

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: P831944

Luminaire Tested: S123RDIP-S1165D1195U930-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831944
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-S1165D1195U930-4F0-1E-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

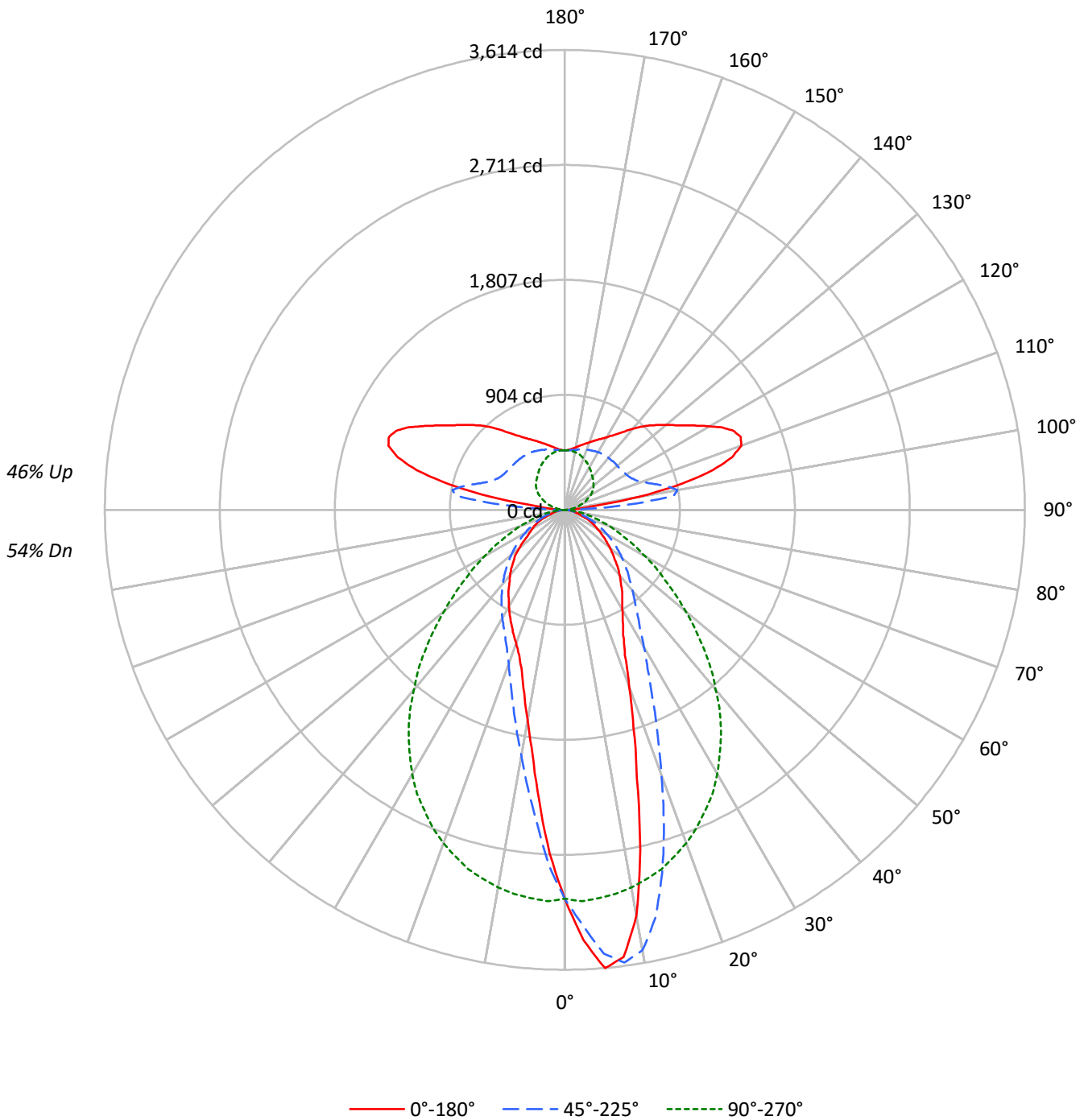
Lumens per Lamp: N/A
Luminaire Lumens: 7573.7 lumens
Efficiency: N/A
Efficacy: 103.5 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	32890	32890	32890	32890	32890
5°	39053	37807	33097	26754	24840
10°	35382	38402	32932	21436	18390
15°	24361	32926	32584	17521	14547
20°	16947	25350	31930	14773	12786
25°	12915	19320	30978	13131	11784
30°	11242	15447	29788	12192	10915
35°	10322	13030	28101	11401	10125
40°	9417	11636	25895	10624	9400
45°	8505	10642	23514	9889	8677
50°	7720	9818	20706	9168	7783
55°	6983	9015	18008	8464	6677
60°	6256	8198	15642	7685	6312
65°	5777	7274	13466	6907	5968
70°	4692	6288	11748	6250	4850
75°	4117	5003	9952	5186	4271
80°	3725	4234	8151	4351	4035
85°	3409	3717	6187	3940	3717

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 24811 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	278.5	3.7
10°-20°	644.5	8.5
20°-30°	739.4	9.8
30°-40°	728.8	9.6
40°-50°	642.7	8.5
50°-60°	494.5	6.5
60°-70°	325.1	4.3
70°-80°	157.9	2.1
80°-90°	42.4	0.6
90°-100°	253.9	3.4
100°-110°	743.4	9.8
110°-120°	726.0	9.6
120°-130°	578.2	7.6
130°-140°	456.2	6.0
140°-150°	340.3	4.5
150°-160°	237.3	3.1
160°-170°	139.4	1.8
170°-180°	45.3	0.6
0°-30°	1662.4	21.9
0°-40°	2391.2	31.6
0°-60°	3528.4	46.6
0°-90°	4053.8	53.5
90°-120°	1723.3	22.8
90°-150°	3097.9	40.9
90°-180°	3520.0	46.5
0°-180°	7573.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3056	3056	3056	3056	3056	
5°	3614	3499	3063	2476	2299	330
15°	2186	2955	2924	1572	1305	617
25°	1087	1627	2608	1106	992	514
35°	786	992	2138	868	770	490
45°	559	699	1545	650	570	434
55°	372	480	960	451	356	334
65°	227	286	529	271	234	222
75°	99	120	239	125	103	107
85°	28	30	50	32	30	29
90°	28	24	2	24	28	16
95°	110	562	32	562	110	179
105°	1205	762	110	762	1205	1202
115°	1465	583	194	583	1465	1429
125°	1156	544	270	544	1156	1046
135°	937	536	316	536	937	727
145°	732	530	361	530	732	465
155°	607	512	410	512	607	283
165°	530	491	448	491	530	151
175°	476	471	467	471	476	46
180°	468	468	468	468	468	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6
2.5°	3386.3	3375.6	3365.0	3361.9	3358.7	3348.7	3338.7	3316.1	3293.6	3270.4	3247.2
5°	3614.3	3615.6	3616.8	3613.7	3610.5	3597.4	3584.2	3556.7	3529.1	3499.0	3469.0
7.5°	3544.1	3564.2	3584.2	3588.0	3591.8	3601.8	3611.8	3605.5	3599.3	3588.0	3576.7
10°	3237.2	3236.0	3234.7	3257.3	3279.8	3346.8	3413.9	3448.3	3482.8	3513.5	3544.1
12.5°	2736.1	2738.0	2739.9	2813.8	2887.7	2950.9	3014.2	3101.9	3189.6	3284.2	3378.8
15°	2186.1	2216.8	2247.5	2313.3	2379.1	2474.3	2569.5	2687.2	2805.0	2954.7	3104.4
17.5°	1795.2	1808.4	1821.6	1884.8	1948.1	2038.3	2128.5	2261.9	2395.3	2588.3	2781.2
20°	1479.5	1491.4	1503.3	1549.1	1594.8	1681.2	1767.7	1894.8	2022.0	2213.1	2404.1
22.5°	1235.3	1258.4	1281.6	1312.3	1343.0	1405.6	1468.3	1597.9	1727.6	1901.7	2075.9
25°	1087.4	1098.1	1108.7	1135.0	1161.3	1221.5	1281.6	1367.4	1453.2	1626.7	1800.3
27.5°	987.2	990.3	993.5	1012.9	1032.3	1071.1	1110.0	1189.5	1269.1	1411.9	1554.7
30°	904.5	910.2	915.8	930.8	945.9	974.0	1002.2	1058.6	1115.0	1242.8	1370.6
32.5°	840.6	843.8	846.9	859.4	871.9	892.6	913.3	957.8	1002.2	1100.0	1197.7
35°	785.5	786.1	786.8	796.1	805.5	825.6	845.6	882.6	919.5	991.6	1063.6
37.5°	722.9	727.2	731.6	738.5	745.4	762.9	780.5	810.6	840.6	900.1	959.6
40°	670.2	674.0	677.8	685.9	694.0	707.8	721.6	749.2	776.7	828.1	879.5
42.5°	617.6	620.1	622.6	630.8	638.9	655.8	672.7	694.7	716.6	759.2	801.8
45°	558.7	565.0	571.3	580.0	588.8	603.2	617.6	640.2	662.7	699.1	735.4
47.5°	509.9	513.0	516.1	523.7	531.2	548.7	566.3	586.3	606.4	640.2	674.0
50°	461.0	462.3	463.5	470.4	477.3	493.0	508.6	531.8	555.0	586.3	617.6
52.5°	414.7	417.8	420.9	427.8	434.7	445.4	456.0	479.8	503.6	534.3	565.0
55°	372.1	374.0	375.8	380.8	385.9	398.4	410.9	431.6	452.3	480.4	508.6
57.5°	332.0	334.5	337.0	340.8	344.5	355.8	367.1	385.2	403.4	431.6	459.8
60°	290.6	293.8	296.9	301.3	305.7	314.5	323.2	339.5	355.8	380.8	405.9
62.5°	260.6	261.2	261.8	265.6	269.4	275.6	281.9	295.0	308.2	333.2	358.3
65°	226.8	228.6	230.5	232.4	234.3	239.3	244.3	255.6	266.8	285.6	304.4
67.5°	191.7	193.6	195.4	198.6	201.7	206.1	210.5	218.0	225.5	243.0	260.6
70°	149.1	149.1	149.1	154.1	159.1	166.6	174.1	179.8	185.4	199.8	214.2
72.5°	121.5	122.1	122.8	123.4	124.0	128.4	132.8	142.2	151.6	160.4	169.1
75°	99.0	99.6	100.2	100.8	101.5	102.7	104.0	107.1	110.2	120.3	130.3
77.5°	78.9	79.6	80.2	80.8	81.4	82.7	83.9	85.2	86.4	90.2	94.0
80°	60.1	60.8	61.4	62.0	62.6	63.3	63.9	65.1	66.4	68.3	70.2
82.5°	43.8	43.8	43.8	43.8	43.8	45.1	46.4	46.4	46.4	47.6	48.9
85°	27.6	27.6	27.6	28.2	28.8	28.8	28.8	29.4	30.1	30.1	30.1
87.5°	12.5	11.9	11.3	11.9	12.5	12.5	12.5	13.2	13.8	13.8	13.8
90°	27.5	28.4	27.5	26.5	27.5	25.6	24.6	23.7	22.7	23.7	20.8
92.5°	50.2	52.1	51.2	54.9	56.8	63.5	72.9	93.8	131.7	176.2	195.1
95°	109.9	113.7	120.3	128.8	146.8	180.9	231.1	341.0	455.6	561.7	500.1
97.5°	225.4	235.9	258.6	294.6	358.1	466.0	591.1	783.4	893.3	863.9	645.1
100°	593.9	593.0	629.9	699.1	794.7	929.3	1040.1	1116.8	1083.7	897.0	606.2
102.5°	940.6	968.1	997.5	1048.6	1117.8	1190.7	1243.7	1227.6	1093.1	835.5	549.4
105°	1204.9	1209.6	1240.0	1275.9	1319.5	1344.2	1326.2	1231.4	1033.5	761.6	504.9
107.5°	1377.3	1387.7	1400.0	1417.1	1422.8	1397.2	1323.3	1174.6	948.2	696.2	472.7
110°	1475.8	1477.7	1479.6	1472.0	1445.5	1379.2	1259.8	1085.6	868.6	642.2	455.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1495.7	1494.8	1485.3	1457.8	1403.8	1313.8	1176.5	997.5	799.5	606.2	446.2
115°	1465.4	1460.7	1441.7	1400.0	1329.0	1225.7	1086.5	921.7	746.4	582.6	445.2
117.5°	1399.1	1392.5	1364.0	1317.6	1243.7	1136.7	1008.8	862.9	711.4	566.5	446.2
120°	1311.9	1306.3	1283.5	1230.5	1155.6	1060.0	946.3	818.4	684.9	556.0	449.9
122.5°	1230.5	1222.9	1197.3	1150.9	1086.5	999.4	896.1	783.4	663.1	549.4	456.6
125°	1155.6	1149.0	1125.3	1083.7	1023.0	947.3	856.3	753.1	645.1	543.7	463.2
127.5°	1091.2	1085.6	1063.8	1027.8	972.8	902.7	819.4	725.6	628.0	540.9	470.8
130°	1038.2	1030.6	1010.7	976.6	926.4	862.0	785.3	700.0	614.8	538.0	478.4
132.5°	986.1	981.4	964.3	930.2	883.8	823.2	753.1	676.3	602.5	537.1	484.0
135°	936.8	930.2	913.2	884.7	838.3	784.3	722.8	655.5	592.0	536.1	489.7
137.5°	884.7	879.1	864.8	835.5	795.7	747.4	692.4	635.6	582.6	534.3	493.5
140°	829.8	830.7	815.6	789.1	753.1	712.3	666.9	618.6	574.0	533.3	497.3
142.5°	778.6	779.6	766.3	743.6	714.2	680.1	642.2	602.5	566.5	531.4	500.1
145°	732.2	730.3	722.8	702.9	679.2	651.7	621.4	590.1	559.8	529.5	501.1
147.5°	692.4	691.5	683.9	669.7	650.8	630.9	605.3	579.7	553.2	526.7	501.1
150°	658.3	658.3	652.7	642.2	628.0	610.0	590.1	568.4	546.6	522.9	501.1
152.5°	629.9	629.9	627.1	617.6	607.2	593.0	575.9	557.9	539.0	518.1	498.3
155°	607.2	606.2	604.3	596.8	588.2	576.9	562.7	547.5	531.4	512.5	496.4
157.5°	585.4	585.4	583.5	577.8	570.2	560.8	549.4	536.1	522.9	507.7	493.5
160°	564.6	565.5	565.5	559.8	553.2	546.6	537.1	526.7	514.4	502.0	491.6
162.5°	545.6	546.6	546.6	541.8	538.0	532.4	523.8	515.3	505.8	496.4	487.8
165°	529.5	529.5	530.5	526.7	522.9	518.1	511.5	505.8	498.3	490.7	484.0
167.5°	513.4	513.4	514.4	511.5	509.6	505.8	502.0	497.3	490.7	485.0	480.3
170°	499.2	499.2	500.1	498.3	497.3	495.4	491.6	488.8	484.0	479.3	476.5
172.5°	485.9	486.9	488.8	486.9	486.9	485.9	483.1	481.2	477.4	474.6	473.6
175°	476.5	477.4	478.4	477.4	477.4	477.4	475.5	474.6	472.7	470.8	470.8
177.5°	469.8	469.8	471.7	470.8	471.7	471.7	470.8	469.8	468.9	467.9	468.9
180°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6
2.5°	3244.1	3241.0	3210.9	3180.8	3151.4	3122.0	3100.0	3078.1	3041.2	3004.2	2981.0
5°	3445.2	3421.4	3373.8	3326.2	3254.8	3183.3	3123.2	3063.1	2986.7	2910.2	2846.3
7.5°	3557.3	3537.9	3480.3	3422.6	3328.0	3233.5	3139.5	3045.5	2932.8	2820.0	2723.6
10°	3560.4	3576.7	3529.1	3481.5	3375.0	3268.5	3140.7	3013.0	2861.4	2709.8	2585.1
12.5°	3448.9	3519.1	3509.1	3499.0	3390.7	3282.3	3127.0	2971.6	2785.6	2599.5	2443.6
15°	3240.3	3376.3	3416.4	3456.5	3366.9	3277.3	3100.7	2924.0	2705.4	2486.8	2307.6
17.5°	2971.6	3162.0	3267.9	3373.8	3308.6	3243.5	3049.9	2856.4	2610.2	2364.0	2169.2
20°	2653.4	2902.7	3068.7	3234.7	3210.9	3187.1	2987.3	2787.5	2521.9	2256.3	2045.2
22.5°	2339.0	2602.0	2831.3	3060.6	3085.0	3109.4	2907.7	2706.0	2415.4	2124.7	1909.9
25°	2067.7	2335.2	2608.3	2881.4	2936.5	2991.7	2800.0	2608.3	2307.0	2005.7	1792.1
27.5°	1809.0	2063.3	2364.0	2664.7	2764.9	2865.1	2689.7	2514.4	2200.5	1886.7	1673.7
30°	1597.9	1825.3	2132.3	2439.2	2578.9	2718.6	2557.6	2396.6	2085.3	1774.0	1565.4
32.5°	1401.2	1604.8	1913.0	2221.2	2383.4	2545.7	2406.6	2267.6	1968.1	1668.7	1462.6
35°	1245.9	1428.2	1715.7	2003.2	2184.9	2366.5	2252.5	2138.5	1846.0	1553.5	1358.7
37.5°	1112.5	1265.3	1535.3	1805.3	1998.2	2191.1	2095.9	2000.7	1725.7	1450.7	1266.6
40°	1002.2	1125.0	1376.2	1627.4	1816.5	2005.7	1924.3	1842.9	1596.7	1350.5	1178.2
42.5°	907.6	1013.5	1239.0	1464.5	1638.0	1811.5	1757.7	1703.8	1480.8	1257.8	1098.1
45°	824.3	913.3	1111.9	1310.4	1470.2	1629.9	1587.3	1544.7	1352.4	1160.1	1013.5
47.5°	750.4	826.8	1004.1	1181.4	1324.8	1468.3	1428.8	1389.3	1230.2	1071.1	937.7
50°	682.8	747.9	895.7	1043.6	1172.6	1301.6	1269.1	1236.5	1105.0	973.4	858.2
52.5°	618.9	672.7	805.5	938.3	1042.3	1146.3	1121.2	1096.2	994.7	893.2	788.6
55°	558.1	607.6	719.7	831.9	920.8	1009.7	984.7	959.6	880.7	801.8	709.7
57.5°	503.0	546.2	637.0	727.9	798.7	869.4	857.5	845.6	779.9	714.1	638.3
60°	444.7	483.6	561.9	640.2	697.2	754.2	740.4	726.6	679.6	632.7	567.5
62.5°	392.7	427.2	489.8	552.5	598.8	645.2	635.2	625.1	589.4	553.7	499.9
65°	338.3	372.1	422.8	473.6	509.9	546.2	537.4	528.7	501.7	474.8	431.6
67.5°	288.8	317.0	360.8	404.7	429.1	453.5	448.5	443.5	422.8	402.1	368.3
70°	238.7	263.1	299.4	335.7	352.7	369.6	371.5	373.3	354.5	335.7	310.7
72.5°	188.5	208.0	241.8	275.6	288.8	301.9	301.3	300.7	289.4	278.1	255.6
75°	144.7	159.1	185.4	211.7	223.0	234.3	236.8	239.3	228.6	218.0	205.5
77.5°	104.0	114.0	134.0	154.1	166.6	179.1	180.4	181.7	176.6	171.6	159.7
80°	73.3	76.4	88.9	101.5	114.6	127.8	129.7	131.5	126.5	121.5	114.0
82.5°	50.7	52.6	57.0	61.4	72.0	82.7	85.2	87.7	85.2	82.7	74.5
85°	30.7	31.3	33.2	35.1	40.1	45.1	47.6	50.1	48.9	47.6	43.2
87.5°	13.8	13.8	14.4	15.0	16.3	17.5	20.7	23.8	21.9	20.0	18.2
90°	18.0	15.2	12.3	10.4	8.5	5.7	3.8	1.9	3.8	5.7	8.5
92.5°	145.9	95.7	65.4	48.3	38.8	30.3	20.8	14.2	20.8	30.3	38.8
95°	344.8	203.7	123.1	86.2	61.6	45.5	35.0	32.2	35.0	45.5	61.6
97.5°	383.6	219.8	140.2	99.5	74.8	60.6	52.1	51.2	52.1	60.6	74.8
100°	357.1	216.9	150.6	113.7	90.9	77.7	71.0	70.1	71.0	77.7	90.9
102.5°	334.4	220.7	162.9	129.8	109.9	97.6	91.9	90.0	91.9	97.6	109.9
105°	325.9	228.3	177.1	147.8	129.8	118.4	112.7	109.9	112.7	118.4	129.8
107.5°	324.0	240.6	195.1	167.7	150.6	139.2	133.6	130.7	133.6	139.2	150.6
110°	328.7	256.7	214.1	187.6	171.5	161.0	156.3	153.5	156.3	161.0	171.5



TEST NUMBER: P831944

CATALOG NUMBER: S123RDIP-S1165D1195U930-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	338.2	272.8	234.0	208.4	192.3	181.9	177.1	174.3	177.1	181.9	192.3
115°	348.6	290.8	254.8	229.2	213.1	203.7	198.0	194.2	198.0	203.7	213.1
117.5°	361.9	309.8	273.8	250.1	232.1	223.6	218.8	214.1	218.8	223.6	232.1
120°	377.0	327.7	293.6	270.0	252.0	242.5	237.8	234.9	237.8	242.5	252.0
122.5°	391.2	346.7	313.5	288.0	270.9	260.5	255.8	252.9	255.8	260.5	270.9
125°	406.4	364.7	331.5	306.0	288.0	277.5	271.9	270.0	271.9	277.5	288.0
127.5°	418.7	380.8	348.6	323.0	303.1	292.7	286.1	283.2	286.1	292.7	303.1
130°	431.0	395.0	363.7	338.2	318.3	306.9	298.4	295.5	298.4	306.9	318.3
132.5°	442.4	407.3	377.0	352.4	332.5	318.3	308.8	305.0	308.8	318.3	332.5
135°	451.8	419.6	390.3	364.7	344.8	330.6	320.2	316.4	320.2	330.6	344.8
137.5°	459.4	428.2	399.7	376.1	356.2	341.0	330.6	326.8	330.6	341.0	356.2
140°	465.1	436.7	409.2	385.5	366.6	351.4	342.0	337.2	342.0	351.4	366.6
142.5°	470.8	443.3	416.8	395.0	376.1	362.8	352.4	348.6	352.4	362.8	376.1
145°	474.6	449.0	424.4	402.6	386.5	372.3	363.7	360.9	363.7	372.3	386.5
147.5°	477.4	453.7	431.0	412.1	396.0	383.6	375.1	373.2	375.1	383.6	396.0
150°	478.4	458.5	436.7	419.6	406.4	394.1	386.5	385.5	386.5	394.1	406.4
152.5°	480.3	461.3	443.3	427.2	415.8	405.4	397.8	397.8	397.8	405.4	415.8
155°	480.3	465.1	449.0	435.7	425.3	415.8	410.2	410.2	410.2	415.8	425.3
157.5°	481.2	467.0	453.7	443.3	433.8	425.3	420.6	419.6	420.6	425.3	433.8
160°	481.2	469.8	458.5	449.0	442.4	434.8	431.0	431.0	431.0	434.8	442.4
162.5°	480.3	470.8	461.3	453.7	448.1	442.4	439.5	439.5	439.5	442.4	448.1
165°	478.4	471.7	464.2	457.5	453.7	449.0	447.1	448.1	447.1	449.0	453.7
167.5°	477.4	471.7	466.0	461.3	458.5	454.7	453.7	454.7	453.7	454.7	458.5
170°	474.6	470.8	466.0	464.2	462.3	459.4	458.5	460.4	458.5	459.4	462.3
172.5°	473.6	470.8	467.0	466.0	465.1	463.2	463.2	464.2	463.2	463.2	465.1
175°	471.7	469.8	467.9	467.0	467.0	465.1	466.0	467.0	466.0	465.1	467.0
177.5°	470.8	468.9	467.9	467.9	467.9	467.0	467.9	468.9	467.9	467.0	467.9
180°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9



TEST NUMBER: P831944

CATALOG NUMBER: S123RDIP-S1165D1195U930-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6	3055.6
2.5°	2957.8	2922.1	2886.4	2860.7	2835.1	2803.1	2771.2	2769.9	2768.7	2744.9	2721.1
5°	2782.4	2720.4	2658.4	2597.7	2536.9	2476.1	2415.4	2401.6	2387.8	2367.1	2346.5
7.5°	2627.1	2528.1	2429.2	2351.5	2273.8	2213.1	2152.3	2111.0	2069.6	2037.7	2005.7
10°	2460.5	2337.7	2214.9	2121.0	2027.0	1961.2	1895.5	1847.9	1800.3	1777.7	1755.2
12.5°	2287.6	2154.2	2020.8	1928.7	1836.6	1757.7	1678.7	1635.5	1592.3	1561.0	1529.7
15°	2128.5	1985.0	1841.6	1743.9	1646.2	1572.3	1498.3	1455.1	1411.9	1380.6	1349.3
17.5°	1974.4	1829.7	1685.0	1586.0	1487.1	1420.0	1353.0	1311.0	1269.1	1249.7	1230.2
20°	1834.1	1688.1	1542.2	1448.9	1355.5	1289.7	1224.0	1201.4	1178.9	1160.7	1142.5
22.5°	1695.0	1554.7	1414.4	1324.8	1235.3	1187.6	1140.0	1121.9	1103.7	1089.9	1076.1
25°	1578.5	1438.8	1299.1	1220.8	1142.5	1105.6	1068.6	1056.7	1044.8	1031.0	1017.3
27.5°	1460.8	1328.0	1195.2	1132.5	1069.9	1039.8	1009.7	994.7	979.7	968.4	957.1
30°	1356.8	1234.0	1111.2	1059.2	1007.2	980.9	954.6	938.3	922.1	911.4	900.8
32.5°	1256.5	1147.6	1038.6	994.1	949.6	923.9	898.3	882.6	866.9	854.4	841.9
35°	1163.8	1069.3	974.7	934.0	893.2	867.6	841.9	826.2	810.6	798.0	785.5
37.5°	1082.4	996.6	910.8	872.6	834.4	811.8	789.3	773.0	756.7	743.5	730.4
40°	1006.0	930.2	854.4	817.4	780.5	756.1	731.6	717.2	702.8	690.9	679.0
42.5°	938.3	868.8	799.3	762.9	726.6	703.4	680.3	663.4	646.4	639.5	632.7
45°	866.9	805.5	744.2	709.1	674.0	649.6	625.1	610.7	596.3	590.1	583.8
47.5°	804.3	747.3	690.3	655.8	621.4	599.5	577.5	566.3	555.0	546.2	537.4
50°	742.9	687.8	632.7	599.5	566.3	547.5	528.7	514.9	501.1	494.9	488.6
52.5°	684.0	633.9	583.8	550.0	516.1	498.0	479.8	467.9	456.0	442.9	429.7
55°	617.6	573.8	529.9	499.9	469.8	451.0	432.2	418.4	404.7	390.9	377.1
57.5°	562.5	519.3	476.1	449.1	422.2	404.0	385.9	370.8	355.8	344.5	333.2
60°	502.4	464.8	427.2	400.9	374.6	357.0	339.5	325.1	310.7	305.1	299.4
62.5°	446.0	410.9	375.8	352.7	329.5	312.6	295.7	286.3	276.9	273.1	269.4
65°	388.4	358.3	328.2	306.9	285.6	271.2	256.8	252.4	248.1	244.9	241.8
67.5°	334.5	308.8	283.1	264.3	245.5	235.5	225.5	220.5	215.5	211.7	208.0
70°	285.6	263.1	240.5	224.2	208.0	198.6	189.2	184.8	180.4	173.5	166.6
72.5°	233.0	215.5	197.9	185.4	172.9	164.7	156.6	147.8	139.1	132.8	126.5
75°	192.9	175.4	157.9	146.0	134.0	124.7	115.3	112.1	109.0	107.1	105.2
77.5°	147.8	132.8	117.8	108.4	99.0	94.6	90.2	88.3	86.4	85.8	85.2
80°	106.5	94.0	81.4	76.4	71.4	70.2	68.9	67.7	66.4	65.8	65.1
82.5°	66.4	60.1	53.9	52.6	51.4	50.7	50.1	49.5	48.9	48.2	47.6
85°	38.8	36.3	33.8	33.2	32.6	31.9	31.3	31.3	31.3	31.3	31.3
87.5°	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	15.7	15.0
90°	10.4	12.3	15.2	18.0	20.8	23.7	22.7	23.7	24.6	25.6	27.5
92.5°	48.3	65.4	95.7	145.9	195.1	176.2	131.7	93.8	72.9	63.5	56.8
95°	86.2	123.1	203.7	344.8	500.1	561.7	455.6	341.0	231.1	180.9	146.8
97.5°	99.5	140.2	219.8	383.6	645.1	863.9	893.3	783.4	591.1	466.0	358.1
100°	113.7	150.6	216.9	357.1	606.2	897.0	1083.7	1116.8	1040.1	929.3	794.7
102.5°	129.8	162.9	220.7	334.4	549.4	835.5	1093.1	1227.6	1243.7	1190.7	1117.8
105°	147.8	177.1	228.3	325.9	504.9	761.6	1033.5	1231.4	1326.2	1344.2	1319.5
107.5°	167.7	195.1	240.6	324.0	472.7	696.2	948.2	1174.6	1323.3	1397.2	1422.8
110°	187.6	214.1	256.7	328.7	455.6	642.2	868.6	1085.6	1259.8	1379.2	1445.5



TEST NUMBER: P831944

CATALOG NUMBER: S123RDIP-S1165D1195U930-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	208.4	234.0	272.8	338.2	446.2	606.2	799.5	997.5	1176.5	1313.8	1403.8
115°	229.2	254.8	290.8	348.6	445.2	582.6	746.4	921.7	1086.5	1225.7	1329.0
117.5°	250.1	273.8	309.8	361.9	446.2	566.5	711.4	862.9	1008.8	1136.7	1243.7
120°	270.0	293.6	327.7	377.0	449.9	556.0	684.9	818.4	946.3	1060.0	1155.6
122.5°	288.0	313.5	346.7	391.2	456.6	549.4	663.1	783.4	896.1	999.4	1086.5
125°	306.0	331.5	364.7	406.4	463.2	543.7	645.1	753.1	856.3	947.3	1023.0
127.5°	323.0	348.6	380.8	418.7	470.8	540.9	628.0	725.6	819.4	902.7	972.8
130°	338.2	363.7	395.0	431.0	478.4	538.0	614.8	700.0	785.3	862.0	926.4
132.5°	352.4	377.0	407.3	442.4	484.0	537.1	602.5	676.3	753.1	823.2	883.8
135°	364.7	390.3	419.6	451.8	489.7	536.1	592.0	655.5	722.8	784.3	838.3
137.5°	376.1	399.7	428.2	459.4	493.5	534.3	582.6	635.6	692.4	747.4	795.7
140°	385.5	409.2	436.7	465.1	497.3	533.3	574.0	618.6	666.9	712.3	753.1
142.5°	395.0	416.8	443.3	470.8	500.1	531.4	566.5	602.5	642.2	680.1	714.2
145°	402.6	424.4	449.0	474.6	501.1	529.5	559.8	590.1	621.4	651.7	679.2
147.5°	412.1	431.0	453.7	477.4	501.1	526.7	553.2	579.7	605.3	630.9	650.8
150°	419.6	436.7	458.5	478.4	501.1	522.9	546.6	568.4	590.1	610.0	628.0
152.5°	427.2	443.3	461.3	480.3	498.3	518.1	539.0	557.9	575.9	593.0	607.2
155°	435.7	449.0	465.1	480.3	496.4	512.5	531.4	547.5	562.7	576.9	588.2
157.5°	443.3	453.7	467.0	481.2	493.5	507.7	522.9	536.1	549.4	560.8	570.2
160°	449.0	458.5	469.8	481.2	491.6	502.0	514.4	526.7	537.1	546.6	553.2
162.5°	453.7	461.3	470.8	480.3	487.8	496.4	505.8	515.3	523.8	532.4	538.0
165°	457.5	464.2	471.7	478.4	484.0	490.7	498.3	505.8	511.5	518.1	522.9
167.5°	461.3	466.0	471.7	477.4	480.3	485.0	490.7	497.3	502.0	505.8	509.6
170°	464.2	466.0	470.8	474.6	476.5	479.3	484.0	488.8	491.6	495.4	497.3
172.5°	466.0	467.0	470.8	473.6	473.6	474.6	477.4	481.2	483.1	485.9	486.9
175°	467.0	467.9	469.8	471.7	470.8	470.8	472.7	474.6	475.5	477.4	477.4
177.5°	467.9	467.9	468.9	470.8	468.9	467.9	468.9	469.8	470.8	471.7	471.7
180°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9



TEST NUMBER: P831944

CATALOG NUMBER: S123RDIP-S1165D1195U930-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	3055.6	3055.6	3055.6	3055.6
2.5°	2714.8	2708.5	2706.0	2703.5
5°	2327.1	2307.6	2303.3	2298.9
7.5°	1997.6	1989.4	1962.5	1935.6
10°	1730.1	1705.0	1693.8	1682.5
12.5°	1506.5	1483.3	1479.5	1475.8
15°	1333.0	1316.7	1311.0	1305.4
17.5°	1219.0	1207.7	1200.8	1193.9
20°	1134.4	1126.3	1121.2	1116.2
22.5°	1069.9	1063.6	1059.9	1056.1
25°	1007.9	998.5	995.3	992.2
27.5°	949.0	940.8	937.7	934.6
30°	893.9	887.0	882.6	878.2
32.5°	833.7	825.6	823.1	820.6
35°	780.5	775.5	773.0	770.5
37.5°	724.1	717.8	714.1	710.3
40°	675.9	672.7	670.9	669.0
42.5°	627.0	621.4	620.8	620.1
45°	578.2	572.5	571.3	570.0
47.5°	532.4	527.4	526.8	526.2
50°	481.7	474.8	469.8	464.8
52.5°	423.4	417.2	412.8	408.4
55°	370.2	363.3	359.6	355.8
57.5°	330.1	327.0	325.1	323.2
60°	297.5	295.7	294.4	293.2
62.5°	267.5	265.6	265.6	265.6
65°	239.9	238.0	236.2	234.3
67.5°	204.2	200.4	199.8	199.2
70°	161.0	155.3	154.7	154.1
72.5°	125.9	125.3	124.0	122.8
75°	104.0	102.7	102.7	102.7
77.5°	83.9	82.7	82.7	82.7
80°	64.5	63.9	64.5	65.1
82.5°	47.6	47.6	47.0	46.4
85°	30.7	30.1	30.1	30.1
87.5°	15.0	15.0	15.0	15.0
90°	26.5	27.5	28.4	27.5
92.5°	54.9	51.2	52.1	50.2
95°	128.8	120.3	113.7	109.9
97.5°	294.6	258.6	235.9	225.4
100°	699.1	629.9	593.0	593.9
102.5°	1048.6	997.5	968.1	940.6
105°	1275.9	1240.0	1209.6	1204.9
107.5°	1417.1	1400.0	1387.7	1377.3
110°	1472.0	1479.6	1477.7	1475.8



TEST NUMBER: P831944

CATALOG NUMBER: S123RDIP-S1165D1195U930-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1457.8	1485.3	1494.8	1495.7
115°	1400.0	1441.7	1460.7	1465.4
117.5°	1317.6	1364.0	1392.5	1399.1
120°	1230.5	1283.5	1306.3	1311.9
122.5°	1150.9	1197.3	1222.9	1230.5
125°	1083.7	1125.3	1149.0	1155.6
127.5°	1027.8	1063.8	1085.6	1091.2
130°	976.6	1010.7	1030.6	1038.2
132.5°	930.2	964.3	981.4	986.1
135°	884.7	913.2	930.2	936.8
137.5°	835.5	864.8	879.1	884.7
140°	789.1	815.6	830.7	829.8
142.5°	743.6	766.3	779.6	778.6
145°	702.9	722.8	730.3	732.2
147.5°	669.7	683.9	691.5	692.4
150°	642.2	652.7	658.3	658.3
152.5°	617.6	627.1	629.9	629.9
155°	596.8	604.3	606.2	607.2
157.5°	577.8	583.5	585.4	585.4
160°	559.8	565.5	565.5	564.6
162.5°	541.8	546.6	546.6	545.6
165°	526.7	530.5	529.5	529.5
167.5°	511.5	514.4	513.4	513.4
170°	498.3	500.1	499.2	499.2
172.5°	486.9	488.8	486.9	485.9
175°	477.4	478.4	477.4	476.5
177.5°	470.8	471.7	469.8	469.8
180°	467.9	467.9	467.9	467.9



TEST NUMBER: P831944

CATALOG NUMBER: S123RDIP-S1165D1195U930-4F0-1E-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	13.21	14.04	14.15	14.99	16.21	17.87	18.71	18.81	19.65	20.88
	3H	14.43	15.18	15.38	16.13	17.38	19.37	20.12	20.32	21.07	22.32
	4H	14.81	15.52	15.78	16.48	17.73	19.86	20.57	20.83	21.53	22.78
	6H	15.09	15.74	16.07	16.71	17.98	20.17	20.82	21.15	21.79	23.06
	8H	15.18	15.80	16.16	16.78	18.05	20.25	20.87	21.23	21.85	23.12
	12H	15.23	15.82	16.22	16.79	18.09	20.28	20.87	21.27	21.85	23.14
4H	2H	13.93	14.64	14.90	15.60	16.85	17.87	18.57	18.84	19.53	20.79
	3H	15.30	15.89	16.28	16.88	18.15	19.53	20.11	20.50	21.10	22.37
	4H	15.76	16.29	16.74	17.27	18.57	20.13	20.67	21.12	21.65	22.95
	6H	16.12	16.58	17.12	17.59	18.88	20.57	21.03	21.57	22.04	23.33
	8H	16.25	16.68	17.25	17.68	18.99	20.70	21.13	21.70	22.13	23.44
	12H	16.33	16.71	17.34	17.73	19.04	20.76	21.15	21.78	22.17	23.48
8H	4H	16.07	16.50	17.07	17.50	18.81	20.10	20.53	21.10	21.53	22.84
	6H	16.54	16.89	17.56	17.93	19.24	20.60	20.95	21.62	21.99	23.30
	8H	16.73	17.04	17.76	18.07	19.39	20.78	21.09	21.82	22.12	23.45
	12H	16.87	17.14	17.90	18.16	19.53	20.90	21.17	21.93	22.19	23.56
12H	4H	16.08	16.47	17.10	17.48	18.80	20.05	20.44	21.07	21.45	22.77
	6H	16.59	16.90	17.63	17.93	19.26	20.57	20.88	21.60	21.91	23.24
	8H	16.81	17.09	17.85	18.11	19.48	20.77	21.04	21.80	22.06	23.43