

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: P831977

Luminaire Tested: S123RDIP-S1165D365U940-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831977
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-S1165D365U940-4F0-1E-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

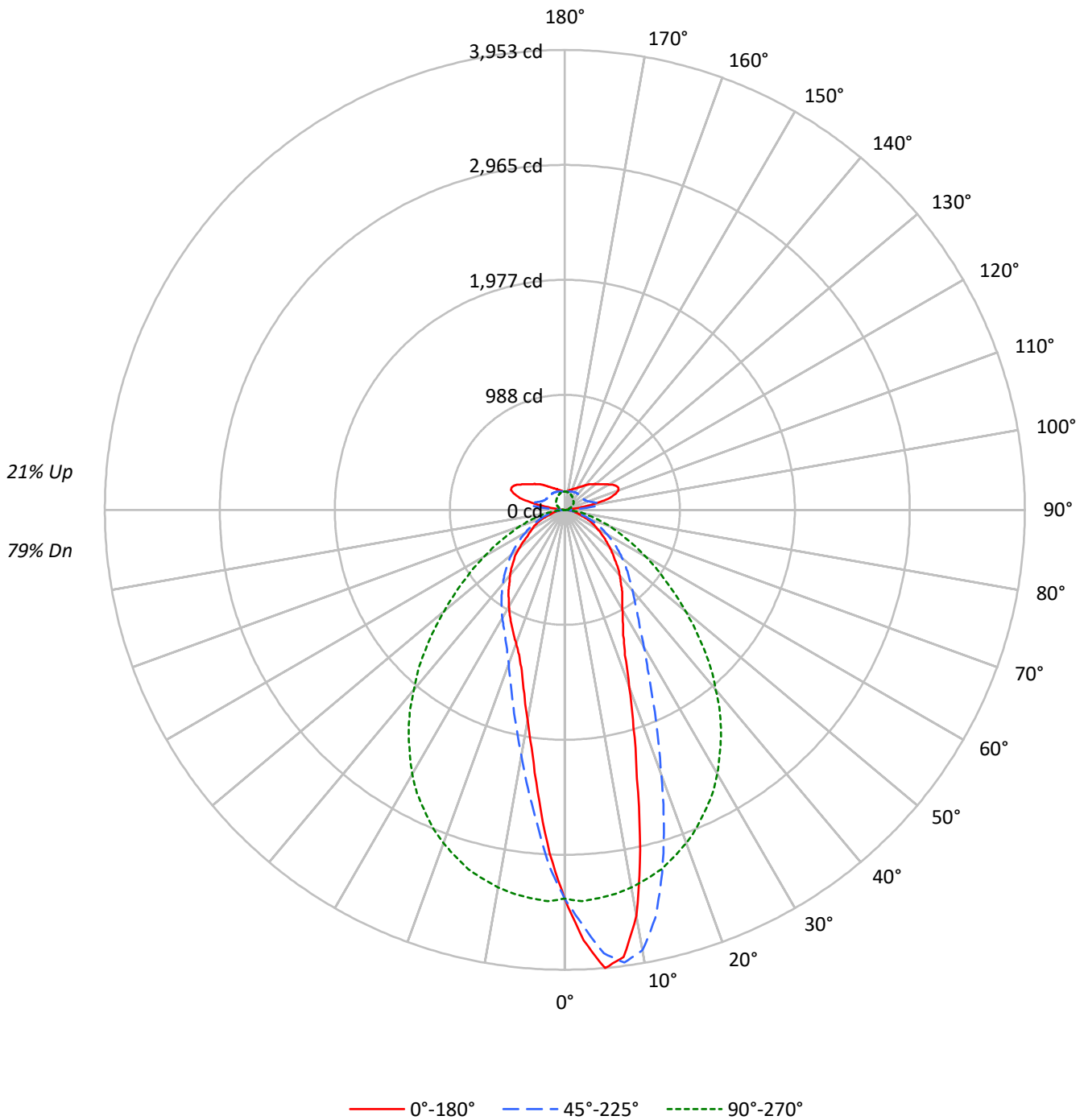
Lumens per Lamp: N/A
Luminaire Lumens: 5602.7 lumens
Efficiency: N/A
Efficacy: 107.3 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Direct

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

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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	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°	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	5.4
10°-20°	704.9	12.6
20°-30°	808.7	14.4
30°-40°	797.1	14.2
40°-50°	703.0	12.5
50°-60°	540.8	9.7
60°-70°	355.6	6.3
70°-80°	172.7	3.1
80°-90°	44.4	0.8
90°-100°	84.5	1.5
100°-110°	247.3	4.4
110°-120°	241.5	4.3
120°-130°	192.3	3.4
130°-140°	151.7	2.7
140°-150°	113.2	2.0
150°-160°	78.9	1.4
160°-170°	46.4	0.8
170°-180°	15.1	0.3
0°-30°	1818.2	32.5
0°-40°	2615.4	46.7
0°-60°	3859.1	68.9
0°-90°	4431.8	79.1
90°-120°	573.3	10.2
90°-150°	1030.6	18.4
90°-180°	1171.0	20.9
0°-180°	5602.7	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°	9	8	1	8	9	7
95°	37	187	11	187	37	59
105°	401	253	37	253	401	400
115°	488	194	65	194	488	475
125°	384	181	90	181	384	348
135°	312	178	105	178	312	242
145°	244	176	120	176	244	155
155°	202	170	136	170	202	94
165°	176	163	149	163	176	50
175°	158	157	155	157	158	15
180°	156	156	156	156	156	



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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°	9.1	9.5	9.1	8.8	9.1	8.5	8.2	7.9	7.6	7.9	6.9
92.5°	16.7	17.3	17.0	18.3	18.9	21.1	24.3	31.2	43.8	58.6	64.9
95°	36.6	37.8	40.0	42.9	48.8	60.2	76.9	113.4	151.6	186.9	166.4
97.5°	75.0	78.5	86.0	98.0	119.1	155.0	196.6	260.6	297.2	287.4	214.6
100°	197.6	197.3	209.6	232.6	264.4	309.1	346.0	371.5	360.5	298.4	201.7
102.5°	312.9	322.0	331.8	348.8	371.8	396.1	413.7	408.4	363.6	277.9	182.8
105°	400.8	402.4	412.5	424.5	439.0	447.1	441.2	409.6	343.8	253.4	168.0
107.5°	458.2	461.6	465.7	471.4	473.3	464.8	440.2	390.7	315.4	231.6	157.2
110°	490.9	491.6	492.2	489.7	480.9	458.8	419.1	361.1	289.0	213.6	151.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	497.6	497.2	494.1	485.0	467.0	437.1	391.4	331.8	266.0	201.7	148.4
115°	487.5	485.9	479.6	465.7	442.1	407.8	361.4	306.6	248.3	193.8	148.1
117.5°	465.4	463.2	453.8	438.3	413.7	378.1	335.6	287.1	236.7	188.4	148.4
120°	436.4	434.5	427.0	409.3	384.4	352.6	314.8	272.3	227.8	185.0	149.7
122.5°	409.3	406.8	398.3	382.9	361.4	332.4	298.1	260.6	220.6	182.8	151.9
125°	384.4	382.2	374.4	360.5	340.3	315.1	284.9	250.5	214.6	180.9	154.1
127.5°	363.0	361.1	353.9	341.9	323.6	300.3	272.6	241.4	208.9	179.9	156.6
130°	345.4	342.8	336.2	324.9	308.2	286.8	261.2	232.9	204.5	179.0	159.1
132.5°	328.0	326.5	320.8	309.4	294.0	273.8	250.5	225.0	200.4	178.7	161.0
135°	311.6	309.4	303.8	294.3	278.9	260.9	240.4	218.1	196.9	178.4	162.9
137.5°	294.3	292.4	287.7	277.9	264.7	248.6	230.3	211.4	193.8	177.7	164.2
140°	276.0	276.4	271.3	262.5	250.5	237.0	221.8	205.8	191.0	177.4	165.4
142.5°	259.0	259.3	254.9	247.4	237.6	226.3	213.6	200.4	188.4	176.8	166.4
145°	243.6	243.0	240.4	233.8	225.9	216.8	206.7	196.3	186.2	176.1	166.7
147.5°	230.3	230.0	227.5	222.8	216.5	209.9	201.4	192.8	184.0	175.2	166.7
150°	219.0	219.0	217.1	213.6	208.9	202.9	196.3	189.1	181.8	173.9	166.7
152.5°	209.6	209.6	208.6	205.5	202.0	197.3	191.6	185.6	179.3	172.4	165.7
155°	202.0	201.7	201.0	198.5	195.7	191.9	187.2	182.1	176.8	170.5	165.1
157.5°	194.7	194.7	194.1	192.2	189.7	186.5	182.8	178.4	173.9	168.9	164.2
160°	187.8	188.1	188.1	186.2	184.0	181.8	178.7	175.2	171.1	167.0	163.5
162.5°	181.5	181.8	181.8	180.2	179.0	177.1	174.3	171.4	168.3	165.1	162.3
165°	176.1	176.1	176.5	175.2	173.9	172.4	170.2	168.3	165.7	163.2	161.0
167.5°	170.8	170.8	171.1	170.2	169.5	168.3	167.0	165.4	163.2	161.3	159.8
170°	166.1	166.1	166.4	165.7	165.4	164.8	163.5	162.6	161.0	159.4	158.5
172.5°	161.7	162.0	162.6	162.0	162.0	161.7	160.7	160.1	158.8	157.9	157.6
175°	158.5	158.8	159.1	158.8	158.8	158.8	158.2	157.9	157.2	156.6	156.6
177.5°	156.3	156.3	156.9	156.6	156.9	156.9	156.6	156.3	156.0	155.7	156.0
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7



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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°	6.0	5.0	4.1	3.5	2.8	1.9	1.3	0.6	1.3	1.9	2.8
92.5°	48.5	31.8	21.7	16.1	12.9	10.1	6.9	4.7	6.9	10.1	12.9
95°	114.7	67.7	41.0	28.7	20.5	15.1	11.7	10.7	11.7	15.1	20.5
97.5°	127.6	73.1	46.6	33.1	24.9	20.2	17.3	17.0	17.3	20.2	24.9
100°	118.8	72.2	50.1	37.8	30.3	25.8	23.6	23.3	23.6	25.8	30.3
102.5°	111.2	73.4	54.2	43.2	36.6	32.5	30.6	29.9	30.6	32.5	36.6
105°	108.4	75.9	58.9	49.2	43.2	39.4	37.5	36.6	37.5	39.4	43.2
107.5°	107.8	80.0	64.9	55.8	50.1	46.3	44.4	43.5	44.4	46.3	50.1
110°	109.3	85.4	71.2	62.4	57.0	53.6	52.0	51.0	52.0	53.6	57.0



TEST NUMBER: P831977

CATALOG NUMBER: S123RDIP-S1165D365U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	112.5	90.8	77.8	69.3	64.0	60.5	58.9	58.0	58.9	60.5	64.0
115°	116.0	96.7	84.8	76.3	70.9	67.7	65.9	64.6	65.9	67.7	70.9
117.5°	120.4	103.0	91.1	83.2	77.2	74.4	72.8	71.2	72.8	74.4	77.2
120°	125.4	109.0	97.7	89.8	83.8	80.7	79.1	78.1	79.1	80.7	83.8
122.5°	130.1	115.3	104.3	95.8	90.1	86.7	85.1	84.1	85.1	86.7	90.1
125°	135.2	121.3	110.3	101.8	95.8	92.3	90.4	89.8	90.4	92.3	95.8
127.5°	139.3	126.7	116.0	107.5	100.8	97.4	95.2	94.2	95.2	97.4	100.8
130°	143.4	131.4	121.0	112.5	105.9	102.1	99.3	98.3	99.3	102.1	105.9
132.5°	147.2	135.5	125.4	117.2	110.6	105.9	102.7	101.5	102.7	105.9	110.6
135°	150.3	139.6	129.8	121.3	114.7	110.0	106.5	105.2	106.5	110.0	114.7
137.5°	152.8	142.4	133.0	125.1	118.5	113.4	110.0	108.7	110.0	113.4	118.5
140°	154.7	145.3	136.1	128.3	121.9	116.9	113.8	112.2	113.8	116.9	121.9
142.5°	156.6	147.5	138.6	131.4	125.1	120.7	117.2	116.0	117.2	120.7	125.1
145°	157.9	149.4	141.2	133.9	128.6	123.8	121.0	120.1	121.0	123.8	128.6
147.5°	158.8	150.9	143.4	137.1	131.7	127.6	124.8	124.2	124.8	127.6	131.7
150°	159.1	152.5	145.3	139.6	135.2	131.1	128.6	128.3	128.6	131.1	135.2
152.5°	159.8	153.5	147.5	142.1	138.3	134.9	132.3	132.3	132.3	134.9	138.3
155°	159.8	154.7	149.4	145.0	141.5	138.3	136.4	136.4	136.4	138.3	141.5
157.5°	160.1	155.4	150.9	147.5	144.3	141.5	139.9	139.6	139.9	141.5	144.3
160°	160.1	156.3	152.5	149.4	147.2	144.6	143.4	143.4	143.4	144.6	147.2
162.5°	159.8	156.6	153.5	150.9	149.0	147.2	146.2	146.2	146.2	147.2	149.0
165°	159.1	156.9	154.4	152.2	150.9	149.4	148.7	149.0	148.7	149.4	150.9
167.5°	158.8	156.9	155.0	153.5	152.5	151.3	150.9	151.3	150.9	151.3	152.5
170°	157.9	156.6	155.0	154.4	153.8	152.8	152.5	153.1	152.5	152.8	153.8
172.5°	157.6	156.6	155.4	155.0	154.7	154.1	154.1	154.4	154.1	154.1	154.7
175°	156.9	156.3	155.7	155.4	155.4	154.7	155.0	155.4	155.0	154.7	155.4
177.5°	156.6	156.0	155.7	155.7	155.7	155.4	155.7	156.0	155.7	155.4	155.7
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7



TEST NUMBER: P831977

CATALOG NUMBER: S123RDIP-S1165D365U940-4F0-1E-UDD-G4

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°	3.5	4.1	5.0	6.0	6.9	7.9	7.6	7.9	8.2	8.5	9.1
92.5°	16.1	21.7	31.8	48.5	64.9	58.6	43.8	31.2	24.3	21.1	18.9
95°	28.7	41.0	67.7	114.7	166.4	186.9	151.6	113.4	76.9	60.2	48.8
97.5°	33.1	46.6	73.1	127.6	214.6	287.4	297.2	260.6	196.6	155.0	119.1
100°	37.8	50.1	72.2	118.8	201.7	298.4	360.5	371.5	346.0	309.1	264.4
102.5°	43.2	54.2	73.4	111.2	182.8	277.9	363.6	408.4	413.7	396.1	371.8
105°	49.2	58.9	75.9	108.4	168.0	253.4	343.8	409.6	441.2	447.1	439.0
107.5°	55.8	64.9	80.0	107.8	157.2	231.6	315.4	390.7	440.2	464.8	473.3
110°	62.4	71.2	85.4	109.3	151.6	213.6	289.0	361.1	419.1	458.8	480.9



TEST NUMBER: P831977

CATALOG NUMBER: S123RDIP-S1165D365U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	69.3	77.8	90.8	112.5	148.4	201.7	266.0	331.8	391.4	437.1	467.0
115°	76.3	84.8	96.7	116.0	148.1	193.8	248.3	306.6	361.4	407.8	442.1
117.5°	83.2	91.1	103.0	120.4	148.4	188.4	236.7	287.1	335.6	378.1	413.7
120°	89.8	97.7	109.0	125.4	149.7	185.0	227.8	272.3	314.8	352.6	384.4
122.5°	95.8	104.3	115.3	130.1	151.9	182.8	220.6	260.6	298.1	332.4	361.4
125°	101.8	110.3	121.3	135.2	154.1	180.9	214.6	250.5	284.9	315.1	340.3
127.5°	107.5	116.0	126.7	139.3	156.6	179.9	208.9	241.4	272.6	300.3	323.6
130°	112.5	121.0	131.4	143.4	159.1	179.0	204.5	232.9	261.2	286.8	308.2
132.5°	117.2	125.4	135.5	147.2	161.0	178.7	200.4	225.0	250.5	273.8	294.0
135°	121.3	129.8	139.6	150.3	162.9	178.4	196.9	218.1	240.4	260.9	278.9
137.5°	125.1	133.0	142.4	152.8	164.2	177.7	193.8	211.4	230.3	248.6	264.7
140°	128.3	136.1	145.3	154.7	165.4	177.4	191.0	205.8	221.8	237.0	250.5
142.5°	131.4	138.6	147.5	156.6	166.4	176.8	188.4	200.4	213.6	226.3	237.6
145°	133.9	141.2	149.4	157.9	166.7	176.1	186.2	196.3	206.7	216.8	225.9
147.5°	137.1	143.4	150.9	158.8	166.7	175.2	184.0	192.8	201.4	209.9	216.5
150°	139.6	145.3	152.5	159.1	166.7	173.9	181.8	189.1	196.3	202.9	208.9
152.5°	142.1	147.5	153.5	159.8	165.7	172.4	179.3	185.6	191.6	197.3	202.0
155°	145.0	149.4	154.7	159.8	165.1	170.5	176.8	182.1	187.2	191.9	195.7
157.5°	147.5	150.9	155.4	160.1	164.2	168.9	173.9	178.4	182.8	186.5	189.7
160°	149.4	152.5	156.3	160.1	163.5	167.0	171.1	175.2	178.7	181.8	184.0
162.5°	150.9	153.5	156.6	159.8	162.3	165.1	168.3	171.4	174.3	177.1	179.0
165°	152.2	154.4	156.9	159.1	161.0	163.2	165.7	168.3	170.2	172.4	173.9
167.5°	153.5	155.0	156.9	158.8	159.8	161.3	163.2	165.4	167.0	168.3	169.5
170°	154.4	155.0	156.6	157.9	158.5	159.4	161.0	162.6	163.5	164.8	165.4
172.5°	155.0	155.4	156.6	157.6	157.6	157.9	158.8	160.1	160.7	161.7	162.0
175°	155.4	155.7	156.3	156.9	156.6	156.6	157.2	157.9	158.2	158.8	158.8
177.5°	155.7	155.7	156.0	156.6	156.0	155.7	156.0	156.3	156.6	156.9	156.9
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7



TEST NUMBER: P831977

CATALOG NUMBER: S123RDIP-S1165D365U940-4F0-1E-UDD-G4

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°	8.8	9.1	9.5	9.1
92.5°	18.3	17.0	17.3	16.7
95°	42.9	40.0	37.8	36.6
97.5°	98.0	86.0	78.5	75.0
100°	232.6	209.6	197.3	197.6
102.5°	348.8	331.8	322.0	312.9
105°	424.5	412.5	402.4	400.8
107.5°	471.4	465.7	461.6	458.2
110°	489.7	492.2	491.6	490.9



TEST NUMBER: P831977

CATALOG NUMBER: S123RDIP-S1165D365U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	485.0	494.1	497.2	497.6
115°	465.7	479.6	485.9	487.5
117.5°	438.3	453.8	463.2	465.4
120°	409.3	427.0	434.5	436.4
122.5°	382.9	398.3	406.8	409.3
125°	360.5	374.4	382.2	384.4
127.5°	341.9	353.9	361.1	363.0
130°	324.9	336.2	342.8	345.4
132.5°	309.4	320.8	326.5	328.0
135°	294.3	303.8	309.4	311.6
137.5°	277.9	287.7	292.4	294.3
140°	262.5	271.3	276.4	276.0
142.5°	247.4	254.9	259.3	259.0
145°	233.8	240.4	243.0	243.6
147.5°	222.8	227.5	230.0	230.3
150°	213.6	217.1	219.0	219.0
152.5°	205.5	208.6	209.6	209.6
155°	198.5	201.0	201.7	202.0
157.5°	192.2	194.1	194.7	194.7
160°	186.2	188.1	188.1	187.8
162.5°	180.2	181.8	181.8	181.5
165°	175.2	176.5	176.1	176.1
167.5°	170.2	171.1	170.8	170.8
170°	165.7	166.4	166.1	166.1
172.5°	162.0	162.6	162.0	161.7
175°	158.8	159.1	158.8	158.5
177.5°	156.6	156.9	156.3	156.3
180°	155.7	155.7	155.7	155.7



TEST NUMBER: P831977

CATALOG NUMBER: S123RDIP-S1165D365U940-4F0-1E-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	15.60	16.70	16.28	17.38	18.17	20.27	21.37	20.94	22.04	22.83
	3H	16.84	17.83	17.53	18.52	19.34	21.79	22.77	22.47	23.46	24.28
	4H	17.24	18.16	17.94	18.86	19.70	22.29	23.21	22.99	23.91	24.75
	6H	17.53	18.38	18.25	19.09	19.94	22.61	23.46	23.33	24.17	25.02
	8H	17.63	18.43	18.35	19.16	20.02	22.70	23.51	23.43	24.24	25.09
	12H	17.69	18.46	18.42	19.18	20.06	22.74	23.51	23.47	24.23	25.11
4H	2H	16.36	17.28	17.07	17.98	18.82	20.29	21.22	21.00	21.92	22.75
	3H	17.75	18.51	18.47	19.25	20.11	21.98	22.74	22.69	23.48	24.33
	4H	18.22	18.91	18.95	19.65	20.53	22.59	23.28	23.33	24.02	24.91
	6H	18.60	19.19	19.35	19.96	20.85	23.04	23.64	23.80	24.40	25.30
	8H	18.73	19.28	19.48	20.04	20.95	23.18	23.74	23.94	24.50	25.40
	12H	18.81	19.31	19.59	20.10	21.01	23.25	23.75	24.03	24.54	25.45
8H	4H	18.55	19.10	19.31	19.87	20.77	22.58	23.13	23.33	23.90	24.80
	6H	19.02	19.48	19.81	20.28	21.19	23.08	23.54	23.87	24.35	25.25
	8H	19.21	19.62	20.01	20.43	21.35	23.27	23.68	24.07	24.48	25.40
	12H	19.36	19.72	20.16	20.52	21.50	23.40	23.75	24.20	24.55	25.53
12H	4H	18.57	19.07	19.35	19.85	20.76	22.54	23.04	23.32	23.82	24.73
	6H	19.08	19.49	19.88	20.29	21.21	23.06	23.46	23.86	24.27	25.19
	8H	19.31	19.67	20.11	20.46	21.44	23.26	23.62	24.06	24.41	25.40