3733.8	3771.5	3809.2	3842.7	3876.3
12.5°	2992.5	2994.6	2996.6	3077.5	3158.3	3227.5	3296.7	3392.6	3488.5	3592.0	3695.4
15°	2391.0	2424.6	2458.1	2530.1	2602.0	2706.2	2810.3	2939.1	3067.9	3231.6	3395.4
17.5°	1963.5	1977.9	1992.3	2061.5	2130.7	2229.3	2328.0	2473.9	2619.8	2830.8	3041.9
20°	1618.2	1631.2	1644.2	1694.3	1744.3	1838.8	1933.4	2072.4	2211.5	2420.5	2629.4
22.5°	1351.0	1376.4	1401.7	1435.3	1468.9	1537.4	1605.9	1747.7	1889.5	2080.0	2270.4
25°	1189.3	1201.0	1212.6	1241.4	1270.2	1336.0	1401.7	1495.6	1589.4	1779.2	1969.0
27.5°	1079.7	1083.1	1086.6	1107.8	1129.0	1171.5	1214.0	1301.0	1388.0	1544.2	1700.4
30°	989.3	995.5	1001.6	1018.1	1034.5	1065.3	1096.2	1157.8	1219.5	1359.2	1499.0
32.5°	919.4	922.8	926.3	940.0	953.7	976.3	998.9	1047.5	1096.2	1203.0	1309.9
35°	859.1	859.8	860.5	870.8	881.0	903.0	924.9	965.3	1005.7	1084.5	1163.3
37.5°	790.6	795.4	800.2	807.7	815.3	834.5	853.6	886.5	919.4	984.5	1049.6
40°	733.1	737.2	741.3	750.2	759.1	774.2	789.2	819.4	849.5	905.7	961.9
42.5°	675.5	678.3	681.0	689.9	698.8	717.3	735.8	759.8	783.8	830.3	876.9
45°	611.1	618.0	624.8	634.4	644.0	659.8	675.5	700.2	724.8	764.6	804.3
47.5°	557.7	561.1	564.5	572.7	581.0	600.2	619.3	641.3	663.2	700.2	737.2
50°	504.2	505.6	507.0	514.5	522.0	539.2	556.3	581.7	607.0	641.3	675.5
52.5°	453.5	457.0	460.4	467.9	475.5	487.1	498.8	524.8	550.8	584.4	618.0
55°	407.0	409.0	411.1	416.5	422.0	435.7	449.4	472.0	494.6	525.5	556.3
57.5°	363.1	365.8	368.6	372.7	376.8	389.1	401.5	421.3	441.2	472.0	502.9
60°	317.9	321.3	324.7	329.5	334.3	343.9	353.5	371.3	389.1	416.5	443.9
62.5°	285.0	285.7	286.4	290.5	294.6	301.4	308.3	322.7	337.1	364.5	391.9
65°	248.0	250.1	252.1	254.2	256.2	261.7	267.2	279.5	291.9	312.4	333.0
67.5°	209.6	211.7	213.8	217.2	220.6	225.4	230.2	238.4	246.6	265.8	285.0
70°	163.1	163.1	163.1	168.5	174.0	182.2	190.5	196.6	202.8	218.5	234.3
72.5°	132.9	133.6	134.3	135.0	135.7	140.4	145.2	155.5	165.8	175.4	185.0
75°	108.2	108.9	109.6	110.3	111.0	112.4	113.7	117.2	120.6	131.5	142.5
77.5°	86.3	87.0	87.7	88.4	89.1	90.4	91.8	93.2	94.5	98.7	102.8
80°	65.8	66.5	67.1	67.8	68.5	69.2	69.9	71.3	72.6	74.7	76.7
82.5°	48.0	48.0	48.0	48.0	48.0	49.3	50.7	50.7	50.7	52.1	53.4
85°	30.1	30.1	30.1	30.8	31.5	31.5	31.5	32.2	32.9	32.9	32.9
87.5°	13.7	13.0	12.3	13.0	13.7	13.7	13.7	14.4	15.1	15.1	15.1
90°	26.7	26.3	25.9	25.5	25.1	24.5	23.7	22.9	22.2	21.4	18.8
92.5°	30.3	30.1	29.9	29.7	29.5	28.7	27.3	25.9	24.5	23.1	21.4
95°	33.8	33.8	33.8	33.8	33.8	33.1	31.7	30.4	29.0	27.6	25.4
97.5°	36.5	36.3	36.1	35.9	35.7	34.8	33.2	31.6	30.1	28.5	38.6
100°	37.4	37.2	37.0	36.8	36.6	35.7	34.1	32.5	31.0	29.4	60.2
102.5°	38.3	37.9	37.5	37.1	36.7	39.8	46.3	52.8	59.3	65.9	100.3
105°	39.2	38.8	38.4	38.0	37.6	54.9	89.9	124.9	159.9	194.9	212.7
107.5°	92.6	118.5	144.4	170.3	196.2	224.4	254.9	285.3	315.8	346.2	343.3
110°	244.8	273.0	301.3	329.6	357.9	375.3	381.8	388.4	394.9	401.4	399.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	463.7	464.1	464.5	464.9	465.3	464.6	462.8	461.0	459.3	457.5	455.3
115°	523.4	522.6	521.8	521.0	520.2	518.8	516.8	514.8	512.9	510.9	509.1
117.5°	571.4	571.2	571.0	570.8	570.6	569.7	568.2	566.6	565.0	563.4	562.4
120°	621.3	621.3	621.3	621.3	621.3	620.5	618.9	617.3	615.7	614.1	613.5
122.5°	670.2	670.0	669.8	669.6	669.4	668.8	667.8	666.9	665.9	664.9	664.1
125°	715.6	715.2	714.8	714.4	714.0	713.6	713.2	712.8	712.4	712.0	711.3
127.5°	760.1	760.5	760.9	761.3	761.7	761.6	761.0	760.4	759.8	759.2	758.2
130°	802.8	803.2	803.6	804.0	804.4	804.2	803.4	802.6	801.8	801.1	800.3
132.5°	842.0	842.6	843.2	843.8	844.4	844.3	843.5	842.7	841.9	841.1	840.5
135°	882.0	882.6	883.2	883.8	884.4	884.4	883.8	883.2	882.6	882.0	881.3
137.5°	920.3	920.7	921.1	921.5	921.9	921.6	920.6	919.6	918.6	917.6	917.3
140°	954.1	954.5	954.9	955.3	955.7	955.5	954.7	953.9	953.2	952.4	951.8
142.5°	985.3	985.9	986.5	987.1	987.7	987.7	987.1	986.5	985.9	985.3	984.7
145°	1017.3	1017.3	1017.3	1017.3	1017.3	1017.1	1016.7	1016.3	1016.0	1015.6	1015.2
147.5°	1040.5	1041.5	1042.5	1043.4	1044.4	1044.7	1044.3	1043.9	1043.5	1043.1	1042.8
150°	1067.2	1067.8	1068.4	1069.0	1069.6	1069.7	1069.3	1068.9	1068.5	1068.1	1067.7
152.5°	1088.5	1089.5	1090.5	1091.5	1092.5	1092.6	1091.8	1091.0	1090.2	1089.4	1089.2
155°	1108.1	1109.3	1110.5	1111.7	1112.9	1113.0	1112.0	1111.0	1110.0	1109.0	1108.8
157.5°	1125.0	1126.6	1128.2	1129.8	1131.4	1131.6	1130.4	1129.2	1128.0	1126.8	1127.0
160°	1141.1	1142.4	1143.8	1145.2	1146.6	1146.7	1145.5	1144.3	1143.1	1141.9	1142.1
162.5°	1156.2	1157.4	1158.6	1159.7	1160.9	1160.8	1159.4	1158.1	1156.7	1155.3	1155.5
165°	1167.8	1169.1	1170.5	1171.9	1173.3	1173.2	1171.6	1170.0	1168.4	1166.9	1167.1
167.5°	1176.7	1178.2	1179.8	1181.4	1183.0	1183.0	1181.4	1179.8	1178.2	1176.7	1176.7
170°	1184.7	1186.2	1187.8	1189.4	1191.0	1191.0	1189.4	1187.8	1186.2	1184.7	1184.7
172.5°	1189.1	1190.9	1192.7	1194.5	1196.2	1196.3	1194.8	1193.2	1191.6	1190.0	1189.8
175°	1193.6	1195.1	1196.7	1198.3	1199.9	1200.0	1198.6	1197.2	1195.8	1194.5	1194.3
177.5°	1194.5	1196.4	1198.4	1200.4	1202.4	1202.6	1201.0	1199.4	1197.8	1196.2	1196.0
180°	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9
2.5°	3548.1	3544.7	3511.8	3479.0	3446.8	3414.6	3390.6	3366.6	3326.2	3285.8	3260.4
5°	3768.1	3742.0	3690.0	3637.9	3559.8	3481.7	3415.9	3350.2	3266.6	3183.0	3113.1
7.5°	3890.7	3869.5	3806.4	3743.4	3640.0	3536.5	3433.7	3331.0	3207.7	3084.3	2978.8
10°	3894.1	3911.9	3859.9	3807.8	3691.3	3574.9	3435.1	3295.3	3129.6	2963.8	2827.4
12.5°	3772.2	3848.9	3837.9	3827.0	3708.5	3589.9	3420.0	3250.1	3046.7	2843.2	2672.6
15°	3544.0	3692.7	3736.6	3780.4	3682.4	3584.5	3391.3	3198.1	2959.0	2719.9	2523.9
17.5°	3250.1	3458.4	3574.2	3690.0	3618.7	3547.5	3335.8	3124.1	2854.8	2585.6	2372.5
20°	2902.1	3174.8	3356.3	3537.9	3511.8	3485.8	3267.3	3048.7	2758.2	2467.7	2236.9
22.5°	2558.2	2845.9	3096.7	3347.4	3374.1	3400.9	3180.2	2959.6	2641.8	2323.9	2088.9
25°	2261.5	2554.1	2852.8	3151.5	3211.8	3272.1	3062.4	2852.8	2523.2	2193.7	1960.1
27.5°	1978.6	2256.7	2585.6	2914.4	3024.0	3133.7	2941.8	2750.0	2406.8	2063.5	1830.6
30°	1747.7	1996.4	2332.1	2667.8	2820.6	2973.3	2797.3	2621.2	2280.7	1940.2	1712.1
32.5°	1532.6	1755.2	2092.3	2429.4	2606.8	2784.3	2632.2	2480.1	2152.6	1825.1	1599.7
35°	1362.7	1562.0	1876.5	2191.0	2389.6	2588.3	2463.6	2338.9	2019.0	1699.1	1486.0
37.5°	1216.7	1383.9	1679.2	1974.5	2185.5	2396.5	2292.4	2188.2	1887.5	1586.7	1385.3
40°	1096.2	1230.4	1505.2	1779.9	1986.8	2193.7	2104.6	2015.6	1746.3	1477.1	1288.7
42.5°	992.7	1108.5	1355.1	1601.8	1791.5	1981.3	1922.4	1863.5	1619.6	1375.7	1201.0
45°	901.6	998.9	1216.1	1433.2	1607.9	1782.6	1736.1	1689.5	1479.1	1268.8	1108.5
47.5°	820.8	904.3	1098.2	1292.1	1449.0	1605.9	1562.7	1519.6	1345.5	1171.5	1025.6
50°	746.8	818.0	979.7	1141.4	1282.5	1423.6	1388.0	1352.4	1208.5	1064.7	938.6
52.5°	676.9	735.8	881.0	1026.3	1140.0	1253.7	1226.3	1198.9	1087.9	977.0	862.5
55°	610.4	664.5	787.2	909.8	1007.1	1104.4	1077.0	1049.6	963.3	876.9	776.2
57.5°	550.1	597.4	696.7	796.1	873.5	950.9	937.9	924.9	853.0	781.0	698.1
60°	486.4	528.9	614.5	700.2	762.5	824.9	809.8	794.7	743.3	692.0	620.7
62.5°	429.6	467.2	535.8	604.3	655.0	705.7	694.7	683.7	644.7	605.6	546.7
65°	370.0	407.0	462.4	517.9	557.7	597.4	587.8	578.2	548.8	519.3	472.0
67.5°	315.8	346.7	394.6	442.6	469.3	496.0	490.5	485.1	462.4	439.8	402.8
70°	261.0	287.7	327.5	367.2	385.7	404.2	406.3	408.3	387.8	367.2	339.8
72.5°	206.2	227.5	264.4	301.4	315.8	330.2	329.5	328.8	316.5	304.2	279.5
75°	158.3	174.0	202.8	231.6	243.9	256.2	259.0	261.7	250.1	238.4	224.7
77.5°	113.7	124.7	146.6	168.5	182.2	195.9	197.3	198.7	193.2	187.7	174.7
80°	80.2	83.6	97.3	111.0	125.4	139.8	141.8	143.9	138.4	132.9	124.7
82.5°	55.5	57.5	62.3	67.1	78.8	90.4	93.2	95.9	93.2	90.4	81.5
85°	33.6	34.3	36.3	38.4	43.8	49.3	52.1	54.8	53.4	52.1	47.3
87.5°	15.1	15.1	15.8	16.4	17.8	19.2	22.6	26.0	24.0	21.9	19.9
90°	16.2	13.6	11.1	8.8	6.8	4.8	2.9	0.9	2.9	4.8	6.8
92.5°	19.6	17.8	16.0	15.7	16.9	18.1	19.3	20.5	19.3	18.1	16.9
95°	23.2	21.1	18.9	21.9	30.0	38.1	46.2	54.3	46.2	38.1	30.0
97.5°	48.7	58.7	68.8	76.6	82.2	87.7	93.3	98.8	93.3	87.7	82.2
100°	91.1	121.9	152.8	166.2	162.3	158.3	154.4	150.4	154.4	158.3	162.3
102.5°	134.7	169.1	203.5	219.4	216.9	214.3	211.7	209.2	211.7	214.3	216.9
105°	230.5	248.3	266.1	273.9	271.8	269.6	267.4	265.2	267.4	269.6	271.8
107.5°	340.3	337.3	334.4	332.0	330.2	328.4	326.7	324.9	326.7	328.4	330.2
110°	397.1	394.9	392.7	390.8	389.3	387.7	386.1	384.5	386.1	387.7	389.3





TEST NUMBER: P831921

CATALOG NUMBER: S123RDIP-S1165D1025U940-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	453.1	451.0	448.8	447.0	445.6	444.2	442.9	441.5	442.9	444.2	445.6
115°	507.3	505.6	503.8	502.3	501.1	499.9	498.7	497.5	498.7	499.9	501.1
117.5°	561.4	560.4	559.5	558.3	556.9	555.5	554.1	552.7	554.1	555.5	556.9
120°	613.0	612.4	611.8	610.6	608.8	607.0	605.2	603.5	605.2	607.0	608.8
122.5°	663.3	662.5	661.7	660.6	659.2	657.9	656.5	655.1	656.5	657.9	659.2
125°	710.5	709.7	708.9	707.7	706.1	704.5	702.9	701.4	702.9	704.5	706.1
127.5°	757.2	756.3	755.3	754.0	752.4	750.8	749.2	747.6	749.2	750.8	752.4
130°	799.5	798.7	797.9	796.7	795.1	793.5	792.0	790.4	792.0	793.5	795.1
132.5°	839.9	839.3	838.7	837.6	836.1	834.5	832.9	831.3	832.9	834.5	836.1
135°	880.5	879.7	878.9	877.9	876.7	875.5	874.3	873.1	874.3	875.5	876.7
137.5°	916.9	916.5	916.1	915.1	913.5	911.9	910.3	908.7	910.3	911.9	913.5
140°	951.2	950.6	950.0	949.1	947.9	946.7	945.5	944.4	945.5	946.7	947.9
142.5°	984.1	983.5	982.9	982.0	980.8	979.7	978.5	977.3	978.5	979.7	980.8
145°	1014.8	1014.4	1014.0	1013.1	1011.7	1010.3	1008.9	1007.5	1008.9	1010.3	1011.7
147.5°	1042.4	1042.0	1041.6	1040.9	1039.9	1038.9	1037.9	1036.9	1037.9	1038.9	1039.9
150°	1067.3	1066.9	1066.5	1066.0	1065.4	1064.8	1064.2	1063.6	1064.2	1064.8	1065.4
152.5°	1089.0	1088.8	1088.6	1088.4	1088.2	1088.0	1087.8	1087.7	1087.8	1088.0	1088.2
155°	1108.6	1108.4	1108.2	1108.3	1108.7	1109.1	1109.5	1109.9	1109.5	1109.1	1108.7
157.5°	1127.2	1127.4	1127.6	1127.7	1127.7	1127.7	1127.7	1127.7	1127.7	1127.7	1127.7
160°	1142.3	1142.5	1142.7	1142.9	1143.1	1143.3	1143.5	1143.7	1143.5	1143.3	1143.1
162.5°	1155.7	1155.9	1156.1	1156.5	1157.1	1157.7	1158.3	1158.9	1158.3	1157.7	1157.1
165°	1167.3	1167.5	1167.7	1168.1	1168.6	1169.2	1169.8	1170.4	1169.8	1169.2	1168.6
167.5°	1176.7	1176.7	1176.7	1177.1	1177.8	1178.6	1179.4	1180.2	1179.4	1178.6	1177.8
170°	1184.7	1184.7	1184.7	1185.1	1185.9	1186.6	1187.4	1188.2	1187.4	1186.6	1185.9
172.5°	1189.6	1189.4	1189.2	1189.6	1190.6	1191.6	1192.6	1193.6	1192.6	1191.6	1190.6
175°	1194.1	1193.9	1193.7	1194.1	1195.1	1196.0	1197.0	1198.0	1197.0	1196.0	1195.1
177.5°	1195.8	1195.6	1195.4	1195.8	1196.8	1197.8	1198.8	1199.8	1198.8	1197.8	1196.8
180°	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0



TEST NUMBER: P831921

CATALOG NUMBER: S123RDIP-S1165D1025U940-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9	3341.9
2.5°	3235.1	3196.0	3157.0	3128.9	3100.8	3065.8	3030.9	3029.5	3028.2	3002.1	2976.1
5°	3043.2	2975.4	2907.6	2841.1	2774.7	2708.2	2641.8	2626.7	2611.6	2589.0	2566.4
7.5°	2873.3	2765.1	2656.8	2571.9	2486.9	2420.5	2354.0	2308.8	2263.6	2228.6	2193.7
10°	2691.1	2556.8	2422.5	2319.8	2217.0	2145.1	2073.1	2021.1	1969.0	1944.3	1919.7
12.5°	2502.0	2356.1	2210.1	2109.4	2008.7	1922.4	1836.1	1788.8	1741.5	1707.3	1673.0
15°	2328.0	2171.1	2014.2	1907.3	1800.5	1719.6	1638.8	1591.5	1544.2	1510.0	1475.7
17.5°	2159.4	2001.2	1842.9	1734.7	1626.4	1553.1	1479.8	1433.9	1388.0	1366.8	1345.5
20°	2006.0	1846.4	1686.7	1584.6	1482.6	1410.6	1338.7	1314.0	1289.4	1269.5	1249.6
22.5°	1853.9	1700.4	1547.0	1449.0	1351.0	1299.0	1246.9	1227.0	1207.2	1192.1	1177.0
25°	1726.5	1573.7	1420.9	1335.3	1249.6	1209.2	1168.8	1155.8	1142.8	1127.7	1112.6
27.5°	1597.7	1452.4	1307.2	1238.7	1170.2	1137.3	1104.4	1087.9	1071.5	1059.2	1046.8
30°	1483.9	1349.7	1215.4	1158.5	1101.6	1072.9	1044.1	1026.3	1008.5	996.8	985.2
32.5°	1374.3	1255.1	1135.9	1087.3	1038.6	1010.5	982.4	965.3	948.2	934.5	920.8
35°	1272.9	1169.5	1066.0	1021.5	977.0	948.9	920.8	903.7	886.5	872.8	859.1
37.5°	1183.9	1090.0	996.1	954.3	912.6	887.9	863.2	845.4	827.6	813.2	798.8
40°	1100.3	1017.4	934.5	894.1	853.6	826.9	800.2	784.4	768.7	755.7	742.7
42.5°	1026.3	950.2	874.2	834.5	794.7	769.4	744.0	725.5	707.0	699.5	692.0
45°	948.2	881.0	813.9	775.5	737.2	710.5	683.7	668.0	652.2	645.4	638.5
47.5°	879.7	817.3	755.0	717.3	679.6	655.6	631.7	619.3	607.0	597.4	587.8
50°	812.5	752.2	692.0	655.6	619.3	598.8	578.2	563.2	548.1	541.2	534.4
52.5°	748.1	693.3	638.5	601.5	564.5	544.7	524.8	511.8	498.8	484.4	470.0
55°	675.5	627.6	579.6	546.7	513.8	493.3	472.7	457.6	442.6	427.5	412.4
57.5°	615.2	568.0	520.7	491.2	461.8	441.9	422.0	405.6	389.1	376.8	364.5
60°	549.5	508.3	467.2	438.5	409.7	390.5	371.3	355.6	339.8	333.6	327.5
62.5°	487.8	449.4	411.1	385.7	360.4	341.9	323.4	313.1	302.8	298.7	294.6
65°	424.8	391.9	359.0	335.7	312.4	296.6	280.9	276.1	271.3	267.9	264.4
67.5°	365.8	337.8	309.7	289.1	268.6	257.6	246.6	241.2	235.7	231.6	227.5
70°	312.4	287.7	263.1	245.3	227.5	217.2	206.9	202.1	197.3	189.8	182.2
72.5°	254.9	235.7	216.5	202.8	189.1	180.2	171.3	161.7	152.1	145.2	138.4
75°	211.0	191.8	172.6	159.6	146.6	136.3	126.1	122.6	119.2	117.2	115.1
77.5°	161.7	145.2	128.8	118.5	108.2	103.5	98.7	96.6	94.5	93.9	93.2
80°	116.5	102.8	89.1	83.6	78.1	76.7	75.4	74.0	72.6	71.9	71.3
82.5°	72.6	65.8	58.9	57.5	56.2	55.5	54.8	54.1	53.4	52.8	52.1
85°	42.5	39.7	37.0	36.3	35.6	34.9	34.3	34.3	34.3	34.3	34.3
87.5°	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.1	16.4
90°	8.8	11.1	13.6	16.2	18.8	21.4	22.2	22.9	23.7	24.5	25.1
92.5°	15.7	16.0	17.8	19.6	21.4	23.1	24.5	25.9	27.3	28.7	29.5
95°	21.9	18.9	21.1	23.2	25.4	27.6	29.0	30.4	31.7	33.1	33.8
97.5°	76.6	68.8	58.7	48.7	38.6	28.5	30.1	31.6	33.2	34.8	35.7
100°	166.2	152.8	121.9	91.1	60.2	29.4	31.0	32.5	34.1	35.7	36.6
102.5°	219.4	203.5	169.1	134.7	100.3	65.9	59.3	52.8	46.3	39.8	36.7
105°	273.9	266.1	248.3	230.5	212.7	194.9	159.9	124.9	89.9	54.9	37.6
107.5°	332.0	334.4	337.3	340.3	343.3	346.2	315.8	285.3	254.9	224.4	196.2
110°	390.8	392.7	394.9	397.1	399.2	401.4	394.9	388.4	381.8	375.3	357.9



TEST NUMBER: P831921

CATALOG NUMBER: S123RDIP-S1165D1025U940-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	447.0	448.8	451.0	453.1	455.3	457.5	459.3	461.0	462.8	464.6	465.3
115°	502.3	503.8	505.6	507.3	509.1	510.9	512.9	514.8	516.8	518.8	520.2
117.5°	558.3	559.5	560.4	561.4	562.4	563.4	565.0	566.6	568.2	569.7	570.6
120°	610.6	611.8	612.4	613.0	613.5	614.1	615.7	617.3	618.9	620.5	621.3
122.5°	660.6	661.7	662.5	663.3	664.1	664.9	665.9	666.9	667.8	668.8	669.4
125°	707.7	708.9	709.7	710.5	711.3	712.0	712.4	712.8	713.2	713.6	714.0
127.5°	754.0	755.3	756.3	757.2	758.2	759.2	759.8	760.4	761.0	761.6	761.7
130°	796.7	797.9	798.7	799.5	800.3	801.1	801.8	802.6	803.4	804.2	804.4
132.5°	837.6	838.7	839.3	839.9	840.5	841.1	841.9	842.7	843.5	844.3	844.4
135°	877.9	878.9	879.7	880.5	881.3	882.0	882.6	883.2	883.8	884.4	884.4
137.5°	915.1	916.1	916.5	916.9	917.3	917.6	918.6	919.6	920.6	921.6	921.9
140°	949.1	950.0	950.6	951.2	951.8	952.4	953.2	953.9	954.7	955.5	955.7
142.5°	982.0	982.9	983.5	984.1	984.7	985.3	985.9	986.5	987.1	987.7	987.7
145°	1013.1	1014.0	1014.4	1014.8	1015.2	1015.6	1016.0	1016.3	1016.7	1017.1	1017.3
147.5°	1040.9	1041.6	1042.0	1042.4	1042.8	1043.1	1043.5	1043.9	1044.3	1044.7	1044.4
150°	1066.0	1066.5	1066.9	1067.3	1067.7	1068.1	1068.5	1068.9	1069.3	1069.7	1069.6
152.5°	1088.4	1088.6	1088.8	1089.0	1089.2	1089.4	1090.2	1091.0	1091.8	1092.6	1092.5
155°	1108.3	1108.2	1108.4	1108.6	1108.8	1109.0	1110.0	1111.0	1112.0	1113.0	1112.9
157.5°	1127.7	1127.6	1127.4	1127.2	1127.0	1126.8	1128.0	1129.2	1130.4	1131.6	1131.4
160°	1142.9	1142.7	1142.5	1142.3	1142.1	1141.9	1143.1	1144.3	1145.5	1146.7	1146.6
162.5°	1156.5	1156.1	1155.9	1155.7	1155.5	1155.3	1156.7	1158.1	1159.4	1160.8	1160.9
165°	1168.1	1167.7	1167.5	1167.3	1167.1	1166.9	1168.4	1170.0	1171.6	1173.2	1173.3
167.5°	1177.1	1176.7	1176.7	1176.7	1176.7	1176.7	1178.2	1179.8	1181.4	1183.0	1183.0
170°	1185.1	1184.7	1184.7	1184.7	1184.7	1184.7	1186.2	1187.8	1189.4	1191.0	1191.0
172.5°	1189.6	1189.2	1189.4	1189.6	1189.8	1190.0	1191.6	1193.2	1194.8	1196.3	1196.2
175°	1194.1	1193.7	1193.9	1194.1	1194.3	1194.5	1195.8	1197.2	1198.6	1200.0	1199.9
177.5°	1195.8	1195.4	1195.6	1195.8	1196.0	1196.2	1197.8	1199.4	1201.0	1202.6	1202.4
180°	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0



TEST NUMBER: P831921

CATALOG NUMBER: S123RDIP-S1165D1025U940-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	3341.9	3341.9	3341.9	3341.9
2.5°	2969.2	2962.4	2959.6	2956.9
5°	2545.2	2523.9	2519.1	2514.3
7.5°	2184.8	2175.9	2146.4	2117.0
10°	1892.3	1864.9	1852.5	1840.2
12.5°	1647.7	1622.3	1618.2	1614.1
15°	1457.9	1440.1	1433.9	1427.8
17.5°	1333.2	1320.9	1313.3	1305.8
20°	1240.7	1231.8	1226.3	1220.9
22.5°	1170.2	1163.3	1159.2	1155.1
25°	1102.3	1092.1	1088.6	1085.2
27.5°	1037.9	1029.0	1025.6	1022.2
30°	977.6	970.1	965.3	960.5
32.5°	911.9	903.0	900.2	897.5
35°	853.6	848.2	845.4	842.7
37.5°	792.0	785.1	781.0	776.9
40°	739.2	735.8	733.7	731.7
42.5°	685.8	679.6	678.9	678.3
45°	632.4	626.2	624.8	623.4
47.5°	582.3	576.9	576.2	575.5
50°	526.8	519.3	513.8	508.3
52.5°	463.1	456.3	451.5	446.7
55°	404.9	397.4	393.2	389.1
57.5°	361.0	357.6	355.6	353.5
60°	325.4	323.4	322.0	320.6
62.5°	292.5	290.5	290.5	290.5
65°	262.4	260.3	258.3	256.2
67.5°	223.3	219.2	218.5	217.9
70°	176.1	169.9	169.2	168.5
72.5°	137.7	137.0	135.7	134.3
75°	113.7	112.4	112.4	112.4
77.5°	91.8	90.4	90.4	90.4
80°	70.6	69.9	70.6	71.3
82.5°	52.1	52.1	51.4	50.7
85°	33.6	32.9	32.9	32.9
87.5°	16.4	16.4	16.4	16.4
90°	25.5	25.9	26.3	26.7
92.5°	29.7	29.9	30.1	30.3
95°	33.8	33.8	33.8	33.8
97.5°	35.9	36.1	36.3	36.5
100°	36.8	37.0	37.2	37.4
102.5°	37.1	37.5	37.9	38.3
105°	38.0	38.4	38.8	39.2
107.5°	170.3	144.4	118.5	92.6
110°	329.6	301.3	273.0	244.8



TEST NUMBER: P831921

CATALOG NUMBER: S123RDIP-S1165D1025U940-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	464.9	464.5	464.1	463.7
115°	521.0	521.8	522.6	523.4
117.5°	570.8	571.0	571.2	571.4
120°	621.3	621.3	621.3	621.3
122.5°	669.6	669.8	670.0	670.2
125°	714.4	714.8	715.2	715.6
127.5°	761.3	760.9	760.5	760.1
130°	804.0	803.6	803.2	802.8
132.5°	843.8	843.2	842.6	842.0
135°	883.8	883.2	882.6	882.0
137.5°	921.5	921.1	920.7	920.3
140°	955.3	954.9	954.5	954.1
142.5°	987.1	986.5	985.9	985.3
145°	1017.3	1017.3	1017.3	1017.3
147.5°	1043.4	1042.5	1041.5	1040.5
150°	1069.0	1068.4	1067.8	1067.2
152.5°	1091.5	1090.5	1089.5	1088.5
155°	1111.7	1110.5	1109.3	1108.1
157.5°	1129.8	1128.2	1126.6	1125.0
160°	1145.2	1143.8	1142.4	1141.1
162.5°	1159.7	1158.6	1157.4	1156.2
165°	1171.9	1170.5	1169.1	1167.8
167.5°	1181.4	1179.8	1178.2	1176.7
170°	1189.4	1187.8	1186.2	1184.7
172.5°	1194.5	1192.7	1190.9	1189.1
175°	1198.3	1196.7	1195.1	1193.6
177.5°	1200.4	1198.4	1196.4	1194.5
180°	1198.0	1198.0	1198.0	1198.0



TEST NUMBER: P831921

CATALOG NUMBER: S123RDIP-S1165D1025U940-4F0-1E-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	13.64	14.48	14.56	15.42	16.62	18.30	19.15	19.23	20.08	21.29
	3H	14.86	15.61	15.80	16.56	17.79	19.80	20.56	20.74	21.50	22.73
	4H	15.24	15.96	16.20	16.91	18.14	20.29	21.01	21.25	21.96	23.19
	6H	15.52	16.18	16.49	17.14	18.39	20.60	21.26	21.57	22.22	23.47
	8H	15.61	16.24	16.58	17.21	18.46	20.68	21.31	21.65	22.28	23.53
	12H	15.66	16.26	16.64	17.22	18.49	20.72	21.31	21.69	22.28	23.55
4H	2H	14.36	15.08	15.32	16.02	17.26	18.30	19.01	19.26	19.96	21.20
	3H	15.73	16.32	16.70	17.30	18.56	19.96	20.55	20.92	21.53	22.78
	4H	16.19	16.73	17.16	17.70	18.98	20.56	21.10	21.54	22.08	23.36
	6H	16.56	17.02	17.55	18.02	19.29	21.00	21.47	21.99	22.46	23.74
	8H	16.68	17.12	17.67	18.11	19.40	21.13	21.57	22.12	22.56	23.85
	12H	16.76	17.15	17.77	18.16	19.45	21.20	21.59	22.21	22.59	23.89
8H	4H	16.50	16.94	17.49	17.93	19.22	20.53	20.97	21.52	21.96	23.25
	6H	16.97	17.32	17.98	18.36	19.64	21.03	21.39	22.04	22.42	23.71
	8H	17.16	17.47	18.18	18.50	19.80	21.22	21.53	22.24	22.55	23.86
	12H	17.30	17.58	18.33	18.59	19.94	21.33	21.61	22.36	22.62	23.97
12H	4H	16.52	16.91	17.52	17.91	19.21	20.48	20.87	21.49	21.88	23.17
	6H	17.03	17.34	18.05	18.36	19.67	21.00	21.32	22.03	22.34	23.65
	8H	17.25	17.52	18.27	18.54	19.89	21.20	21.47	22.22	22.49	23.84