

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: P831968

Luminaire Tested: S123RDIP-S1165D365U927-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831968
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-S1165D365U927-4F0-1E-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: -

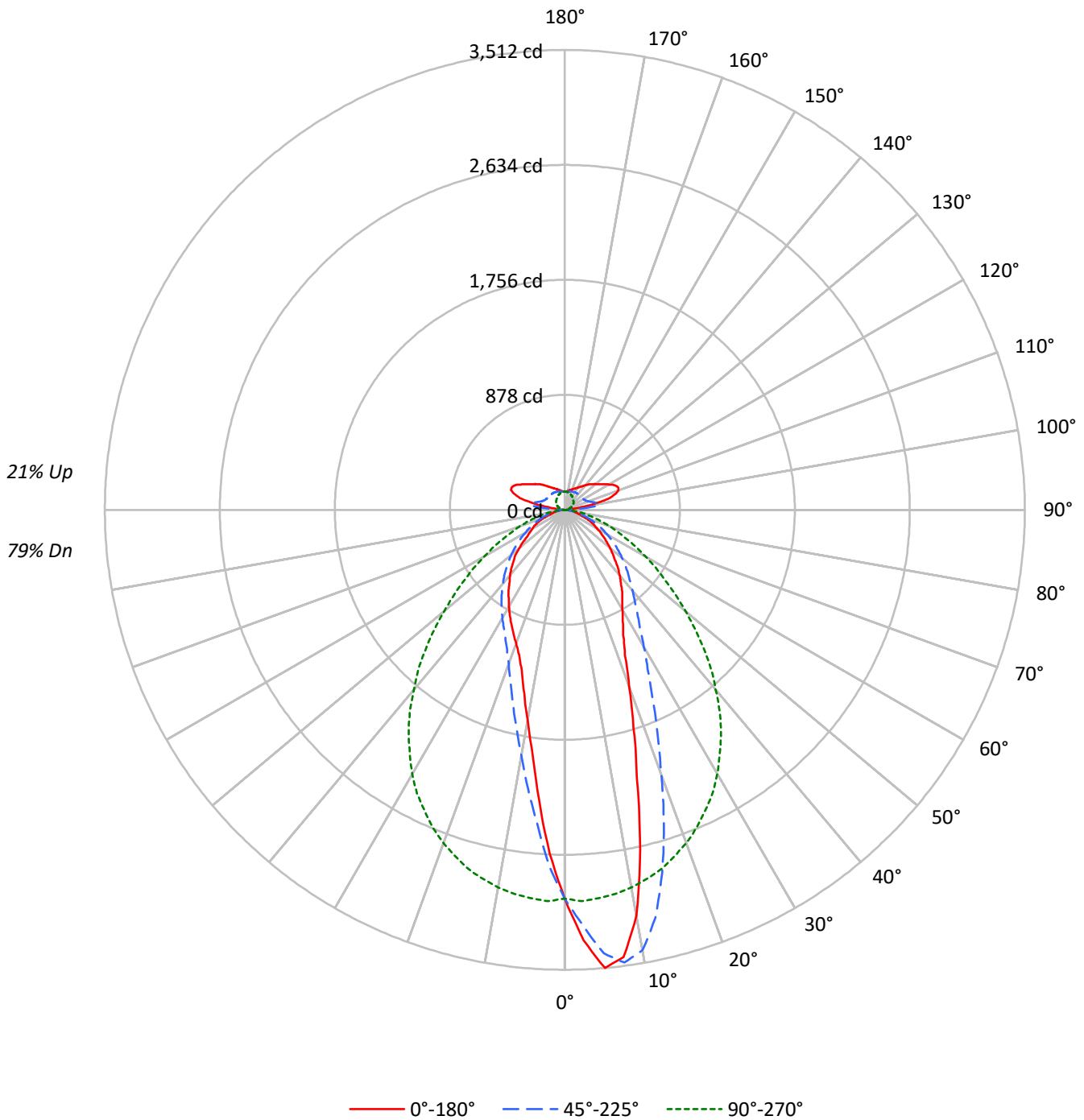
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4977.4 lumens
Efficiency: N/A
Efficacy: 95.4 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°	31957	31957	31957	31957	31957
5°	37945	36735	32158	25996	24135
10°	34379	37313	31997	20828	17868
15°	23670	31992	31660	17024	14135
20°	16467	24631	31024	14355	12424
25°	12549	18772	30100	12758	11450
30°	10924	15008	28942	11846	10606
35°	10029	12661	27304	11077	9837
40°	9150	11306	25160	10322	9133
45°	8264	10339	22847	9608	8432
50°	7502	9540	20118	8907	7562
55°	6784	8760	17498	8223	6488
60°	6079	7965	15199	7468	6131
65°	5611	7068	13084	6711	5797
70°	4560	6112	11415	6071	4711
75°	4001	4862	9669	5036	4151
80°	3620	4110	7922	4228	3924
85°	3310	3606	6015	3829	3606

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 24108 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	270.6	5.4
10°-20°	626.2	12.6
20°-30°	718.5	14.4
30°-40°	708.2	14.2
40°-50°	624.5	12.5
50°-60°	480.5	9.7
60°-70°	315.9	6.3
70°-80°	153.4	3.1
80°-90°	39.4	0.8
90°-100°	75.1	1.5
100°-110°	219.7	4.4
110°-120°	214.5	4.3
120°-130°	170.9	3.4
130°-140°	134.8	2.7
140°-150°	100.6	2.0
150°-160°	70.1	1.4
160°-170°	41.2	0.8
170°-180°	13.4	0.3
0°-30°	1615.3	32.5
0°-40°	2323.4	46.7
0°-60°	3428.4	68.9
0°-90°	3937.1	79.1
90°-120°	509.3	10.2
90°-150°	915.5	18.4
90°-180°	1040.0	20.9
0°-180°	4977.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2969	2969	2969	2969	2969	
5°	3512	3400	2976	2406	2234	321
15°	2124	2871	2841	1528	1268	600
25°	1057	1581	2534	1074	964	499
35°	763	964	2078	843	749	476
45°	543	679	1501	631	554	421
55°	362	467	932	438	346	324
65°	220	278	514	264	228	216
75°	96	117	232	121	100	104
85°	27	29	49	31	29	28
90°	8	7	1	7	8	6
95°	32	166	10	166	32	53
105°	356	225	32	225	356	355
115°	433	172	57	172	433	422
125°	342	161	80	161	342	309
135°	277	158	94	158	277	215
145°	216	156	107	156	216	137
155°	179	151	121	151	179	84
165°	156	145	132	145	156	45
175°	141	139	138	139	141	14
180°	138	138	138	138	138	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9
2.5°	3290.3	3279.9	3269.6	3266.5	3263.5	3253.8	3244.0	3222.1	3200.2	3177.7	3155.2
5°	3511.8	3513.0	3514.3	3511.2	3508.2	3495.4	3482.6	3455.8	3429.0	3399.8	3370.6
7.5°	3443.7	3463.1	3482.6	3486.3	3489.9	3499.6	3509.4	3503.3	3497.2	3486.3	3475.3
10°	3145.4	3144.2	3143.0	3164.9	3186.8	3251.9	3317.1	3350.5	3384.0	3413.8	3443.7
12.5°	2658.5	2660.3	2662.2	2734.0	2805.8	2867.3	2928.7	3014.0	3099.2	3191.1	3283.0
15°	2124.1	2154.0	2183.8	2247.7	2311.6	2404.1	2496.6	2611.0	2725.5	2870.9	3016.4
17.5°	1744.3	1757.1	1769.9	1831.4	1892.9	1980.5	2068.1	2197.8	2327.4	2514.9	2702.3
20°	1437.6	1449.2	1460.7	1505.2	1549.6	1633.6	1717.6	1841.1	1964.7	2150.3	2335.9
22.5°	1200.2	1222.7	1245.3	1275.1	1304.9	1365.8	1426.6	1552.6	1678.6	1847.8	2017.0
25°	1056.6	1066.9	1077.3	1102.8	1128.4	1186.8	1245.3	1328.6	1412.0	1580.6	1749.2
27.5°	959.2	962.3	965.3	984.2	1003.0	1040.8	1078.5	1155.8	1233.1	1371.9	1510.6
30°	878.9	884.3	889.8	904.4	919.0	946.4	973.8	1028.6	1083.4	1207.5	1331.7
32.5°	816.8	819.8	822.9	835.0	847.2	867.3	887.4	930.6	973.8	1068.8	1163.7
35°	763.2	763.8	764.4	773.6	782.7	802.2	821.7	857.6	893.5	963.5	1033.5
37.5°	702.4	706.6	710.9	717.6	724.3	741.3	758.4	787.6	816.8	874.6	932.4
40°	651.2	654.9	658.5	666.5	674.4	687.8	701.1	727.9	754.7	804.6	854.5
42.5°	600.1	602.5	605.0	612.9	620.8	637.2	653.7	675.0	696.3	737.7	779.1
45°	542.9	549.0	555.1	563.6	572.1	586.1	600.1	622.0	643.9	679.2	714.5
47.5°	495.4	498.5	501.5	508.8	516.1	533.2	550.2	569.7	589.2	622.0	654.9
50°	448.0	449.2	450.4	457.1	463.8	479.0	494.2	516.7	539.3	569.7	600.1
52.5°	402.9	406.0	409.0	415.7	422.4	432.7	443.1	466.2	489.3	519.2	549.0
55°	361.5	363.4	365.2	370.0	374.9	387.1	399.3	419.3	439.4	466.8	494.2
57.5°	322.6	325.0	327.4	331.1	334.7	345.7	356.7	374.3	392.0	419.3	446.7
60°	282.4	285.4	288.5	292.8	297.0	305.5	314.1	329.9	345.7	370.0	394.4
62.5°	253.2	253.8	254.4	258.1	261.7	267.8	273.9	286.7	299.4	323.8	348.1
65°	220.3	222.2	224.0	225.8	227.6	232.5	237.4	248.3	259.3	277.5	295.8
67.5°	186.2	188.1	189.9	192.9	196.0	200.2	204.5	211.8	219.1	236.2	253.2
70°	144.9	144.9	144.9	149.7	154.6	161.9	169.2	174.7	180.2	194.2	208.2
72.5°	118.1	118.7	119.3	119.9	120.5	124.8	129.0	138.2	147.3	155.8	164.3
75°	96.2	96.8	97.4	98.0	98.6	99.8	101.0	104.1	107.1	116.9	126.6
77.5°	76.7	77.3	77.9	78.5	79.1	80.3	81.6	82.8	84.0	87.6	91.3
80°	58.4	59.0	59.6	60.3	60.9	61.5	62.1	63.3	64.5	66.3	68.2
82.5°	42.6	42.6	42.6	42.6	42.6	43.8	45.0	45.0	45.0	46.3	47.5
85°	26.8	26.8	26.8	27.4	28.0	28.0	28.0	28.6	29.2	29.2	29.2
87.5°	12.2	11.6	11.0	11.6	12.2	12.2	12.2	12.8	13.4	13.4	13.4
90°	8.1	8.4	8.1	7.8	8.1	7.6	7.3	7.0	6.7	7.0	6.2
92.5°	14.8	15.4	15.1	16.2	16.8	18.8	21.6	27.7	38.9	52.1	57.7
95°	32.5	33.6	35.6	38.1	43.4	53.5	68.3	100.8	134.7	166.0	147.8
97.5°	66.6	69.7	76.4	87.1	105.8	137.7	174.7	231.5	264.0	255.3	190.6
100°	175.5	175.2	186.2	206.6	234.9	274.6	307.4	330.1	320.3	265.1	179.2
102.5°	278.0	286.1	294.8	309.9	330.3	351.9	367.6	362.8	323.1	246.9	162.4
105°	356.1	357.5	366.4	377.1	390.0	397.2	391.9	363.9	305.4	225.1	149.2
107.5°	407.0	410.1	413.8	418.8	420.5	412.9	391.1	347.1	280.2	205.8	139.7
110°	436.1	436.7	437.3	435.0	427.2	407.6	372.3	320.8	256.7	189.8	134.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	442.0	441.7	438.9	430.8	414.9	388.3	347.7	294.8	236.3	179.2	131.9
115°	433.1	431.7	426.1	413.8	392.8	362.2	321.1	272.4	220.6	172.2	131.6
117.5°	413.5	411.5	403.1	389.4	367.6	335.9	298.1	255.0	210.2	167.4	131.9
120°	387.7	386.0	379.3	363.6	341.5	313.3	279.7	241.9	202.4	164.3	133.0
122.5°	363.6	361.4	353.8	340.1	321.1	295.3	264.8	231.5	196.0	162.4	134.9
125°	341.5	339.6	332.6	320.3	302.3	279.9	253.1	222.6	190.6	160.7	136.9
127.5°	322.5	320.8	314.4	303.7	287.5	266.8	242.1	214.4	185.6	159.8	139.1
130°	306.8	304.6	298.7	288.6	273.8	254.7	232.1	206.9	181.7	159.0	141.4
132.5°	291.4	290.0	285.0	274.9	261.2	243.3	222.6	199.9	178.0	158.7	143.1
135°	276.9	274.9	269.9	261.5	247.7	231.8	213.6	193.7	175.0	158.4	144.7
137.5°	261.5	259.8	255.6	246.9	235.2	220.9	204.6	187.8	172.2	157.9	145.8
140°	245.2	245.5	241.0	233.2	222.6	210.5	197.1	182.8	169.6	157.6	147.0
142.5°	230.1	230.4	226.5	219.8	211.1	201.0	189.8	178.0	167.4	157.0	147.8
145°	216.4	215.8	213.6	207.7	200.7	192.6	183.6	174.4	165.4	156.5	148.1
147.5°	204.6	204.4	202.1	197.9	192.3	186.4	178.9	171.3	163.5	155.6	148.1
150°	194.6	194.6	192.9	189.8	185.6	180.3	174.4	168.0	161.5	154.5	148.1
152.5°	186.2	186.2	185.3	182.5	179.4	175.2	170.2	164.9	159.3	153.1	147.2
155°	179.4	179.2	178.6	176.4	173.8	170.5	166.3	161.8	157.0	151.4	146.7
157.5°	173.0	173.0	172.4	170.8	168.5	165.7	162.4	158.4	154.5	150.0	145.8
160°	166.8	167.1	167.1	165.4	163.5	161.5	158.7	155.6	152.0	148.4	145.3
162.5°	161.2	161.5	161.5	160.1	159.0	157.3	154.8	152.3	149.5	146.7	144.2
165°	156.5	156.5	156.8	155.6	154.5	153.1	151.2	149.5	147.2	145.0	143.1
167.5°	151.7	151.7	152.0	151.2	150.6	149.5	148.4	147.0	145.0	143.3	141.9
170°	147.5	147.5	147.8	147.2	147.0	146.4	145.3	144.4	143.1	141.7	140.8
172.5°	143.6	143.9	144.4	143.9	143.9	143.6	142.8	142.2	141.1	140.3	140.0
175°	140.8	141.1	141.4	141.1	141.1	141.1	140.5	140.3	139.7	139.1	139.1
177.5°	138.9	138.9	139.4	139.1	139.4	139.4	139.1	138.9	138.6	138.3	138.6
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9
2.5°	3152.1	3149.1	3119.9	3090.6	3062.0	3033.4	3012.1	2990.8	2954.9	2919.0	2896.5
5°	3347.5	3324.4	3278.1	3231.8	3162.5	3093.1	3034.7	2976.2	2902.0	2827.7	2765.6
7.5°	3456.4	3437.6	3381.6	3325.6	3233.7	3141.8	3050.5	2959.2	2849.6	2740.1	2646.3
10°	3459.5	3475.3	3429.0	3382.8	3279.3	3175.9	3051.7	2927.5	2780.2	2633.0	2511.8
12.5°	3351.1	3419.3	3409.6	3399.8	3294.5	3189.2	3038.3	2887.4	2706.6	2525.8	2374.3
15°	3148.5	3280.5	3319.5	3358.4	3271.4	3184.4	3012.7	2841.1	2628.7	2416.3	2242.2
17.5°	2887.4	3072.4	3175.2	3278.1	3214.8	3151.5	2963.4	2775.4	2536.2	2297.0	2107.7
20°	2578.2	2820.4	2981.7	3143.0	3119.9	3096.7	2902.6	2708.4	2450.4	2192.3	1987.2
22.5°	2272.6	2528.3	2751.0	2973.8	2997.5	3021.3	2825.3	2629.3	2346.9	2064.5	1855.7
25°	2009.1	2269.0	2534.4	2799.7	2853.3	2906.8	2720.6	2534.4	2241.6	1948.8	1741.3
27.5°	1757.7	2004.8	2297.0	2589.1	2686.5	2783.9	2613.5	2443.1	2138.1	1833.2	1626.3
30°	1552.6	1773.6	2071.8	2370.0	2505.7	2641.5	2485.1	2328.6	2026.1	1723.7	1521.0
32.5°	1361.5	1559.3	1858.8	2158.2	2315.9	2473.5	2338.4	2203.3	1912.3	1621.4	1421.2
35°	1210.6	1387.7	1667.1	1946.4	2122.9	2299.4	2188.6	2077.9	1793.6	1509.4	1320.1
37.5°	1080.9	1229.4	1491.8	1754.1	1941.5	2129.0	2036.5	1944.0	1676.8	1409.6	1230.7
40°	973.8	1093.1	1337.2	1581.2	1765.0	1948.8	1869.7	1790.6	1551.4	1312.2	1144.8
42.5°	881.9	984.8	1203.9	1423.0	1591.6	1760.2	1707.8	1655.5	1438.8	1222.1	1066.9
45°	801.0	887.4	1080.3	1273.3	1428.5	1583.7	1542.3	1500.9	1314.0	1127.2	984.8
47.5°	729.1	803.4	975.6	1147.9	1287.3	1426.6	1388.3	1350.0	1195.4	1040.8	911.1
50°	663.4	726.7	870.3	1014.0	1139.4	1264.7	1233.1	1201.4	1073.6	945.8	833.8
52.5°	601.3	653.7	782.7	911.7	1012.8	1113.8	1089.5	1065.1	966.5	867.9	766.3
55°	542.3	590.4	699.3	808.3	894.7	981.1	956.8	932.4	855.7	779.1	689.6
57.5°	488.7	530.7	619.0	707.2	776.0	844.8	833.2	821.7	757.8	693.8	620.2
60°	432.1	469.9	545.9	622.0	677.4	732.8	719.4	706.0	660.4	614.7	551.4
62.5°	381.6	415.1	476.0	536.8	581.9	626.9	617.2	607.4	572.7	538.0	485.7
65°	328.7	361.5	410.8	460.1	495.4	530.7	522.2	513.7	487.5	461.3	419.3
67.5°	280.6	308.0	350.6	393.2	416.9	440.7	435.8	430.9	410.8	390.7	357.9
70°	231.9	255.6	290.9	326.2	342.7	359.1	360.9	362.7	344.5	326.2	301.9
72.5°	183.2	202.1	234.9	267.8	280.6	293.4	292.8	292.1	281.2	270.2	248.3
75°	140.6	154.6	180.2	205.7	216.7	227.6	230.1	232.5	222.2	211.8	199.6
77.5°	101.0	110.8	130.2	149.7	161.9	174.1	175.3	176.5	171.6	166.8	155.2
80°	71.2	74.3	86.4	98.6	111.4	124.2	126.0	127.8	122.9	118.1	110.8
82.5°	49.3	51.1	55.4	59.6	70.0	80.3	82.8	85.2	82.8	80.3	72.4
85°	29.8	30.4	32.3	34.1	39.0	43.8	46.3	48.7	47.5	46.3	42.0
87.5°	13.4	13.4	14.0	14.6	15.8	17.0	20.1	23.1	21.3	19.5	17.7
90°	5.3	4.5	3.6	3.1	2.5	1.7	1.1	0.6	1.1	1.7	2.5
92.5°	43.1	28.3	19.3	14.3	11.5	9.0	6.2	4.2	6.2	9.0	11.5
95°	101.9	60.2	36.4	25.5	18.2	13.4	10.4	9.5	10.4	13.4	18.2
97.5°	113.4	64.9	41.4	29.4	22.1	17.9	15.4	15.1	15.4	17.9	22.1
100°	105.5	64.1	44.5	33.6	26.9	23.0	21.0	20.7	21.0	23.0	26.9
102.5°	98.8	65.2	48.1	38.4	32.5	28.8	27.2	26.6	27.2	28.8	32.5
105°	96.3	67.5	52.3	43.7	38.4	35.0	33.3	32.5	33.3	35.0	38.4
107.5°	95.7	71.1	57.7	49.5	44.5	41.2	39.5	38.6	39.5	41.2	44.5
110°	97.1	75.9	63.3	55.4	50.7	47.6	46.2	45.4	46.2	47.6	50.7



TEST NUMBER: P831968

CATALOG NUMBER: S123RDIP-S1165D365U927-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	99.9	80.6	69.1	61.6	56.8	53.7	52.3	51.5	52.3	53.7	56.8
115°	103.0	85.9	75.3	67.7	63.0	60.2	58.5	57.4	58.5	60.2	63.0
117.5°	106.9	91.5	80.9	73.9	68.6	66.1	64.7	63.3	64.7	66.1	68.6
120°	111.4	96.9	86.8	79.8	74.5	71.7	70.3	69.4	70.3	71.7	74.5
122.5°	115.6	102.5	92.7	85.1	80.1	77.0	75.6	74.7	75.6	77.0	80.1
125°	120.1	107.8	98.0	90.4	85.1	82.0	80.3	79.8	80.3	82.0	85.1
127.5°	123.7	112.5	103.0	95.5	89.6	86.5	84.5	83.7	84.5	86.5	89.6
130°	127.4	116.7	107.5	99.9	94.1	90.7	88.2	87.3	88.2	90.7	94.1
132.5°	130.7	120.4	111.4	104.1	98.3	94.1	91.3	90.1	91.3	94.1	98.3
135°	133.5	124.0	115.3	107.8	101.9	97.7	94.6	93.5	94.6	97.7	101.9
137.5°	135.8	126.5	118.1	111.1	105.3	100.8	97.7	96.6	97.7	100.8	105.3
140°	137.5	129.1	120.9	113.9	108.3	103.9	101.1	99.7	101.1	103.9	108.3
142.5°	139.1	131.0	123.2	116.7	111.1	107.2	104.1	103.0	104.1	107.2	111.1
145°	140.3	132.7	125.4	119.0	114.2	110.0	107.5	106.7	107.5	110.0	114.2
147.5°	141.1	134.1	127.4	121.8	117.0	113.4	110.9	110.3	110.9	113.4	117.0
150°	141.4	135.5	129.1	124.0	120.1	116.5	114.2	113.9	114.2	116.5	120.1
152.5°	141.9	136.3	131.0	126.3	122.9	119.8	117.6	117.6	117.6	119.8	122.9
155°	141.9	137.5	132.7	128.8	125.7	122.9	121.2	121.2	121.2	122.9	125.7
157.5°	142.2	138.0	134.1	131.0	128.2	125.7	124.3	124.0	124.3	125.7	128.2
160°	142.2	138.9	135.5	132.7	130.7	128.5	127.4	127.4	127.4	128.5	130.7
162.5°	141.9	139.1	136.3	134.1	132.4	130.7	129.9	129.9	129.9	130.7	132.4
165°	141.4	139.4	137.2	135.2	134.1	132.7	132.1	132.4	132.1	132.7	134.1
167.5°	141.1	139.4	137.7	136.3	135.5	134.4	134.1	134.4	134.1	134.4	135.5
170°	140.3	139.1	137.7	137.2	136.6	135.8	135.5	136.1	135.5	135.8	136.6
172.5°	140.0	139.1	138.0	137.7	137.5	136.9	136.9	137.2	136.9	136.9	137.5
175°	139.4	138.9	138.3	138.0	138.0	137.5	137.7	138.0	137.7	137.5	138.0
177.5°	139.1	138.6	138.3	138.3	138.3	138.0	138.3	138.6	138.3	138.0	138.3
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3



TEST NUMBER: P831968

CATALOG NUMBER: S123RDIP-S1165D365U927-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9	2968.9
2.5°	2874.0	2839.3	2804.6	2779.6	2754.7	2723.6	2692.6	2691.4	2690.2	2667.0	2643.9
5°	2703.6	2643.3	2583.0	2524.0	2465.0	2405.9	2346.9	2333.5	2320.1	2300.0	2279.9
7.5°	2552.6	2456.4	2360.3	2284.8	2209.3	2150.3	2091.3	2051.1	2010.9	1979.9	1948.8
10°	2390.7	2271.4	2152.1	2060.8	1969.5	1905.6	1841.7	1795.5	1749.2	1727.3	1705.4
12.5°	2222.7	2093.1	1963.5	1874.0	1784.5	1707.8	1631.1	1589.1	1547.1	1516.7	1486.3
15°	2068.1	1928.8	1789.4	1694.4	1599.5	1527.7	1455.9	1413.9	1371.9	1341.4	1311.0
17.5°	1918.4	1777.8	1637.2	1541.1	1444.9	1379.8	1314.7	1273.9	1233.1	1214.2	1195.4
20°	1782.1	1640.3	1498.5	1407.8	1317.1	1253.2	1189.3	1167.4	1145.5	1127.8	1110.1
22.5°	1647.0	1510.6	1374.3	1287.3	1200.2	1154.0	1107.7	1090.1	1072.4	1059.0	1045.6
25°	1533.8	1398.0	1262.3	1186.2	1110.1	1074.2	1038.3	1026.8	1015.2	1001.8	988.4
27.5°	1419.3	1290.3	1161.3	1100.4	1039.5	1010.3	981.1	966.5	951.9	940.9	930.0
30°	1318.3	1199.0	1079.7	1029.2	978.7	953.1	927.6	911.7	895.9	885.6	875.2
32.5°	1220.9	1115.0	1009.1	965.9	922.7	897.7	872.8	857.6	842.4	830.2	818.0
35°	1130.8	1038.9	947.0	907.5	867.9	843.0	818.0	802.8	787.6	775.4	763.2
37.5°	1051.7	968.3	885.0	847.8	810.7	788.8	766.9	751.1	735.2	722.4	709.7
40°	977.5	903.8	830.2	794.3	758.4	734.6	710.9	696.9	682.9	671.3	659.8
42.5°	911.7	844.2	776.6	741.3	706.0	683.5	661.0	644.5	628.1	621.4	614.7
45°	842.4	782.7	723.1	689.0	654.9	631.2	607.4	593.4	579.4	573.3	567.2
47.5°	781.5	726.1	670.7	637.2	603.8	582.5	561.2	550.2	539.3	530.7	522.2
50°	721.8	668.3	614.7	582.5	550.2	531.9	513.7	500.3	486.9	480.8	474.7
52.5°	664.6	615.9	567.2	534.4	501.5	483.9	466.2	454.7	443.1	430.3	417.5
55°	600.1	557.5	514.9	485.7	456.5	438.2	420.0	406.6	393.2	379.8	366.4
57.5°	546.6	504.6	462.6	436.4	410.2	392.6	374.9	360.3	345.7	334.7	323.8
60°	488.1	451.6	415.1	389.5	364.0	346.9	329.9	315.9	301.9	296.4	290.9
62.5°	433.3	399.3	365.2	342.7	320.1	303.7	287.3	278.1	269.0	265.4	261.7
65°	377.4	348.1	318.9	298.2	277.5	263.5	249.5	245.3	241.0	238.0	234.9
67.5°	325.0	300.1	275.1	256.8	238.6	228.8	219.1	214.2	209.4	205.7	202.1
70°	277.5	255.6	233.7	217.9	202.1	192.9	183.8	179.5	175.3	168.6	161.9
72.5°	226.4	209.4	192.3	180.2	168.0	160.1	152.2	143.6	135.1	129.0	122.9
75°	187.5	170.4	153.4	141.8	130.2	121.1	112.0	108.9	105.9	104.1	102.3
77.5°	143.6	129.0	114.4	105.3	96.2	91.9	87.6	85.8	84.0	83.4	82.8
80°	103.5	91.3	79.1	74.3	69.4	68.2	66.9	65.7	64.5	63.9	63.3
82.5°	64.5	58.4	52.3	51.1	49.9	49.3	48.7	48.1	47.5	46.9	46.3
85°	37.7	35.3	32.9	32.3	31.6	31.0	30.4	30.4	30.4	30.4	30.4
87.5°	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.2	14.6
90°	3.1	3.6	4.5	5.3	6.2	7.0	6.7	7.0	7.3	7.6	8.1
92.5°	14.3	19.3	28.3	43.1	57.7	52.1	38.9	27.7	21.6	18.8	16.8
95°	25.5	36.4	60.2	101.9	147.8	166.0	134.7	100.8	68.3	53.5	43.4
97.5°	29.4	41.4	64.9	113.4	190.6	255.3	264.0	231.5	174.7	137.7	105.8
100°	33.6	44.5	64.1	105.5	179.2	265.1	320.3	330.1	307.4	274.6	234.9
102.5°	38.4	48.1	65.2	98.8	162.4	246.9	323.1	362.8	367.6	351.9	330.3
105°	43.7	52.3	67.5	96.3	149.2	225.1	305.4	363.9	391.9	397.2	390.0
107.5°	49.5	57.7	71.1	95.7	139.7	205.8	280.2	347.1	391.1	412.9	420.5
110°	55.4	63.3	75.9	97.1	134.7	189.8	256.7	320.8	372.3	407.6	427.2



TEST NUMBER: P831968

CATALOG NUMBER: S123RDIP-S1165D365U927-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	61.6	69.1	80.6	99.9	131.9	179.2	236.3	294.8	347.7	388.3	414.9
115°	67.7	75.3	85.9	103.0	131.6	172.2	220.6	272.4	321.1	362.2	392.8
117.5°	73.9	80.9	91.5	106.9	131.9	167.4	210.2	255.0	298.1	335.9	367.6
120°	79.8	86.8	96.9	111.4	133.0	164.3	202.4	241.9	279.7	313.3	341.5
122.5°	85.1	92.7	102.5	115.6	134.9	162.4	196.0	231.5	264.8	295.3	321.1
125°	90.4	98.0	107.8	120.1	136.9	160.7	190.6	222.6	253.1	279.9	302.3
127.5°	95.5	103.0	112.5	123.7	139.1	159.8	185.6	214.4	242.1	266.8	287.5
130°	99.9	107.5	116.7	127.4	141.4	159.0	181.7	206.9	232.1	254.7	273.8
132.5°	104.1	111.4	120.4	130.7	143.1	158.7	178.0	199.9	222.6	243.3	261.2
135°	107.8	115.3	124.0	133.5	144.7	158.4	175.0	193.7	213.6	231.8	247.7
137.5°	111.1	118.1	126.5	135.8	145.8	157.9	172.2	187.8	204.6	220.9	235.2
140°	113.9	120.9	129.1	137.5	147.0	157.6	169.6	182.8	197.1	210.5	222.6
142.5°	116.7	123.2	131.0	139.1	147.8	157.0	167.4	178.0	189.8	201.0	211.1
145°	119.0	125.4	132.7	140.3	148.1	156.5	165.4	174.4	183.6	192.6	200.7
147.5°	121.8	127.4	134.1	141.1	148.1	155.6	163.5	171.3	178.9	186.4	192.3
150°	124.0	129.1	135.5	141.4	148.1	154.5	161.5	168.0	174.4	180.3	185.6
152.5°	126.3	131.0	136.3	141.9	147.2	153.1	159.3	164.9	170.2	175.2	179.4
155°	128.8	132.7	137.5	141.9	146.7	151.4	157.0	161.8	166.3	170.5	173.8
157.5°	131.0	134.1	138.0	142.2	145.8	150.0	154.5	158.4	162.4	165.7	168.5
160°	132.7	135.5	138.9	142.2	145.3	148.4	152.0	155.6	158.7	161.5	163.5
162.5°	134.1	136.3	139.1	141.9	144.2	146.7	149.5	152.3	154.8	157.3	159.0
165°	135.2	137.2	139.4	141.4	143.1	145.0	147.2	149.5	151.2	153.1	154.5
167.5°	136.3	137.7	139.4	141.1	141.9	143.3	145.0	147.0	148.4	149.5	150.6
170°	137.2	137.7	139.1	140.3	140.8	141.7	143.1	144.4	145.3	146.4	147.0
172.5°	137.7	138.0	139.1	140.0	140.0	140.3	141.1	142.2	142.8	143.6	143.9
175°	138.0	138.3	138.9	139.4	139.1	139.1	139.7	140.3	140.5	141.1	141.1
177.5°	138.3	138.3	138.6	139.1	138.6	138.3	138.6	138.9	139.1	139.4	139.4
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3



TEST NUMBER: P831968

CATALOG NUMBER: S123RDIP-S1165D365U927-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2968.9	2968.9	2968.9	2968.9
2.5°	2637.8	2631.7	2629.3	2626.9
5°	2261.1	2242.2	2237.9	2233.7
7.5°	1940.9	1933.0	1906.9	1880.7
10°	1681.0	1656.7	1645.7	1634.8
12.5°	1463.8	1441.2	1437.6	1433.9
15°	1295.2	1279.3	1273.9	1268.4
17.5°	1184.4	1173.4	1166.8	1160.1
20°	1102.2	1094.3	1089.5	1084.6
22.5°	1039.5	1033.5	1029.8	1026.2
25°	979.3	970.2	967.1	964.1
27.5°	922.1	914.2	911.1	908.1
30°	868.5	861.8	857.6	853.3
32.5°	810.1	802.2	799.7	797.3
35°	758.4	753.5	751.1	748.6
37.5°	703.6	697.5	693.8	690.2
40°	656.7	653.7	651.8	650.0
42.5°	609.2	603.8	603.2	602.5
45°	561.8	556.3	555.1	553.9
47.5°	517.3	512.5	511.9	511.3
50°	468.0	461.3	456.5	451.6
52.5°	411.4	405.4	401.1	396.8
55°	359.7	353.0	349.4	345.7
57.5°	320.8	317.7	315.9	314.1
60°	289.1	287.3	286.1	284.8
62.5°	259.9	258.1	258.1	258.1
65°	233.1	231.3	229.5	227.6
67.5°	198.4	194.8	194.2	193.5
70°	156.4	150.9	150.3	149.7
72.5°	122.3	121.7	120.5	119.3
75°	101.0	99.8	99.8	99.8
77.5°	81.6	80.3	80.3	80.3
80°	62.7	62.1	62.7	63.3
82.5°	46.3	46.3	45.6	45.0
85°	29.8	29.2	29.2	29.2
87.5°	14.6	14.6	14.6	14.6
90°	7.8	8.1	8.4	8.1
92.5°	16.2	15.1	15.4	14.8
95°	38.1	35.6	33.6	32.5
97.5°	87.1	76.4	69.7	66.6
100°	206.6	186.2	175.2	175.5
102.5°	309.9	294.8	286.1	278.0
105°	377.1	366.4	357.5	356.1
107.5°	418.8	413.8	410.1	407.0
110°	435.0	437.3	436.7	436.1



TEST NUMBER: P831968

CATALOG NUMBER: S123RDIP-S1165D365U927-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	430.8	438.9	441.7	442.0
115°	413.8	426.1	431.7	433.1
117.5°	389.4	403.1	411.5	413.5
120°	363.6	379.3	386.0	387.7
122.5°	340.1	353.8	361.4	363.6
125°	320.3	332.6	339.6	341.5
127.5°	303.7	314.4	320.8	322.5
130°	288.6	298.7	304.6	306.8
132.5°	274.9	285.0	290.0	291.4
135°	261.5	269.9	274.9	276.9
137.5°	246.9	255.6	259.8	261.5
140°	233.2	241.0	245.5	245.2
142.5°	219.8	226.5	230.4	230.1
145°	207.7	213.6	215.8	216.4
147.5°	197.9	202.1	204.4	204.6
150°	189.8	192.9	194.6	194.6
152.5°	182.5	185.3	186.2	186.2
155°	176.4	178.6	179.2	179.4
157.5°	170.8	172.4	173.0	173.0
160°	165.4	167.1	167.1	166.8
162.5°	160.1	161.5	161.5	161.2
165°	155.6	156.8	156.5	156.5
167.5°	151.2	152.0	151.7	151.7
170°	147.2	147.8	147.5	147.5
172.5°	143.9	144.4	143.9	143.6
175°	141.1	141.4	141.1	140.8
177.5°	139.1	139.4	138.9	138.9
180°	138.3	138.3	138.3	138.3



TEST NUMBER: P831968

CATALOG NUMBER: S123RDIP-S1165D365U927-4F0-1E-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	15.19	16.29	15.87	16.97	17.76	19.86	20.96	20.53	21.63	22.42
	3H	16.43	17.42	17.12	18.10	18.93	21.38	22.36	22.06	23.05	23.87
	4H	16.83	17.75	17.53	18.45	19.29	21.88	22.80	22.58	23.50	24.34
	6H	17.12	17.97	17.84	18.68	19.53	22.20	23.05	22.92	23.76	24.61
	8H	17.22	18.02	17.94	18.75	19.61	22.29	23.10	23.02	23.83	24.68
	12H	17.28	18.05	18.01	18.77	19.65	22.33	23.10	23.06	23.82	24.70
4H	2H	15.95	16.87	16.65	17.57	18.41	19.88	20.81	20.59	21.51	22.34
	3H	17.34	18.10	18.06	18.84	19.70	21.56	22.33	22.28	23.07	23.92
	4H	17.80	18.50	18.54	19.24	20.12	22.18	22.87	22.92	23.61	24.50
	6H	18.19	18.78	18.94	19.55	20.44	22.63	23.23	23.39	23.99	24.89
	8H	18.32	18.87	19.07	19.63	20.54	22.77	23.32	23.53	24.09	24.99
	12H	18.40	18.90	19.18	19.69	20.60	22.84	23.34	23.62	24.13	25.03
8H	4H	18.14	18.69	18.89	19.46	20.36	22.17	22.72	22.92	23.48	24.39
	6H	18.61	19.07	19.40	19.87	20.78	22.67	23.13	23.46	23.93	24.84
	8H	18.80	19.21	19.60	20.02	20.94	22.86	23.26	23.66	24.07	24.99
	12H	18.95	19.31	19.75	20.11	21.09	22.98	23.34	23.78	24.14	25.12
12H	4H	18.16	18.66	18.94	19.44	20.35	22.13	22.63	22.90	23.41	24.32
	6H	18.67	19.08	19.47	19.88	20.80	22.65	23.05	23.45	23.86	24.78
	8H	18.90	19.26	19.70	20.05	21.03	22.85	23.21	23.65	24.00	24.99