

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: P831941

Luminaire Tested: S123RDIP-S1165D1195U927-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831941
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-S1165D1195U927-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

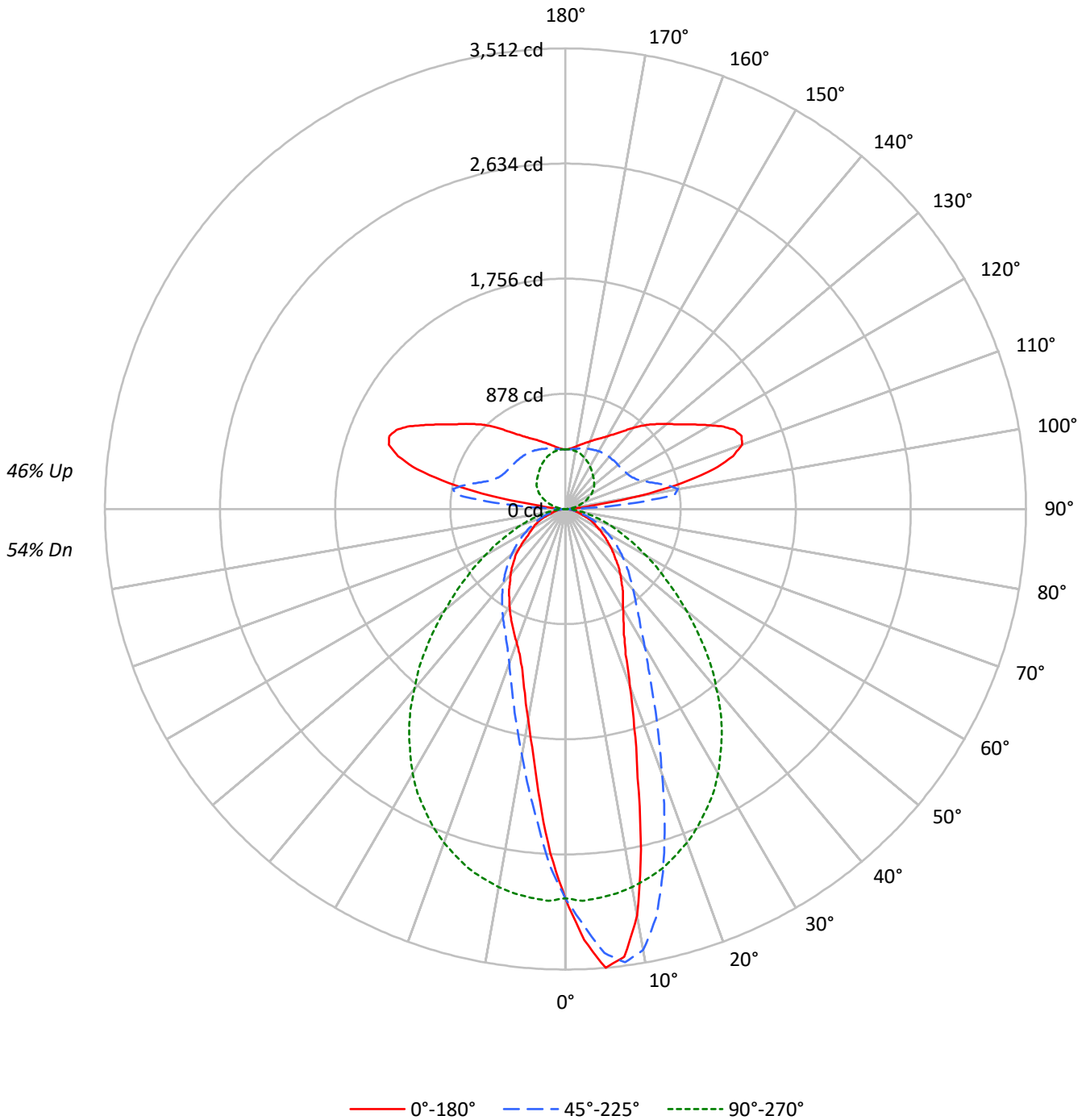
Lumens per Lamp: N/A
Luminaire Lumens: 7359.0 lumens
Efficiency: N/A
Efficacy: 100.5 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 73.2
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	50	30	10	50	30	10	0				
RCR																															
0	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	54	54	54	47	47	47	41	41	41	36	36	36		
1	99	95	92	89	92	89	86	83	76	74	72	64	63	61	54	53	52	47	47	47	41	41	41	36	36	36	31	31	31		
2	91	84	79	74	84	79	74	69	68	64	61	58	55	53	48	47	45	41	41	41	36	36	36	31	31	31	28	28	28		
3	84	75	68	63	78	70	64	59	61	56	52	52	49	46	44	41	39	36	36	36	31	31	31	28	28	28	25	25	25		
4	77	67	60	54	72	63	56	51	55	50	46	47	43	40	40	37	35	31	31	31	28	28	28	25	25	25	23	23	23		
5	71	60	53	47	66	57	50	45	49	44	40	43	39	36	36	34	31	28	28	28	25	25	25	23	23	23	21	21	21		
6	66	55	47	42	61	51	45	40	45	40	36	39	35	32	34	30	28	25	25	25	23	23	23	21	21	21	19	19	19		
7	62	50	42	37	57	47	40	35	41	36	32	36	32	29	31	28	25	23	23	23	21	21	21	19	19	19	17	17	17		
8	57	46	38	33	53	43	36	32	38	33	29	33	29	26	29	26	23	21	21	21	19	19	19	17	17	17	15	15	15		
9	54	42	35	30	50	40	33	29	35	30	26	31	27	24	27	24	21	19	19	19	17	17	17	15	15	15	13	13	13		
10	50	39	32	27	47	37	30	26	33	28	24	29	25	22	25	22	20	18	18	18	16	16	16	14	14	14	12	12	12		

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	3.7
10°-20°	626.2	8.5
20°-30°	718.5	9.8
30°-40°	708.2	9.6
40°-50°	624.5	8.5
50°-60°	480.5	6.5
60°-70°	315.9	4.3
70°-80°	153.4	2.1
80°-90°	41.2	0.6
90°-100°	246.7	3.4
100°-110°	722.3	9.8
110°-120°	705.4	9.6
120°-130°	561.8	7.6
130°-140°	443.2	6.0
140°-150°	330.6	4.5
150°-160°	230.5	3.1
160°-170°	135.4	1.8
170°-180°	44.1	0.6
0°-30°	1615.3	21.9
0°-40°	2323.4	31.6
0°-60°	3428.4	46.6
0°-90°	3938.9	53.5
90°-120°	1674.5	22.8
90°-150°	3010.1	40.9
90°-180°	3420.0	46.5
0°-180°	7359.0	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°	27	23	2	23	27	16
95°	107	546	31	546	107	174
105°	1171	740	107	740	1171	1168
115°	1424	566	189	566	1424	1388
125°	1123	528	262	528	1123	1016
135°	910	521	307	521	910	706
145°	712	514	351	514	712	452
155°	590	498	398	498	590	275
165°	514	477	435	477	514	147
175°	463	457	454	457	463	45
180°	455	455	455	455	455	



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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°	26.7	27.6	26.7	25.8	26.7	24.9	23.9	23.0	22.1	23.0	20.2
92.5°	48.8	50.6	49.7	53.4	55.2	61.7	70.9	91.1	127.9	171.2	189.6
95°	106.8	110.4	116.9	125.2	142.7	175.8	224.6	331.3	442.7	545.8	486.0
97.5°	219.1	229.2	251.3	286.2	347.9	452.8	574.3	761.2	867.9	839.4	626.8
100°	577.1	576.2	612.1	679.3	772.2	902.9	1010.6	1085.1	1052.9	871.6	589.1
102.5°	914.0	940.6	969.2	1018.9	1086.1	1156.9	1208.5	1192.8	1062.1	811.8	533.8
105°	1170.7	1175.3	1204.8	1239.8	1282.1	1306.0	1288.6	1196.5	1004.1	740.0	490.6
107.5°	1338.3	1348.4	1360.3	1376.9	1382.4	1357.6	1285.8	1141.3	921.3	676.5	459.3
110°	1434.0	1435.8	1437.7	1430.3	1404.5	1340.1	1224.1	1054.8	844.0	624.0	442.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1453.3	1452.4	1443.2	1416.5	1364.0	1276.6	1143.1	969.2	776.8	589.1	433.5
115°	1423.8	1419.2	1400.8	1360.3	1291.3	1191.0	1055.7	895.5	725.3	566.0	432.6
117.5°	1359.4	1353.0	1325.4	1280.3	1208.5	1104.5	980.2	838.5	691.2	550.4	433.5
120°	1274.7	1269.2	1247.1	1195.6	1122.9	1029.9	919.5	795.2	665.4	540.3	437.2
122.5°	1195.6	1188.2	1163.4	1118.3	1055.7	971.0	870.7	761.2	644.3	533.8	443.6
125°	1122.9	1116.4	1093.4	1052.9	994.0	920.4	832.0	731.7	626.8	528.3	450.1
127.5°	1060.3	1054.8	1033.6	998.6	945.2	877.1	796.1	705.0	610.2	525.5	457.4
130°	1008.8	1001.4	982.1	948.9	900.1	837.6	763.0	680.2	597.3	522.8	464.8
132.5°	958.1	953.5	937.0	903.8	858.7	799.8	731.7	657.2	585.4	521.9	470.3
135°	910.3	903.8	887.3	859.6	814.5	762.1	702.3	636.9	575.2	520.9	475.8
137.5°	859.6	854.1	840.3	811.8	773.1	726.2	672.8	617.6	566.0	519.1	479.5
140°	806.3	807.2	792.5	766.7	731.7	692.1	648.0	601.0	557.8	518.2	483.2
142.5°	756.6	757.5	744.6	722.5	694.0	660.8	624.0	585.4	550.4	516.3	486.0
145°	711.5	709.6	702.3	682.9	659.9	633.2	603.8	573.4	544.0	514.5	486.9
147.5°	672.8	671.9	664.5	650.7	632.3	613.0	588.1	563.3	537.5	511.7	486.9
150°	639.7	639.7	634.2	624.0	610.2	592.7	573.4	552.2	531.1	508.1	486.9
152.5°	612.1	612.1	609.3	600.1	590.0	576.2	559.6	542.1	523.7	503.5	484.1
155°	590.0	589.1	587.2	579.8	571.6	560.5	546.7	532.0	516.3	497.9	482.3
157.5°	568.8	568.8	567.0	561.4	554.1	544.9	533.8	520.9	508.1	493.3	479.5
160°	548.6	549.5	549.5	544.0	537.5	531.1	521.9	511.7	499.8	487.8	477.7
162.5°	530.1	531.1	531.1	526.5	522.8	517.3	509.0	500.7	491.5	482.3	474.0
165°	514.5	514.5	515.4	511.7	508.1	503.5	497.0	491.5	484.1	476.8	470.3
167.5°	498.9	498.9	499.8	497.0	495.2	491.5	487.8	483.2	476.8	471.2	466.6
170°	485.0	485.0	486.0	484.1	483.2	481.4	477.7	474.9	470.3	465.7	463.0
172.5°	472.2	473.1	474.9	473.1	473.1	472.2	469.4	467.6	463.9	461.1	460.2
175°	463.0	463.9	464.8	463.9	463.9	463.9	462.0	461.1	459.3	457.4	457.4
177.5°	456.5	456.5	458.4	457.4	458.4	458.4	457.4	456.5	455.6	454.7	455.6
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7



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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°	17.5	14.7	12.0	10.1	8.3	5.5	3.7	1.8	3.7	5.5	8.3
92.5°	141.7	93.0	63.5	46.9	37.7	29.5	20.2	13.8	20.2	29.5	37.7
95°	335.0	197.9	119.7	83.8	59.8	44.2	34.1	31.3	34.1	44.2	59.8
97.5°	372.8	213.5	136.2	96.6	72.7	58.9	50.6	49.7	50.6	58.9	72.7
100°	347.0	210.8	146.3	110.4	88.4	75.5	69.0	68.1	69.0	75.5	88.4
102.5°	324.9	214.5	158.3	126.1	106.8	94.8	89.3	87.4	89.3	94.8	106.8
105°	316.6	221.8	172.1	143.6	126.1	115.0	109.5	106.8	109.5	115.0	126.1
107.5°	314.8	233.8	189.6	162.9	146.3	135.3	129.8	127.0	129.8	135.3	146.3
110°	319.4	249.4	208.0	182.2	166.6	156.5	151.9	149.1	151.9	156.5	166.6



TEST NUMBER: P831941

CATALOG NUMBER: S123RDIP-S1165D1195U927-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	328.6	265.1	227.3	202.5	186.8	176.7	172.1	169.4	172.1	176.7	186.8
115°	338.7	282.6	247.6	222.7	207.1	197.9	192.4	188.7	192.4	197.9	207.1
117.5°	351.6	301.0	266.0	243.0	225.5	217.2	212.6	208.0	212.6	217.2	225.5
120°	366.3	318.5	285.3	262.3	244.8	235.6	231.0	228.3	231.0	235.6	244.8
122.5°	380.1	336.9	304.7	279.8	263.2	253.1	248.5	245.7	248.5	253.1	263.2
125°	394.8	354.4	322.1	297.3	279.8	269.7	264.2	262.3	264.2	269.7	279.8
127.5°	406.8	370.0	338.7	313.9	294.5	284.4	278.0	275.2	278.0	284.4	294.5
130°	418.8	383.8	353.4	328.6	309.3	298.2	289.9	287.2	289.9	298.2	309.3
132.5°	429.8	395.8	366.3	342.4	323.1	309.3	300.0	296.4	300.0	309.3	323.1
135°	439.0	407.7	379.2	354.4	335.0	321.2	311.1	307.4	311.1	321.2	335.0
137.5°	446.4	416.0	388.4	365.4	346.1	331.3	321.2	317.5	321.2	331.3	346.1
140°	451.9	424.3	397.6	374.6	356.2	341.5	332.3	327.7	332.3	341.5	356.2
142.5°	457.4	430.7	405.0	383.8	365.4	352.5	342.4	338.7	342.4	352.5	365.4
145°	461.1	436.3	412.3	391.2	375.5	361.7	353.4	350.7	353.4	361.7	375.5
147.5°	463.9	440.9	418.8	400.4	384.7	372.8	364.5	362.6	364.5	372.8	384.7
150°	464.8	445.5	424.3	407.7	394.8	382.9	375.5	374.6	375.5	382.9	394.8
152.5°	466.6	448.2	430.7	415.1	404.1	393.9	386.6	386.6	386.6	393.9	404.1
155°	466.6	451.9	436.3	423.4	413.3	404.1	398.5	398.5	398.5	404.1	413.3
157.5°	467.6	453.8	440.9	430.7	421.5	413.3	408.7	407.7	408.7	413.3	421.5
160°	467.6	456.5	445.5	436.3	429.8	422.5	418.8	418.8	418.8	422.5	429.8
162.5°	466.6	457.4	448.2	440.9	435.3	429.8	427.1	427.1	427.1	429.8	435.3
165°	464.8	458.4	451.0	444.6	440.9	436.3	434.4	435.3	434.4	436.3	440.9
167.5°	463.9	458.4	452.8	448.2	445.5	441.8	440.9	441.8	440.9	441.8	445.5
170°	461.1	457.4	452.8	451.0	449.2	446.4	445.5	447.3	445.5	446.4	449.2
172.5°	460.2	457.4	453.8	452.8	451.9	450.1	450.1	451.0	450.1	450.1	451.9
175°	458.4	456.5	454.7	453.8	453.8	451.9	452.8	453.8	452.8	451.9	453.8
177.5°	457.4	455.6	454.7	454.7	454.7	453.8	454.7	455.6	454.7	453.8	454.7
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7



TEST NUMBER: P831941

CATALOG NUMBER: S123RDIP-S1165D1195U927-4F0-1E-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°	10.1	12.0	14.7	17.5	20.2	23.0	22.1	23.0	23.9	24.9	26.7
92.5°	46.9	63.5	93.0	141.7	189.6	171.2	127.9	91.1	70.9	61.7	55.2
95°	83.8	119.7	197.9	335.0	486.0	545.8	442.7	331.3	224.6	175.8	142.7
97.5°	96.6	136.2	213.5	372.8	626.8	839.4	867.9	761.2	574.3	452.8	347.9
100°	110.4	146.3	210.8	347.0	589.1	871.6	1052.9	1085.1	1010.6	902.9	772.2
102.5°	126.1	158.3	214.5	324.9	533.8	811.8	1062.1	1192.8	1208.5	1156.9	1086.1
105°	143.6	172.1	221.8	316.6	490.6	740.0	1004.1	1196.5	1288.6	1306.0	1282.1
107.5°	162.9	189.6	233.8	314.8	459.3	676.5	921.3	1141.3	1285.8	1357.6	1382.4
110°	182.2	208.0	249.4	319.4	442.7	624.0	844.0	1054.8	1224.1	1340.1	1404.5



TEST NUMBER: P831941

CATALOG NUMBER: S123RDIP-S1165D1195U927-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	202.5	227.3	265.1	328.6	433.5	589.1	776.8	969.2	1143.1	1276.6	1364.0
115°	222.7	247.6	282.6	338.7	432.6	566.0	725.3	895.5	1055.7	1191.0	1291.3
117.5°	243.0	266.0	301.0	351.6	433.5	550.4	691.2	838.5	980.2	1104.5	1208.5
120°	262.3	285.3	318.5	366.3	437.2	540.3	665.4	795.2	919.5	1029.9	1122.9
122.5°	279.8	304.7	336.9	380.1	443.6	533.8	644.3	761.2	870.7	971.0	1055.7
125°	297.3	322.1	354.4	394.8	450.1	528.3	626.8	731.7	832.0	920.4	994.0
127.5°	313.9	338.7	370.0	406.8	457.4	525.5	610.2	705.0	796.1	877.1	945.2
130°	328.6	353.4	383.8	418.8	464.8	522.8	597.3	680.2	763.0	837.6	900.1
132.5°	342.4	366.3	395.8	429.8	470.3	521.9	585.4	657.2	731.7	799.8	858.7
135°	354.4	379.2	407.7	439.0	475.8	520.9	575.2	636.9	702.3	762.1	814.5
137.5°	365.4	388.4	416.0	446.4	479.5	519.1	566.0	617.6	672.8	726.2	773.1
140°	374.6	397.6	424.3	451.9	483.2	518.2	557.8	601.0	648.0	692.1	731.7
142.5°	383.8	405.0	430.7	457.4	486.0	516.3	550.4	585.4	624.0	660.8	694.0
145°	391.2	412.3	436.3	461.1	486.9	514.5	544.0	573.4	603.8	633.2	659.9
147.5°	400.4	418.8	440.9	463.9	486.9	511.7	537.5	563.3	588.1	613.0	632.3
150°	407.7	424.3	445.5	464.8	486.9	508.1	531.1	552.2	573.4	592.7	610.2
152.5°	415.1	430.7	448.2	466.6	484.1	503.5	523.7	542.1	559.6	576.2	590.0
155°	423.4	436.3	451.9	466.6	482.3	497.9	516.3	532.0	546.7	560.5	571.6
157.5°	430.7	440.9	453.8	467.6	479.5	493.3	508.1	520.9	533.8	544.9	554.1
160°	436.3	445.5	456.5	467.6	477.7	487.8	499.8	511.7	521.9	531.1	537.5
162.5°	440.9	448.2	457.4	466.6	474.0	482.3	491.5	500.7	509.0	517.3	522.8
165°	444.6	451.0	458.4	464.8	470.3	476.8	484.1	491.5	497.0	503.5	508.1
167.5°	448.2	452.8	458.4	463.9	466.6	471.2	476.8	483.2	487.8	491.5	495.2
170°	451.0	452.8	457.4	461.1	463.0	465.7	470.3	474.9	477.7	481.4	483.2
172.5°	452.8	453.8	457.4	460.2	460.2	461.1	463.9	467.6	469.4	472.2	473.1
175°	453.8	454.7	456.5	458.4	457.4	457.4	459.3	461.1	462.0	463.9	463.9
177.5°	454.7	454.7	455.6	457.4	455.6	454.7	455.6	456.5	457.4	458.4	458.4
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7



TEST NUMBER: P831941

CATALOG NUMBER: S123RDIP-S1165D1195U927-4F0-1E-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°	25.8	26.7	27.6	26.7
92.5°	53.4	49.7	50.6	48.8
95°	125.2	116.9	110.4	106.8
97.5°	286.2	251.3	229.2	219.1
100°	679.3	612.1	576.2	577.1
102.5°	1018.9	969.2	940.6	914.0
105°	1239.8	1204.8	1175.3	1170.7
107.5°	1376.9	1360.3	1348.4	1338.3
110°	1430.3	1437.7	1435.8	1434.0



TEST NUMBER: P831941

CATALOG NUMBER: S123RDIP-S1165D1195U927-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1416.5	1443.2	1452.4	1453.3
115°	1360.3	1400.8	1419.2	1423.8
117.5°	1280.3	1325.4	1353.0	1359.4
120°	1195.6	1247.1	1269.2	1274.7
122.5°	1118.3	1163.4	1188.2	1195.6
125°	1052.9	1093.4	1116.4	1122.9
127.5°	998.6	1033.6	1054.8	1060.3
130°	948.9	982.1	1001.4	1008.8
132.5°	903.8	937.0	953.5	958.1
135°	859.6	887.3	903.8	910.3
137.5°	811.8	840.3	854.1	859.6
140°	766.7	792.5	807.2	806.3
142.5°	722.5	744.6	757.5	756.6
145°	682.9	702.3	709.6	711.5
147.5°	650.7	664.5	671.9	672.8
150°	624.0	634.2	639.7	639.7
152.5°	600.1	609.3	612.1	612.1
155°	579.8	587.2	589.1	590.0
157.5°	561.4	567.0	568.8	568.8
160°	544.0	549.5	549.5	548.6
162.5°	526.5	531.1	531.1	530.1
165°	511.7	515.4	514.5	514.5
167.5°	497.0	499.8	498.9	498.9
170°	484.1	486.0	485.0	485.0
172.5°	473.1	474.9	473.1	472.2
175°	463.9	464.8	463.9	463.0
177.5°	457.4	458.4	456.5	456.5
180°	454.7	454.7	454.7	454.7



TEST NUMBER: P831941

CATALOG NUMBER: S123RDIP-S1165D1195U927-4F0-1E-UDD-G4

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	13.11	13.94	14.05	14.89	16.12	17.77	18.61	18.71	19.55	20.78
	3H	14.33	15.08	15.28	16.03	17.28	19.27	20.02	20.22	20.97	22.22
	4H	14.71	15.42	15.68	16.38	17.64	19.76	20.47	20.73	21.43	22.68
	6H	14.99	15.64	15.97	16.61	17.88	20.07	20.72	21.05	21.69	22.96
	8H	15.08	15.70	16.06	16.68	17.95	20.15	20.77	21.13	21.75	23.02
	12H	15.13	15.72	16.12	16.69	17.99	20.19	20.77	21.17	21.75	23.04
4H	2H	13.83	14.54	14.80	15.50	16.75	17.77	18.47	18.74	19.43	20.69
	3H	15.20	15.79	16.18	16.78	18.05	19.43	20.01	20.40	21.00	22.27
	4H	15.66	16.19	16.64	17.18	18.47	20.03	20.57	21.02	21.55	22.85
	6H	16.03	16.48	17.02	17.49	18.79	20.47	20.93	21.47	21.94	23.23
	8H	16.15	16.58	17.15	17.58	18.89	20.60	21.03	21.60	22.03	23.34
	12H	16.23	16.61	17.24	17.63	18.94	20.66	21.05	21.68	22.07	23.38
8H	4H	15.97	16.40	16.97	17.40	18.71	20.00	20.43	21.00	21.43	22.74
	6H	16.44	16.79	17.46	17.83	19.14	20.50	20.85	21.52	21.89	23.20
	8H	16.63	16.94	17.66	17.97	19.29	20.68	20.99	21.72	22.02	23.35
	12H	16.77	17.04	17.80	18.07	19.43	20.80	21.07	21.83	22.10	23.46
12H	4H	15.98	16.37	17.00	17.39	18.70	19.95	20.34	20.97	21.35	22.67
	6H	16.49	16.80	17.53	17.83	19.16	20.47	20.78	21.50	21.81	23.14
	8H	16.71	16.99	17.75	18.01	19.38	20.67	20.94	21.70	21.96	23.33