

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: P831963

Luminaire Tested: S123RDIP-S1165D365U850-4F0-1E-UDD-G

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831963  
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-S1165D365U850-4F0-1E-UDD-G  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: -

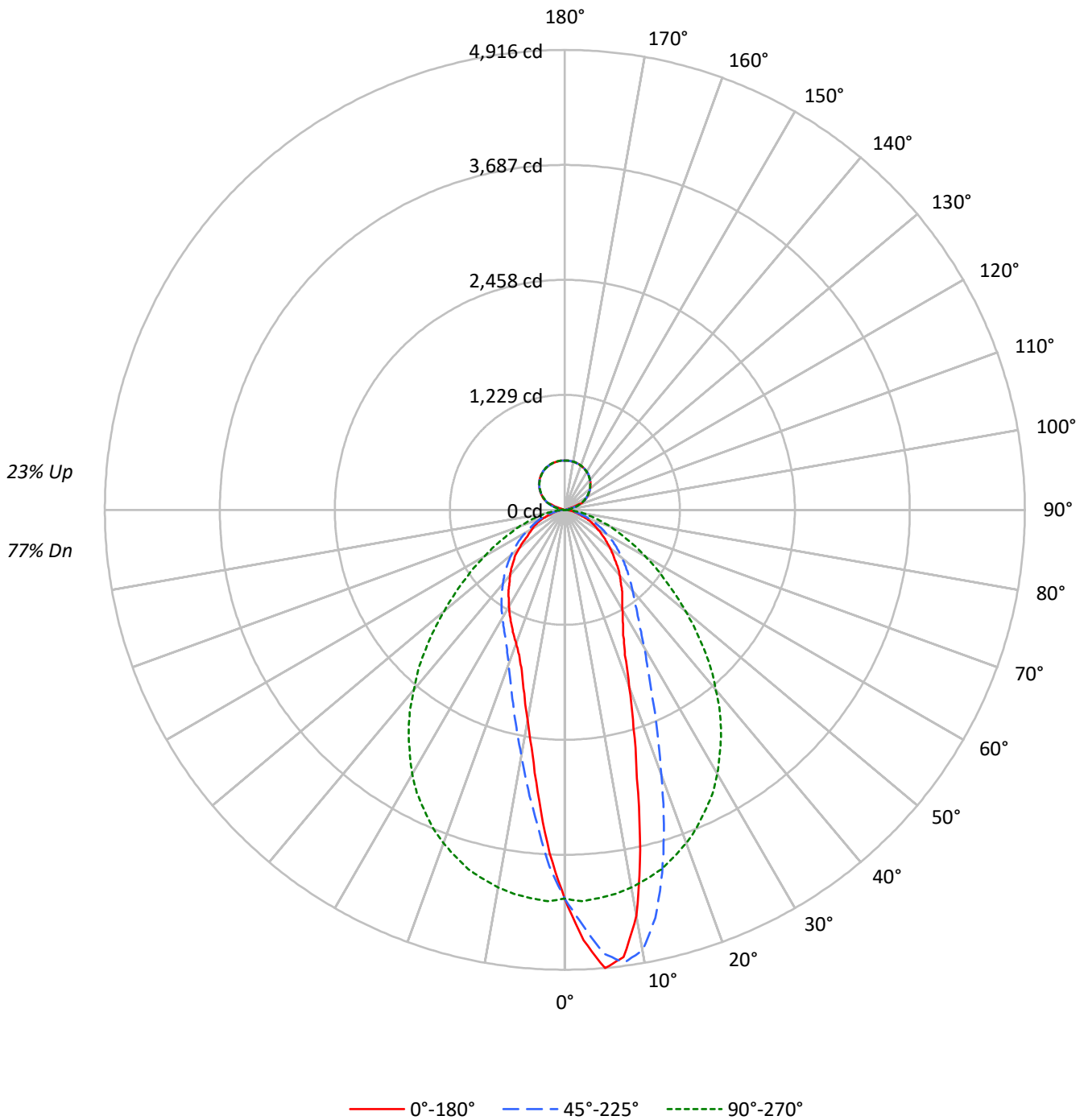
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7119.7 lumens  
Efficiency: N/A  
Efficacy: 136.4 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				
RC	80					70					50					30				
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																				
0	114	114	114	114	108	108	108	108	99	99	99	90	90	90	81	81	81	77		
1	105	101	98	94	100	97	94	91	88	86	84	81	79	77	74	72	71	68		
2	97	90	84	79	92	86	81	77	79	75	71	73	69	67	67	64	62	59		
3	89	80	73	68	85	77	71	66	71	66	62	65	61	58	60	57	54	51		
4	83	72	65	59	79	70	63	57	64	59	54	59	55	51	55	51	48	46		
5	77	65	58	52	73	63	56	51	59	53	48	54	49	46	50	46	43	41		
6	71	60	52	46	68	58	50	45	54	48	43	50	45	41	46	42	39	37		
7	67	55	47	42	64	53	46	41	49	43	39	46	41	37	43	39	35	33		
8	62	50	43	38	60	49	42	37	46	40	35	43	38	34	40	36	32	30		
9	58	47	39	34	56	45	38	34	42	37	32	40	35	31	37	33	30	28		
10	55	43	36	32	53	42	35	31	40	34	30	37	32	29	35	31	28	26		

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

	0°	45°	90°	135°	180°
0°	44738	44738	44738	44738	44738
5°	53121	51427	45019	36392	33787
10°	48129	52235	44794	29159	25014
15°	33137	44787	44323	23832	19788
20°	23053	34482	43432	20096	17392
25°	17568	26281	42137	17861	16029
30°	15293	21011	40518	16584	14848
35°	14040	17724	38224	15507	13771
40°	12811	15827	35222	14450	12787
45°	11569	14475	31984	13451	11804
50°	10501	13355	28165	12471	10587
55°	9498	12264	24496	11513	9083
60°	8510	11151	21278	10456	8585
65°	7855	9895	18315	9396	8117
70°	6382	8554	15981	8500	6596
75°	5598	6804	13537	7053	5810
80°	5071	5759	11089	5914	5492
85°	4631	5051	8423	5372	5051

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 33748 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	378.8	5.3
10°-20°	876.6	12.3
20°-30°	1005.8	14.1
30°-40°	991.4	13.9
40°-50°	874.3	12.3
50°-60°	672.6	9.4
60°-70°	442.2	6.2
70°-80°	214.8	3.0
80°-90°	55.2	0.8
90°-100°	18.6	0.3
100°-110°	89.9	1.3
110°-120°	220.4	3.1
120°-130°	279.8	3.9
130°-140°	298.9	4.2
140°-150°	279.5	3.9
150°-160°	225.4	3.2
160°-170°	145.5	2.0
170°-180°	50.1	0.7
0°-30°	2261.3	31.8
0°-40°	3252.7	45.7
0°-60°	4799.5	67.4
0°-90°	5511.7	77.4
90°-120°	328.9	4.6
90°-150°	1187.0	16.7
90°-180°	1608.0	22.6
0°-180°	7119.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	4156	4156	4156	4156	4156	
5°	4916	4760	4166	3368	3127	449
15°	2974	4019	3977	2139	1776	839
25°	1479	2213	3548	1504	1350	699
35°	1068	1349	2909	1180	1048	666
45°	760	951	2101	884	775	590
55°	506	654	1305	614	484	454
65°	308	388	719	369	319	302
75°	135	164	326	170	140	145
85°	38	41	68	44	41	40
90°	12	9	0	9	12	7
95°	15	12	24	12	15	12
105°	17	86	117	86	17	36
115°	230	225	219	225	230	217
125°	315	314	309	314	315	282
135°	388	388	384	388	388	300
145°	448	447	444	447	448	280
155°	488	488	489	488	488	225
165°	514	514	515	514	514	145
175°	526	526	528	526	526	50
180°	528	528	528	528	528	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3
2.5°	4606.2	4591.7	4577.2	4572.9	4568.7	4555.0	4541.4	4510.7	4480.1	4448.5	4417.0
5°	4916.3	4918.0	4919.7	4915.5	4911.2	4893.3	4875.4	4837.9	4800.4	4759.5	4718.6
7.5°	4820.9	4848.1	4875.4	4880.5	4885.6	4899.3	4912.9	4904.4	4895.9	4880.5	4865.2
10°	4403.4	4401.7	4400.0	4430.6	4461.3	4552.5	4643.7	4690.5	4737.4	4779.1	4820.9
12.5°	3721.7	3724.3	3726.9	3827.4	3927.9	4014.0	4100.1	4219.3	4338.6	4467.3	4595.9
15°	2973.6	3015.4	3057.1	3146.6	3236.1	3365.6	3495.1	3655.3	3815.5	4019.1	4222.7
17.5°	2442.0	2459.9	2477.8	2563.8	2649.9	2772.6	2895.3	3076.7	3258.2	3520.7	3783.1
20°	2012.5	2028.7	2044.9	2107.1	2169.3	2286.9	2404.5	2577.4	2750.4	3010.3	3270.2
22.5°	1680.2	1711.8	1743.3	1785.0	1826.8	1912.0	1997.2	2173.6	2349.9	2586.8	2823.7
25°	1479.2	1493.6	1508.1	1543.9	1579.7	1661.5	1743.3	1860.0	1976.7	2212.8	2448.8
27.5°	1342.8	1347.1	1351.3	1377.8	1404.2	1457.0	1509.8	1618.0	1726.2	1920.5	2114.8
30°	1230.4	1238.0	1245.7	1266.1	1286.6	1324.9	1363.3	1440.0	1516.6	1690.5	1864.3
32.5°	1143.4	1147.7	1152.0	1169.0	1186.0	1214.2	1242.3	1302.8	1363.3	1496.2	1629.1
35°	1068.5	1069.3	1070.2	1083.0	1095.7	1123.0	1150.3	1200.5	1250.8	1348.8	1446.8
37.5°	983.3	989.2	995.2	1004.6	1013.9	1037.8	1061.7	1102.5	1143.4	1224.4	1305.3
40°	911.7	916.8	921.9	933.0	944.1	962.8	981.6	1019.0	1056.5	1126.4	1196.3
42.5°	840.1	843.5	846.9	858.0	869.1	892.1	915.1	944.9	974.7	1032.7	1090.6
45°	760.0	768.5	777.1	789.0	800.9	820.5	840.1	870.8	901.5	950.9	1000.3
47.5°	693.6	697.8	702.1	712.3	722.5	746.4	770.3	797.5	824.8	870.8	916.8
50°	627.1	628.8	630.5	639.9	649.3	670.6	691.9	723.4	754.9	797.5	840.1
52.5°	564.1	568.3	572.6	581.9	591.3	605.8	620.3	652.7	685.0	726.8	768.5
55°	506.1	508.7	511.2	518.0	524.9	541.9	558.9	587.1	615.2	653.5	691.9
57.5°	451.6	455.0	458.4	463.5	468.6	484.0	499.3	524.0	548.7	587.1	625.4
60°	395.3	399.6	403.9	409.8	415.8	427.7	439.7	461.8	484.0	518.0	552.1
62.5°	354.5	355.3	356.2	361.3	366.4	374.9	383.4	401.3	419.2	453.3	487.4
65°	308.4	311.0	313.6	316.1	318.7	325.5	332.3	347.6	363.0	388.5	414.1
67.5°	260.7	263.3	265.8	270.1	274.4	280.3	286.3	296.5	306.7	330.6	354.5
70°	202.8	202.8	202.8	209.6	216.4	226.6	236.9	244.5	252.2	271.8	291.4
72.5°	165.3	166.1	167.0	167.9	168.7	174.7	180.6	193.4	206.2	218.1	230.1
75°	134.6	135.5	136.3	137.2	138.0	139.7	141.4	145.7	150.0	163.6	177.2
77.5°	107.4	108.2	109.1	109.9	110.8	112.5	114.2	115.9	117.6	122.7	127.8
80°	81.8	82.6	83.5	84.4	85.2	86.1	86.9	88.6	90.3	92.9	95.4
82.5°	59.6	59.6	59.6	59.6	59.6	61.3	63.1	63.1	63.1	64.8	66.5
85°	37.5	37.5	37.5	38.3	39.2	39.2	39.2	40.0	40.9	40.9	40.9
87.5°	17.0	16.2	15.3	16.2	17.0	17.0	17.0	17.9	18.7	18.7	18.7
90°	11.8	11.6	11.4	11.2	11.1	10.8	10.5	10.1	9.8	9.4	8.3
92.5°	13.3	13.2	13.1	13.1	13.0	12.6	12.0	11.4	10.8	10.2	9.4
95°	14.9	14.9	14.9	14.9	14.9	14.6	14.0	13.4	12.8	12.1	11.2
97.5°	16.1	16.0	15.9	15.8	15.7	15.3	14.6	13.9	13.2	12.5	17.0
100°	16.5	16.4	16.3	16.2	16.1	15.7	15.0	14.3	13.6	12.9	26.5
102.5°	16.9	16.7	16.5	16.3	16.2	17.5	20.4	23.3	26.1	29.0	44.2
105°	17.2	17.1	16.9	16.7	16.5	24.2	39.6	55.0	70.4	85.8	93.7
107.5°	40.8	52.2	63.6	75.0	86.4	98.8	112.2	125.6	139.0	152.4	151.1
110°	107.8	120.2	132.7	145.1	157.6	165.2	168.1	171.0	173.9	176.7	175.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	204.2	204.3	204.5	204.7	204.9	204.6	203.8	203.0	202.2	201.4	200.5
115°	230.4	230.1	229.7	229.4	229.0	228.4	227.6	226.7	225.8	224.9	224.2
117.5°	251.6	251.5	251.4	251.3	251.2	250.9	250.2	249.5	248.8	248.1	247.6
120°	273.5	273.5	273.5	273.5	273.5	273.2	272.5	271.8	271.1	270.4	270.1
122.5°	295.1	295.0	294.9	294.8	294.7	294.5	294.0	293.6	293.2	292.7	292.4
125°	315.1	314.9	314.7	314.6	314.4	314.2	314.0	313.9	313.7	313.5	313.2
127.5°	334.7	334.8	335.0	335.2	335.4	335.3	335.1	334.8	334.5	334.3	333.8
130°	353.5	353.7	353.8	354.0	354.2	354.1	353.7	353.4	353.0	352.7	352.3
132.5°	370.7	371.0	371.2	371.5	371.8	371.7	371.4	371.0	370.7	370.3	370.1
135°	388.4	388.6	388.9	389.1	389.4	389.4	389.1	388.9	388.6	388.4	388.0
137.5°	405.2	405.4	405.6	405.7	405.9	405.8	405.3	404.9	404.5	404.0	403.9
140°	420.1	420.3	420.5	420.6	420.8	420.7	420.4	420.0	419.7	419.3	419.1
142.5°	433.8	434.1	434.3	434.6	434.9	434.9	434.6	434.3	434.1	433.8	433.6
145°	447.9	447.9	447.9	447.9	447.9	447.8	447.7	447.5	447.3	447.1	447.0
147.5°	458.1	458.6	459.0	459.4	459.9	460.0	459.8	459.6	459.5	459.3	459.1
150°	469.9	470.1	470.4	470.7	470.9	471.0	470.8	470.6	470.4	470.3	470.1
152.5°	479.3	479.7	480.1	480.6	481.0	481.1	480.7	480.4	480.0	479.7	479.6
155°	487.9	488.4	488.9	489.5	490.0	490.0	489.6	489.2	488.7	488.3	488.2
157.5°	495.3	496.0	496.7	497.4	498.1	498.2	497.7	497.2	496.7	496.1	496.2
160°	502.4	503.0	503.6	504.2	504.8	504.9	504.4	503.8	503.3	502.8	502.9
162.5°	509.1	509.6	510.1	510.6	511.2	511.1	510.5	509.9	509.3	508.7	508.8
165°	514.2	514.8	515.4	516.0	516.6	516.6	515.9	515.2	514.5	513.8	513.9
167.5°	518.1	518.8	519.5	520.2	520.9	520.9	520.2	519.5	518.8	518.1	518.1
170°	521.6	522.3	523.0	523.7	524.4	524.4	523.7	523.0	522.3	521.6	521.6
172.5°	523.6	524.3	525.1	525.9	526.7	526.7	526.0	525.3	524.6	524.0	523.9
175°	525.5	526.2	526.9	527.6	528.3	528.4	527.7	527.1	526.5	525.9	525.8
177.5°	525.9	526.8	527.7	528.5	529.4	529.5	528.8	528.1	527.4	526.7	526.6
180°	527.5	527.5	527.5	527.5	527.5	527.5	527.5	527.5	527.5	527.5	527.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3
2.5°	4412.8	4408.5	4367.6	4326.7	4286.6	4246.6	4216.8	4187.0	4136.7	4086.4	4054.9
5°	4686.3	4653.9	4589.1	4524.4	4427.2	4330.1	4248.3	4166.5	4062.6	3958.6	3871.7
7.5°	4838.8	4812.4	4734.0	4655.6	4526.9	4398.3	4270.5	4142.7	3989.3	3835.9	3704.7
10°	4843.0	4865.2	4800.4	4735.7	4590.8	4446.0	4272.2	4098.3	3892.2	3686.0	3516.4
12.5°	4691.4	4786.8	4773.2	4759.5	4612.1	4464.7	4253.4	4042.1	3789.1	3536.0	3323.8
15°	4407.6	4592.5	4647.1	4701.6	4579.8	4457.9	4217.6	3977.4	3680.0	3382.6	3138.9
17.5°	4042.1	4301.1	4445.1	4589.1	4500.5	4411.9	4148.6	3885.3	3550.5	3215.6	2950.6
20°	3609.3	3948.4	4174.2	4400.0	4367.6	4335.2	4063.4	3791.6	3430.3	3069.1	2781.9
22.5°	3181.5	3539.4	3851.3	4163.1	4196.3	4229.6	3955.2	3680.8	3285.5	2890.1	2597.9
25°	2812.6	3176.4	3547.9	3919.4	3994.4	4069.4	3808.7	3547.9	3138.1	2728.3	2437.7
27.5°	2460.7	2806.6	3215.6	3624.6	3760.9	3897.3	3658.7	3420.1	2993.2	2566.4	2276.7
30°	2173.6	2482.9	2900.4	3317.9	3507.9	3697.9	3478.9	3259.9	2836.5	2413.0	2129.3
32.5°	1906.0	2182.9	2602.2	3021.4	3242.0	3462.7	3273.6	3084.4	2677.1	2269.9	1989.5
35°	1694.7	1942.7	2333.8	2724.8	2971.9	3219.0	3064.0	2908.9	2511.0	2113.1	1848.1
37.5°	1513.2	1721.1	2088.4	2455.6	2718.0	2980.5	2850.9	2721.4	2347.4	1973.3	1722.8
40°	1363.3	1530.3	1871.9	2213.6	2470.9	2728.3	2617.5	2506.7	2171.9	1837.0	1602.7
42.5°	1234.6	1378.6	1685.3	1992.1	2228.1	2464.1	2390.8	2317.6	2014.2	1710.9	1493.6
45°	1121.3	1242.3	1512.4	1782.5	1999.8	2217.0	2159.1	2101.1	1839.6	1578.0	1378.6
47.5°	1020.8	1124.7	1365.8	1607.0	1802.1	1997.2	1943.5	1889.8	1673.4	1457.0	1275.5
50°	928.7	1017.3	1218.4	1419.5	1595.0	1770.6	1726.2	1681.9	1503.0	1324.1	1167.3
52.5°	841.8	915.1	1095.7	1276.4	1417.8	1559.2	1525.2	1491.1	1353.1	1215.0	1072.7
55°	759.2	826.5	979.0	1131.5	1252.5	1373.5	1339.4	1305.3	1198.0	1090.6	965.4
57.5°	684.2	743.0	866.5	990.1	1086.4	1182.6	1166.5	1150.3	1060.8	971.3	868.2
60°	605.0	657.8	764.3	870.8	948.3	1025.9	1007.1	988.4	924.5	860.6	772.0
62.5°	534.2	581.1	666.3	751.5	814.6	877.6	864.0	850.3	801.8	753.2	679.9
65°	460.1	506.1	575.1	644.1	693.6	743.0	731.1	719.1	682.5	645.9	587.1
67.5°	392.8	431.1	490.8	550.4	583.7	616.9	610.1	603.2	575.1	547.0	501.0
70°	324.6	357.9	407.3	456.7	479.7	502.7	505.3	507.8	482.3	456.7	422.6
72.5°	256.5	282.9	328.9	374.9	392.8	410.7	409.8	409.0	393.6	378.3	347.6
75°	196.8	216.4	252.2	288.0	303.3	318.7	322.1	325.5	311.0	296.5	279.5
77.5°	141.4	155.1	182.3	209.6	226.6	243.7	245.4	247.1	240.3	233.5	217.3
80°	99.7	103.9	121.0	138.0	155.9	173.8	176.4	178.9	172.1	165.3	155.1
82.5°	69.0	71.6	77.5	83.5	98.0	112.5	115.9	119.3	115.9	112.5	101.4
85°	41.8	42.6	45.2	47.7	54.5	61.3	64.8	68.2	66.5	64.8	58.8
87.5°	18.7	18.7	19.6	20.4	22.2	23.9	28.1	32.4	29.8	27.3	24.7
90°	7.1	6.0	4.9	3.9	3.0	2.1	1.3	0.4	1.3	2.1	3.0
92.5°	8.6	7.8	7.1	6.9	7.4	8.0	8.5	9.0	8.5	8.0	7.4
95°	10.2	9.3	8.3	9.6	13.2	16.8	20.3	23.9	20.3	16.8	13.2
97.5°	21.4	25.9	30.3	33.7	36.2	38.6	41.1	43.5	41.1	38.6	36.2
100°	40.1	53.7	67.3	73.2	71.5	69.7	68.0	66.2	68.0	69.7	71.5
102.5°	59.3	74.5	89.6	96.6	95.5	94.4	93.2	92.1	93.2	94.4	95.5
105°	101.5	109.3	117.2	120.6	119.7	118.7	117.7	116.8	117.7	118.7	119.7
107.5°	149.8	148.5	147.2	146.2	145.4	144.6	143.8	143.0	143.8	144.6	145.4
110°	174.8	173.9	172.9	172.1	171.4	170.7	170.0	169.3	170.0	170.7	171.4





TEST NUMBER: P831963

CATALOG NUMBER: S123RDIP-S1165D365U850-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	199.5	198.6	197.6	196.8	196.2	195.6	195.0	194.4	195.0	195.6	196.2
115°	223.4	222.6	221.8	221.2	220.6	220.1	219.6	219.1	219.6	220.1	220.6
117.5°	247.2	246.8	246.3	245.8	245.2	244.6	244.0	243.4	244.0	244.6	245.2
120°	269.9	269.6	269.4	268.8	268.1	267.3	266.5	265.7	266.5	267.3	268.1
122.5°	292.0	291.7	291.3	290.9	290.3	289.6	289.0	288.4	289.0	289.6	290.3
125°	312.8	312.5	312.1	311.6	310.9	310.2	309.5	308.8	309.5	310.2	310.9
127.5°	333.4	333.0	332.5	332.0	331.3	330.6	329.9	329.2	329.9	330.6	331.3
130°	352.0	351.7	351.3	350.8	350.1	349.4	348.7	348.0	348.7	349.4	350.1
132.5°	369.8	369.5	369.3	368.8	368.1	367.4	366.7	366.0	366.7	367.4	368.1
135°	387.7	387.3	387.0	386.5	386.0	385.5	385.0	384.4	385.0	385.5	386.0
137.5°	403.7	403.5	403.3	402.9	402.2	401.5	400.8	400.1	400.8	401.5	402.2
140°	418.8	418.5	418.3	417.9	417.4	416.8	416.3	415.8	416.3	416.8	417.4
142.5°	433.3	433.0	432.8	432.4	431.9	431.3	430.8	430.3	430.8	431.3	431.9
145°	446.8	446.6	446.4	446.1	445.4	444.8	444.2	443.6	444.2	444.8	445.4
147.5°	458.9	458.8	458.6	458.3	457.9	457.4	457.0	456.5	457.0	457.4	457.9
150°	469.9	469.7	469.6	469.3	469.1	468.8	468.6	468.3	468.6	468.8	469.1
152.5°	479.5	479.4	479.3	479.2	479.1	479.1	479.0	478.9	479.0	479.1	479.1
155°	488.1	488.0	487.9	488.0	488.2	488.3	488.5	488.7	488.5	488.3	488.2
157.5°	496.3	496.4	496.5	496.5	496.5	496.5	496.5	496.5	496.5	496.5	496.5
160°	503.0	503.1	503.1	503.2	503.3	503.4	503.5	503.6	503.5	503.4	503.3
162.5°	508.8	508.9	509.0	509.2	509.5	509.7	510.0	510.2	510.0	509.7	509.5
165°	513.9	514.0	514.1	514.3	514.5	514.8	515.1	515.3	515.1	514.8	514.5
167.5°	518.1	518.1	518.1	518.2	518.6	518.9	519.3	519.6	519.3	518.9	518.6
170°	521.6	521.6	521.6	521.8	522.1	522.5	522.8	523.2	522.8	522.5	522.1
172.5°	523.8	523.7	523.6	523.8	524.2	524.6	525.1	525.5	525.1	524.6	524.2
175°	525.7	525.7	525.6	525.7	526.2	526.6	527.0	527.5	527.0	526.6	526.2
177.5°	526.5	526.4	526.3	526.5	527.0	527.4	527.8	528.3	527.8	527.4	527.0
180°	527.5	527.5	527.5	527.5	527.5	527.5	527.5	527.5	527.5	527.5	527.5



TEST NUMBER: P831963

CATALOG NUMBER: S123RDIP-S1165D365U850-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3
2.5°	4023.4	3974.8	3926.2	3891.3	3856.4	3812.9	3769.5	3767.8	3766.0	3733.7	3701.3
5°	3784.8	3700.4	3616.1	3533.4	3450.8	3368.1	3285.5	3266.7	3248.0	3219.9	3191.8
7.5°	3573.5	3438.9	3304.2	3198.6	3092.9	3010.3	2927.6	2871.4	2815.2	2771.7	2728.3
10°	3346.8	3179.8	3012.8	2885.0	2757.2	2667.8	2578.3	2513.5	2448.8	2418.1	2387.4
12.5°	3111.7	2930.2	2748.7	2623.5	2498.2	2390.8	2283.5	2224.7	2165.9	2123.3	2080.7
15°	2895.3	2700.1	2505.0	2372.1	2239.2	2138.6	2038.1	1979.3	1920.5	1877.9	1835.3
17.5°	2685.7	2488.8	2292.0	2157.4	2022.8	1931.6	1840.4	1783.3	1726.2	1699.8	1673.4
20°	2494.8	2296.3	2097.7	1970.8	1843.8	1754.4	1664.9	1634.2	1603.6	1578.8	1554.1
22.5°	2305.6	2114.8	1923.9	1802.1	1680.2	1615.5	1550.7	1526.0	1501.3	1482.6	1463.8
25°	2147.2	1957.2	1767.1	1660.6	1554.1	1503.9	1453.6	1437.4	1421.2	1402.5	1383.7
27.5°	1987.0	1806.3	1625.7	1540.5	1455.3	1414.4	1373.5	1353.1	1332.6	1317.3	1301.9
30°	1845.5	1678.5	1511.5	1440.8	1370.1	1334.3	1298.5	1276.4	1254.2	1239.7	1225.2
32.5°	1709.2	1561.0	1412.7	1352.2	1291.7	1256.8	1221.8	1200.5	1179.2	1162.2	1145.2
35°	1583.1	1454.4	1325.8	1270.4	1215.0	1180.1	1145.2	1123.9	1102.5	1085.5	1068.5
37.5°	1472.3	1355.6	1238.9	1186.9	1134.9	1104.3	1073.6	1051.4	1029.3	1011.4	993.5
40°	1368.4	1265.3	1162.2	1111.9	1061.7	1028.4	995.2	975.6	956.0	939.8	923.6
42.5°	1276.4	1181.8	1087.2	1037.8	988.4	956.8	925.3	902.3	879.3	869.9	860.6
45°	1179.2	1095.7	1012.2	964.5	916.8	883.6	850.3	830.7	811.1	802.6	794.1
47.5°	1094.0	1016.5	939.0	892.1	845.2	815.4	785.6	770.3	754.9	743.0	731.1
50°	1010.5	935.5	860.6	815.4	770.3	744.7	719.1	700.4	681.6	673.1	664.6
52.5°	930.4	862.3	794.1	748.1	702.1	677.4	652.7	636.5	620.3	602.4	584.5
55°	840.1	780.5	720.8	679.9	639.0	613.5	587.9	569.2	550.4	531.7	512.9
57.5°	765.1	706.3	647.6	610.9	574.3	549.6	524.9	504.4	484.0	468.6	453.3
60°	683.3	632.2	581.1	545.3	509.5	485.7	461.8	442.2	422.6	414.9	407.3
62.5°	606.7	558.9	511.2	479.7	448.2	425.2	402.2	389.4	376.6	371.5	366.4
65°	528.3	487.4	446.5	417.5	388.5	368.9	349.3	343.4	337.4	333.2	328.9
67.5°	455.0	420.1	385.1	359.6	334.0	320.4	306.7	299.9	293.1	288.0	282.9
70°	388.5	357.9	327.2	305.0	282.9	270.1	257.3	251.4	245.4	236.0	226.6
72.5°	317.0	293.1	269.2	252.2	235.2	224.1	213.0	201.1	189.2	180.6	172.1
75°	262.4	238.6	214.7	198.5	182.3	169.6	156.8	152.5	148.3	145.7	143.1
77.5°	201.1	180.6	160.2	147.4	134.6	128.7	122.7	120.1	117.6	116.7	115.9
80°	144.8	127.8	110.8	103.9	97.1	95.4	93.7	92.0	90.3	89.5	88.6
82.5°	90.3	81.8	73.3	71.6	69.9	69.0	68.2	67.3	66.5	65.6	64.8
85°	52.8	49.4	46.0	45.2	44.3	43.5	42.6	42.6	42.6	42.6	42.6
87.5°	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	21.3	20.4
90°	3.9	4.9	6.0	7.1	8.3	9.4	9.8	10.1	10.5	10.8	11.1
92.5°	6.9	7.1	7.8	8.6	9.4	10.2	10.8	11.4	12.0	12.6	13.0
95°	9.6	8.3	9.3	10.2	11.2	12.1	12.8	13.4	14.0	14.6	14.9
97.5°	33.7	30.3	25.9	21.4	17.0	12.5	13.2	13.9	14.6	15.3	15.7
100°	73.2	67.3	53.7	40.1	26.5	12.9	13.6	14.3	15.0	15.7	16.1
102.5°	96.6	89.6	74.5	59.3	44.2	29.0	26.1	23.3	20.4	17.5	16.2
105°	120.6	117.2	109.3	101.5	93.7	85.8	70.4	55.0	39.6	24.2	16.5
107.5°	146.2	147.2	148.5	149.8	151.1	152.4	139.0	125.6	112.2	98.8	86.4
110°	172.1	172.9	173.9	174.8	175.8	176.7	173.9	171.0	168.1	165.2	157.6



TEST NUMBER: P831963

CATALOG NUMBER: S123RDIP-S1165D365U850-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	196.8	197.6	198.6	199.5	200.5	201.4	202.2	203.0	203.8	204.6	204.9
115°	221.2	221.8	222.6	223.4	224.2	224.9	225.8	226.7	227.6	228.4	229.0
117.5°	245.8	246.3	246.8	247.2	247.6	248.1	248.8	249.5	250.2	250.9	251.2
120°	268.8	269.4	269.6	269.9	270.1	270.4	271.1	271.8	272.5	273.2	273.5
122.5°	290.9	291.3	291.7	292.0	292.4	292.7	293.2	293.6	294.0	294.5	294.7
125°	311.6	312.1	312.5	312.8	313.2	313.5	313.7	313.9	314.0	314.2	314.4
127.5°	332.0	332.5	333.0	333.4	333.8	334.3	334.5	334.8	335.1	335.3	335.4
130°	350.8	351.3	351.7	352.0	352.3	352.7	353.0	353.4	353.7	354.1	354.2
132.5°	368.8	369.3	369.5	369.8	370.1	370.3	370.7	371.0	371.4	371.7	371.8
135°	386.5	387.0	387.3	387.7	388.0	388.4	388.6	388.9	389.1	389.4	389.4
137.5°	402.9	403.3	403.5	403.7	403.9	404.0	404.5	404.9	405.3	405.8	405.9
140°	417.9	418.3	418.5	418.8	419.1	419.3	419.7	420.0	420.4	420.7	420.8
142.5°	432.4	432.8	433.0	433.3	433.6	433.8	434.1	434.3	434.6	434.9	434.9
145°	446.1	446.4	446.6	446.8	447.0	447.1	447.3	447.5	447.7	447.8	447.9
147.5°	458.3	458.6	458.8	458.9	459.1	459.3	459.5	459.6	459.8	460.0	459.9
150°	469.3	469.6	469.7	469.9	470.1	470.3	470.4	470.6	470.8	471.0	470.9
152.5°	479.2	479.3	479.4	479.5	479.6	479.7	480.0	480.4	480.7	481.1	481.0
155°	488.0	487.9	488.0	488.1	488.2	488.3	488.7	489.2	489.6	490.0	490.0
157.5°	496.5	496.5	496.4	496.3	496.2	496.1	496.7	497.2	497.7	498.2	498.1
160°	503.2	503.1	503.1	503.0	502.9	502.8	503.3	503.8	504.4	504.9	504.8
162.5°	509.2	509.0	508.9	508.8	508.8	508.7	509.3	509.9	510.5	511.1	511.2
165°	514.3	514.1	514.0	513.9	513.9	513.8	514.5	515.2	515.9	516.6	516.6
167.5°	518.2	518.1	518.1	518.1	518.1	518.1	518.8	519.5	520.2	520.9	520.9
170°	521.8	521.6	521.6	521.6	521.6	521.6	522.3	523.0	523.7	524.4	524.4
172.5°	523.8	523.6	523.7	523.8	523.9	524.0	524.6	525.3	526.0	526.7	526.7
175°	525.7	525.6	525.7	525.7	525.8	525.9	526.5	527.1	527.7	528.4	528.3
177.5°	526.5	526.3	526.4	526.5	526.6	526.7	527.4	528.1	528.8	529.5	529.4
180°	527.5	527.5	527.5	527.5	527.5	527.5	527.5	527.5	527.5	527.5	527.5



TEST NUMBER: P831963

CATALOG NUMBER: S123RDIP-S1165D365U850-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	4156.3	4156.3	4156.3	4156.3
2.5°	3692.8	3684.3	3680.8	3677.4
5°	3165.4	3138.9	3133.0	3127.0
7.5°	2717.2	2706.1	2669.5	2632.8
10°	2353.4	2319.3	2303.9	2288.6
12.5°	2049.2	2017.6	2012.5	2007.4
15°	1813.2	1791.0	1783.3	1775.7
17.5°	1658.1	1642.7	1633.4	1624.0
20°	1543.1	1532.0	1525.2	1518.3
22.5°	1455.3	1446.8	1441.7	1436.6
25°	1370.9	1358.2	1353.9	1349.6
27.5°	1290.9	1279.8	1275.5	1271.3
30°	1215.9	1206.5	1200.5	1194.6
32.5°	1134.1	1123.0	1119.6	1116.2
35°	1061.7	1054.8	1051.4	1048.0
37.5°	985.0	976.4	971.3	966.2
40°	919.4	915.1	912.5	910.0
42.5°	852.9	845.2	844.4	843.5
45°	786.4	778.8	777.1	775.4
47.5°	724.2	717.4	716.6	715.7
50°	655.2	645.9	639.0	632.2
52.5°	576.0	567.5	561.5	555.5
55°	503.6	494.2	489.1	484.0
57.5°	449.0	444.8	442.2	439.7
60°	404.7	402.2	400.5	398.8
62.5°	363.8	361.3	361.3	361.3
65°	326.3	323.8	321.2	318.7
67.5°	277.8	272.7	271.8	271.0
70°	219.0	211.3	210.5	209.6
72.5°	171.3	170.4	168.7	167.0
75°	141.4	139.7	139.7	139.7
77.5°	114.2	112.5	112.5	112.5
80°	87.8	86.9	87.8	88.6
82.5°	64.8	64.8	63.9	63.1
85°	41.8	40.9	40.9	40.9
87.5°	20.4	20.4	20.4	20.4
90°	11.2	11.4	11.6	11.8
92.5°	13.1	13.1	13.2	13.3
95°	14.9	14.9	14.9	14.9
97.5°	15.8	15.9	16.0	16.1
100°	16.2	16.3	16.4	16.5
102.5°	16.3	16.5	16.7	16.9
105°	16.7	16.9	17.1	17.2
107.5°	75.0	63.6	52.2	40.8
110°	145.1	132.7	120.2	107.8



TEST NUMBER: P831963

CATALOG NUMBER: S123RDIP-S1165D365U850-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	204.7	204.5	204.3	204.2
115°	229.4	229.7	230.1	230.4
117.5°	251.3	251.4	251.5	251.6
120°	273.5	273.5	273.5	273.5
122.5°	294.8	294.9	295.0	295.1
125°	314.6	314.7	314.9	315.1
127.5°	335.2	335.0	334.8	334.7
130°	354.0	353.8	353.7	353.5
132.5°	371.5	371.2	371.0	370.7
135°	389.1	388.9	388.6	388.4
137.5°	405.7	405.6	405.4	405.2
140°	420.6	420.5	420.3	420.1
142.5°	434.6	434.3	434.1	433.8
145°	447.9	447.9	447.9	447.9
147.5°	459.4	459.0	458.6	458.1
150°	470.7	470.4	470.1	469.9
152.5°	480.6	480.1	479.7	479.3
155°	489.5	488.9	488.4	487.9
157.5°	497.4	496.7	496.0	495.3
160°	504.2	503.6	503.0	502.4
162.5°	510.6	510.1	509.6	509.1
165°	516.0	515.4	514.8	514.2
167.5°	520.2	519.5	518.8	518.1
170°	523.7	523.0	522.3	521.6
172.5°	525.9	525.1	524.3	523.6
175°	527.6	526.9	526.2	525.5
177.5°	528.5	527.7	526.8	525.9
180°	527.5	527.5	527.5	527.5



TEST NUMBER: P831963

CATALOG NUMBER: S123RDIP-S1165D365U850-4F0-1E-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	16.23	17.31	16.93	18.01	18.83	20.90	21.98	21.59	22.68	23.50
	3H	17.47	18.44	18.18	19.15	20.00	22.42	23.38	23.12	24.09	24.94
	4H	17.87	18.77	18.59	19.49	20.36	22.92	23.82	23.64	24.54	25.41
	6H	18.16	18.99	18.90	19.72	20.61	23.24	24.07	23.98	24.80	25.69
	8H	18.25	19.04	19.00	19.80	20.68	23.33	24.12	24.07	24.87	25.75
	12H	18.31	19.07	19.06	19.81	20.72	23.36	24.12	24.12	24.86	25.77
4H	2H	16.99	17.89	17.71	18.61	19.48	20.92	21.83	21.65	22.55	23.42
	3H	18.38	19.13	19.12	19.88	20.77	22.60	23.35	23.34	24.11	24.99
	4H	18.84	19.52	19.59	20.28	21.19	23.22	23.90	23.97	24.66	25.57
	6H	19.22	19.81	19.99	20.59	21.52	23.67	24.25	24.44	25.04	25.96
	8H	19.35	19.90	20.13	20.68	21.61	23.80	24.35	24.58	25.13	26.06
	12H	19.44	19.93	20.23	20.73	21.67	23.87	24.36	24.67	25.17	26.11
8H	4H	19.17	19.72	19.95	20.50	21.43	23.20	23.75	23.98	24.53	25.46
	6H	19.64	20.09	20.45	20.92	21.85	23.70	24.15	24.51	24.98	25.92
	8H	19.84	20.24	20.66	21.06	22.01	23.89	24.29	24.71	25.11	26.07
	12H	19.99	20.34	20.81	21.15	22.16	24.02	24.37	24.84	25.18	26.19
12H	4H	19.19	19.68	19.99	20.49	21.43	23.16	23.65	23.96	24.45	25.39
	6H	19.70	20.10	20.52	20.93	21.88	23.68	24.08	24.50	24.90	25.86
	8H	19.93	20.28	20.75	21.09	22.11	23.88	24.24	24.70	25.05	26.06