

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: P831905

Luminaire Tested: S123RDIP-S1165D1025U835-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831905
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-S1165D1025U835-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

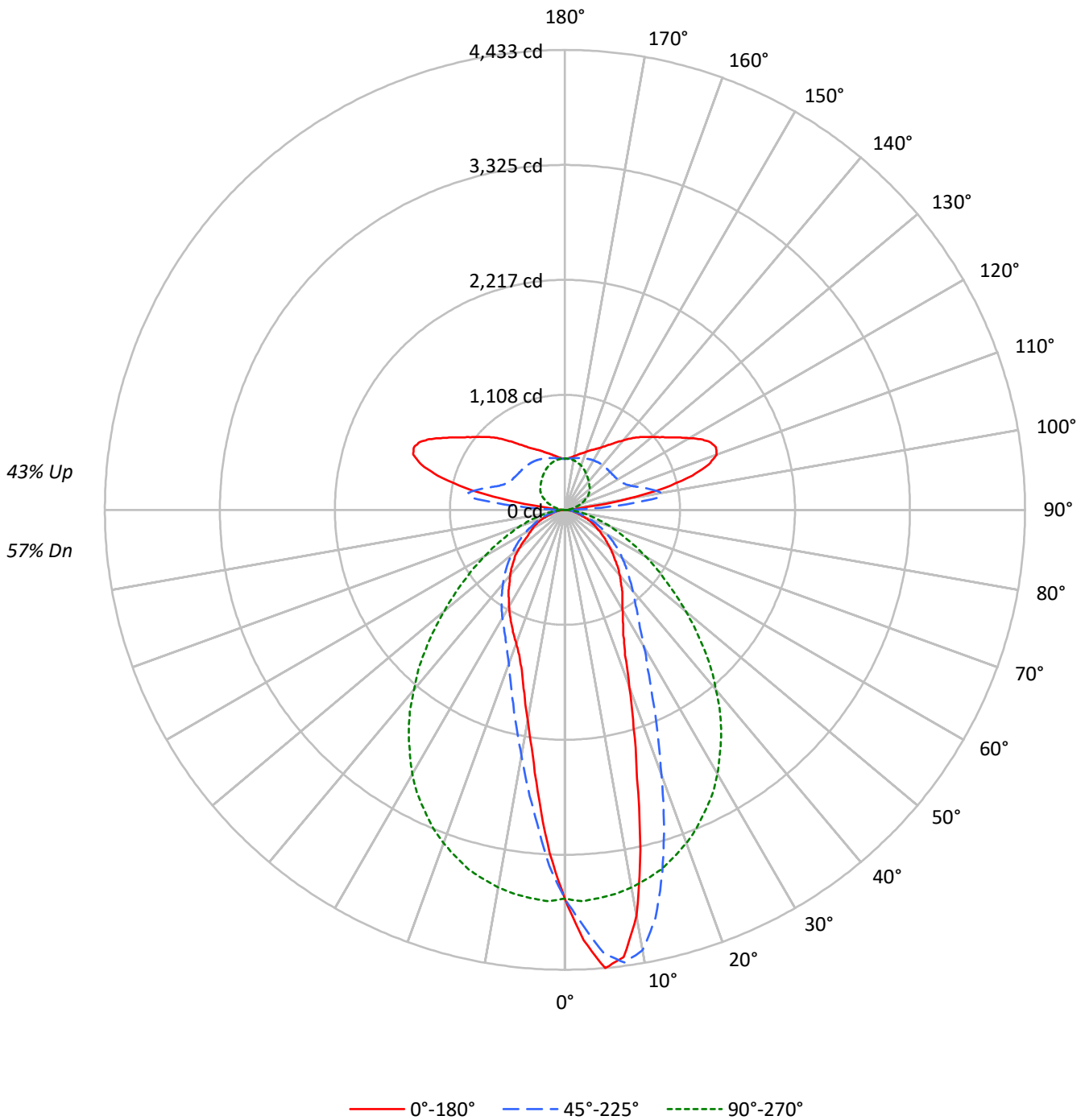
Lumens per Lamp: N/A
Luminaire Lumens: 8680.9 lumens
Efficiency: N/A
Efficacy: 127.5 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 68.1
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	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63	57		
1	100	96	93	89	93	90	87	84	78	76	74	67	65	64	57	56	55	50		
2	92	85	79	75	86	80	75	71	69	66	63	60	57	55	51	49	48	43		
3	85	76	69	63	79	71	65	60	62	58	54	54	51	48	46	44	42	38		
4	78	68	60	55	73	64	57	52	56	51	47	49	45	42	42	39	37	34		
5	72	61	54	48	67	58	51	46	51	45	41	45	40	37	39	36	33	30		
6	67	55	48	42	62	52	45	40	46	41	37	41	37	33	36	32	30	27		
7	62	51	43	38	58	48	41	36	43	37	33	38	33	30	33	30	27	25		
8	58	46	39	34	54	44	37	33	39	34	30	35	30	27	31	27	25	22		
9	54	43	36	31	51	41	34	30	36	31	27	32	28	25	29	25	23	21		
10	51	40	33	28	48	38	31	27	34	29	25	30	26	23	27	23	21	19		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	40341	40341	40341	40341	40341
5°	47900	46372	40595	32816	30467
10°	43399	47102	40392	26293	22556
15°	29881	40386	39965	21489	17842
20°	20787	31093	39163	18120	15683
25°	15841	23698	37996	16106	14454
30°	13789	18946	36535	14955	13389
35°	12661	15981	34467	13983	12418
40°	11552	14272	31760	13030	11529
45°	10432	13052	28841	12128	10644
50°	9470	12042	25396	11245	9547
55°	8565	11059	22088	10382	8190
60°	7675	10056	19186	9427	7741
65°	7083	8922	16514	8474	7317
70°	5756	7714	14411	7666	5948
75°	5049	6134	12206	6359	5240
80°	4575	5188	9998	5331	4953
85°	4174	4557	7595	4841	4557

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 30431 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	341.6	3.9
10°-20°	790.5	9.1
20°-30°	906.9	10.4
30°-40°	893.9	10.3
40°-50°	788.3	9.1
50°-60°	606.5	7.0
60°-70°	398.7	4.6
70°-80°	193.6	2.2
80°-90°	51.6	0.6
90°-100°	267.6	3.1
100°-110°	783.4	9.0
110°-120°	765.0	8.8
120°-130°	609.2	7.0
130°-140°	480.7	5.5
140°-150°	358.6	4.1
150°-160°	250.0	2.9
160°-170°	146.9	1.7
170°-180°	47.8	0.6
0°-30°	2039.0	23.5
0°-40°	2933.0	33.8
0°-60°	4327.8	49.9
0°-90°	4971.7	57.3
90°-120°	1816.0	20.9
90°-150°	3264.5	37.6
90°-180°	3709.0	42.7
0°-180°	8680.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3748	3748	3748	3748	3748	
5°	4433	4292	3757	3037	2820	405
15°	2681	3624	3586	1928	1601	757
25°	1334	1995	3199	1356	1217	630
35°	964	1216	2623	1064	945	601
45°	685	857	1895	797	699	532
55°	456	589	1177	553	436	409
65°	278	350	648	333	287	273
75°	121	148	294	153	126	131
85°	34	37	62	39	37	36
90°	29	25	2	25	29	17
95°	116	592	34	592	116	188
105°	1270	802	116	802	1270	1267
115°	1544	614	205	614	1544	1506
125°	1218	573	284	573	1218	1102
135°	987	565	333	565	987	766
145°	772	558	380	558	772	490
155°	640	540	432	540	640	298
165°	558	517	472	517	558	159
175°	502	496	492	496	502	49
180°	493	493	493	493	493	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8
2.5°	4153.4	4140.4	4127.3	4123.5	4119.6	4107.3	4095.1	4067.4	4039.7	4011.3	3982.9
5°	4433.1	4434.6	4436.2	4432.3	4428.5	4412.4	4396.2	4362.4	4328.6	4291.7	4254.9
7.5°	4347.1	4371.6	4396.2	4400.8	4405.4	4417.7	4430.0	4422.3	4414.7	4400.8	4387.0
10°	3970.6	3969.0	3967.5	3995.2	4022.8	4105.0	4187.2	4229.5	4271.8	4309.4	4347.1
12.5°	3355.9	3358.2	3360.6	3451.2	3541.9	3619.5	3697.1	3804.6	3912.2	4028.2	4144.2
15°	2681.4	2719.0	2756.7	2837.3	2918.0	3034.8	3151.6	3296.0	3440.5	3624.1	3807.7
17.5°	2202.0	2218.1	2234.2	2311.8	2389.4	2500.1	2610.7	2774.3	2938.0	3174.6	3411.3
20°	1814.7	1829.3	1843.9	1900.0	1956.1	2062.1	2168.1	2324.1	2480.1	2714.4	2948.7
22.5°	1515.1	1543.5	1571.9	1609.6	1647.2	1724.1	1800.9	1959.9	2119.0	2332.6	2546.2
25°	1333.8	1346.8	1359.9	1392.2	1424.4	1498.2	1571.9	1677.2	1782.5	1995.3	2208.1
27.5°	1210.8	1214.7	1218.5	1242.3	1266.2	1313.8	1361.4	1459.0	1556.6	1731.8	1906.9
30°	1109.4	1116.3	1123.3	1141.7	1160.1	1194.7	1229.3	1298.4	1367.6	1524.3	1681.0
32.5°	1031.1	1034.9	1038.7	1054.1	1069.5	1094.8	1120.2	1174.7	1229.3	1349.1	1469.0
35°	963.5	964.2	965.0	976.5	988.0	1012.6	1037.2	1082.5	1127.9	1216.2	1304.6
37.5°	886.6	892.0	897.4	905.8	914.3	935.8	957.3	994.2	1031.1	1104.1	1177.0
40°	822.1	826.7	831.3	841.3	851.3	868.2	885.1	918.9	952.7	1015.7	1078.7
42.5°	757.5	760.6	763.7	773.7	783.7	804.4	825.2	852.0	878.9	931.2	983.4
45°	685.3	693.0	700.7	711.4	722.2	739.9	757.5	785.2	812.9	857.4	902.0
47.5°	625.4	629.2	633.1	642.3	651.5	673.0	694.5	719.1	743.7	785.2	826.7
50°	565.5	567.0	568.5	577.0	585.4	604.7	623.9	652.3	680.7	719.1	757.5
52.5°	508.6	512.5	516.3	524.8	533.2	546.3	559.3	588.5	617.7	655.4	693.0
55°	456.4	458.7	461.0	467.1	473.3	488.6	504.0	529.4	554.7	589.3	623.9
57.5°	407.2	410.3	413.3	418.0	422.6	436.4	450.2	472.5	494.8	529.4	563.9
60°	356.5	360.3	364.2	369.6	374.9	385.7	396.4	416.4	436.4	467.1	497.9
62.5°	319.6	320.4	321.2	325.8	330.4	338.1	345.7	361.9	378.0	408.7	439.5
65°	278.1	280.4	282.7	285.0	287.3	293.5	299.6	313.5	327.3	350.3	373.4
67.5°	235.1	237.4	239.7	243.6	247.4	252.8	258.1	267.4	276.6	298.1	319.6
70°	182.9	182.9	182.9	189.0	195.1	204.4	213.6	220.5	227.4	245.1	262.8
72.5°	149.1	149.8	150.6	151.4	152.1	157.5	162.9	174.4	185.9	196.7	207.4
75°	121.4	122.2	122.9	123.7	124.5	126.0	127.5	131.4	135.2	147.5	159.8
77.5°	96.8	97.6	98.3	99.1	99.9	101.4	103.0	104.5	106.0	110.6	115.2
80°	73.8	74.5	75.3	76.1	76.8	77.6	78.4	79.9	81.4	83.7	86.0
82.5°	53.8	53.8	53.8	53.8	53.8	55.3	56.9	56.9	56.9	58.4	59.9
85°	33.8	33.8	33.8	34.6	35.3	35.3	35.3	36.1	36.9	36.9	36.9
87.5°	15.4	14.6	13.8	14.6	15.4	15.4	15.4	16.1	16.9	16.9	16.9
90°	28.9	29.9	28.9	27.9	28.9	27.0	26.0	25.0	24.0	25.0	22.0
92.5°	52.9	54.9	53.9	57.9	59.9	66.9	76.9	98.8	138.7	185.7	205.6
95°	115.8	119.8	126.8	135.8	154.7	190.7	243.6	359.3	480.1	591.9	527.0
97.5°	237.6	248.5	272.5	310.4	377.3	491.1	622.9	825.5	941.3	910.3	679.8
100°	625.9	624.9	663.8	736.7	837.5	979.2	1096.0	1176.9	1141.9	945.3	638.8
102.5°	991.2	1020.1	1051.1	1105.0	1177.9	1254.7	1310.6	1293.6	1151.9	880.4	578.9
105°	1269.7	1274.7	1306.6	1344.5	1390.5	1416.4	1397.5	1297.6	1089.0	802.5	532.0
107.5°	1451.4	1462.3	1475.3	1493.3	1499.3	1472.3	1394.5	1237.7	999.2	733.7	498.1
110°	1555.2	1557.2	1559.2	1551.2	1523.2	1453.3	1327.6	1143.9	915.3	676.8	480.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1576.1	1575.1	1565.1	1536.2	1479.3	1384.5	1239.7	1051.1	842.5	638.8	470.1
115°	1544.2	1539.2	1519.2	1475.3	1400.4	1291.6	1144.9	971.2	786.6	613.9	469.1
117.5°	1474.3	1467.3	1437.4	1388.5	1310.6	1197.8	1063.1	909.3	749.6	596.9	470.1
120°	1382.5	1376.5	1352.5	1296.6	1217.8	1117.0	997.2	862.4	721.7	585.9	474.1
122.5°	1296.6	1288.6	1261.7	1212.8	1144.9	1053.1	944.3	825.5	698.7	578.9	481.1
125°	1217.8	1210.8	1185.8	1141.9	1078.0	998.2	902.4	793.6	679.8	573.0	488.1
127.5°	1149.9	1143.9	1121.0	1083.0	1025.1	951.3	863.4	764.6	661.8	570.0	496.1
130°	1094.0	1086.0	1065.1	1029.1	976.2	908.3	827.5	737.7	647.8	567.0	504.1
132.5°	1039.1	1034.1	1016.1	980.2	931.3	867.4	793.6	712.7	634.8	566.0	510.1
135°	987.2	980.2	962.2	932.3	883.4	826.5	761.6	690.7	623.9	565.0	516.1
137.5°	932.3	926.3	911.3	880.4	838.5	787.6	729.7	669.8	613.9	563.0	520.1
140°	874.4	875.4	859.4	831.5	793.6	750.6	702.7	651.8	604.9	562.0	524.0
142.5°	820.5	821.5	807.5	783.6	752.6	716.7	676.8	634.8	596.9	560.0	527.0
145°	771.6	769.6	761.6	740.6	715.7	686.7	654.8	621.9	589.9	558.0	528.0
147.5°	729.7	728.7	720.7	705.7	685.7	664.8	637.8	610.9	582.9	555.0	528.0
150°	693.7	693.7	687.7	676.8	661.8	642.8	621.9	598.9	575.9	551.0	528.0
152.5°	663.8	663.8	660.8	650.8	639.8	624.9	606.9	587.9	568.0	546.0	525.0
155°	639.8	638.8	636.8	628.9	619.9	607.9	592.9	576.9	560.0	540.0	523.0
157.5°	616.9	616.9	614.9	608.9	600.9	590.9	578.9	565.0	551.0	535.0	520.1
160°	594.9	595.9	595.9	589.9	582.9	575.9	566.0	555.0	542.0	529.0	518.1
162.5°	575.0	575.9	575.9	571.0	567.0	561.0	552.0	543.0	533.0	523.0	514.1
165°	558.0	558.0	559.0	555.0	551.0	546.0	539.0	533.0	525.0	517.1	510.1
167.5°	541.0	541.0	542.0	539.0	537.0	533.0	529.0	524.0	517.1	511.1	506.1
170°	526.0	526.0	527.0	525.0	524.0	522.0	518.1	515.1	510.1	505.1	502.1
172.5°	512.1	513.1	515.1	513.1	513.1	512.1	509.1	507.1	503.1	500.1	499.1
175°	502.1	503.1	504.1	503.1	503.1	503.1	501.1	500.1	498.1	496.1	496.1
177.5°	495.1	495.1	497.1	496.1	497.1	497.1	496.1	495.1	494.1	493.1	494.1
180°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8
2.5°	3979.0	3975.2	3938.3	3901.4	3865.3	3829.2	3802.3	3775.4	3730.1	3684.8	3656.4
5°	4225.7	4196.5	4138.1	4079.7	3992.1	3904.5	3830.8	3757.0	3663.3	3569.5	3491.2
7.5°	4363.2	4339.4	4268.7	4198.0	4082.0	3966.0	3850.7	3735.5	3597.2	3458.9	3340.6
10°	4367.0	4387.0	4328.6	4270.2	4139.6	4009.0	3852.3	3695.5	3509.6	3323.7	3170.8
12.5°	4230.3	4316.3	4304.0	4291.7	4158.8	4025.9	3835.4	3644.8	3416.6	3188.5	2997.1
15°	3974.4	4141.1	4190.3	4239.5	4129.6	4019.8	3803.1	3586.4	3318.3	3050.2	2830.4
17.5°	3644.8	3878.4	4008.2	4138.1	4058.2	3978.3	3740.9	3503.5	3201.5	2899.6	2660.6
20°	3254.5	3560.3	3763.9	3967.5	3938.3	3909.1	3664.0	3418.9	3093.2	2767.4	2508.5
22.5°	2868.8	3191.5	3472.7	3753.9	3783.9	3813.9	3566.5	3319.1	2962.6	2606.1	2342.6
25°	2536.2	2864.2	3199.2	3534.2	3601.8	3669.4	3434.3	3199.2	2829.7	2460.1	2198.1
27.5°	2218.9	2530.8	2899.6	3268.4	3391.3	3514.2	3299.1	3084.0	2699.0	2314.1	2052.9
30°	1959.9	2238.8	2615.3	2991.8	3163.1	3334.4	3137.0	2939.5	2557.7	2175.8	1920.0
32.5°	1718.7	1968.4	2346.4	2724.4	2923.4	3122.4	2951.8	2781.3	2414.0	2046.8	1794.0
35°	1528.2	1751.7	2104.4	2457.0	2679.8	2902.6	2762.8	2623.0	2264.2	1905.4	1666.4
37.5°	1364.5	1552.0	1883.1	2214.2	2450.9	2687.5	2570.7	2454.0	2116.7	1779.4	1553.5
40°	1229.3	1379.9	1688.0	1996.0	2228.1	2460.1	2360.2	2260.3	1958.4	1656.5	1445.2
42.5°	1113.3	1243.1	1519.7	1796.3	2009.1	2221.9	2155.9	2089.8	1816.3	1542.8	1346.8
45°	1011.1	1120.2	1363.7	1607.3	1803.2	1999.1	1946.9	1894.6	1658.8	1422.9	1243.1
47.5°	920.4	1014.2	1231.6	1449.0	1625.0	1800.9	1752.5	1704.1	1508.9	1313.8	1150.1
50°	837.4	917.4	1098.7	1280.0	1438.3	1596.5	1556.6	1516.6	1355.3	1193.9	1052.6
52.5°	759.1	825.2	988.0	1150.9	1278.5	1406.0	1375.3	1344.5	1220.1	1095.6	967.3
55°	684.6	745.3	882.8	1020.3	1129.4	1238.5	1207.8	1177.0	1080.2	983.4	870.5
57.5°	616.9	670.0	781.4	892.8	979.6	1066.4	1051.8	1037.2	956.5	875.9	782.9
60°	545.5	593.1	689.2	785.2	855.1	925.0	908.1	891.2	833.6	776.0	696.1
62.5°	481.7	524.0	600.8	677.6	734.5	791.4	779.1	766.8	723.0	679.2	613.1
65°	414.9	456.4	518.6	580.8	625.4	670.0	659.2	648.4	615.4	582.4	529.4
67.5°	354.2	388.8	442.5	496.3	526.3	556.3	550.1	544.0	518.6	493.3	451.8
70°	292.7	322.7	367.2	411.8	432.6	453.3	455.6	457.9	434.9	411.8	381.1
72.5°	231.3	255.1	296.6	338.1	354.2	370.3	369.6	368.8	355.0	341.1	313.5
75°	177.5	195.1	227.4	259.7	273.5	287.3	290.4	293.5	280.4	267.4	252.0
77.5°	127.5	139.8	164.4	189.0	204.4	219.7	221.3	222.8	216.7	210.5	195.9
80°	89.9	93.7	109.1	124.5	140.6	156.7	159.0	161.3	155.2	149.1	139.8
82.5°	62.2	64.5	69.9	75.3	88.4	101.4	104.5	107.6	104.5	101.4	91.4
85°	37.6	38.4	40.7	43.0	49.2	55.3	58.4	61.5	59.9	58.4	53.0
87.5°	16.9	16.9	17.7	18.4	20.0	21.5	25.4	29.2	26.9	24.6	22.3
90°	19.0	16.0	13.0	11.0	9.0	6.0	4.0	2.0	4.0	6.0	9.0
92.5°	153.7	100.8	68.9	50.9	40.9	31.9	22.0	15.0	22.0	31.9	40.9
95°	363.3	214.6	129.8	90.8	64.9	47.9	36.9	33.9	36.9	47.9	64.9
97.5°	404.3	231.6	147.7	104.8	78.9	63.9	54.9	53.9	54.9	63.9	78.9
100°	376.3	228.6	158.7	119.8	95.8	81.9	74.9	73.9	74.9	81.9	95.8
102.5°	352.4	232.6	171.7	136.8	115.8	102.8	96.8	94.8	96.8	102.8	115.8
105°	343.4	240.6	186.7	155.7	136.8	124.8	118.8	115.8	118.8	124.8	136.8
107.5°	341.4	253.5	205.6	176.7	158.7	146.7	140.7	137.7	140.7	146.7	158.7
110°	346.4	270.5	225.6	197.6	180.7	169.7	164.7	161.7	164.7	169.7	180.7



TEST NUMBER: P831905

CATALOG NUMBER: S123RDIP-S1165D1025U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	356.3	287.5	246.6	219.6	202.6	191.7	186.7	183.7	186.7	191.7	202.6
115°	367.3	306.4	268.5	241.6	224.6	214.6	208.6	204.6	208.6	214.6	224.6
117.5°	381.3	326.4	288.5	263.5	244.6	235.6	230.6	225.6	230.6	235.6	244.6
120°	397.3	345.4	309.4	284.5	265.5	255.5	250.5	247.5	250.5	255.5	265.5
122.5°	412.2	365.3	330.4	303.4	285.5	274.5	269.5	266.5	269.5	274.5	285.5
125°	428.2	384.3	349.4	322.4	303.4	292.5	286.5	284.5	286.5	292.5	303.4
127.5°	441.2	401.3	367.3	340.4	319.4	308.4	301.5	298.5	301.5	308.4	319.4
130°	454.2	416.2	383.3	356.3	335.4	323.4	314.4	311.4	314.4	323.4	335.4
132.5°	466.1	429.2	397.3	371.3	350.4	335.4	325.4	321.4	325.4	335.4	350.4
135°	476.1	442.2	411.2	384.3	363.3	348.4	337.4	333.4	337.4	348.4	363.3
137.5°	484.1	451.2	421.2	396.3	375.3	359.3	348.4	344.4	348.4	359.3	375.3
140°	490.1	460.2	431.2	406.3	386.3	370.3	360.3	355.4	360.3	370.3	386.3
142.5°	496.1	467.1	439.2	416.2	396.3	382.3	371.3	367.3	371.3	382.3	396.3
145°	500.1	473.1	447.2	424.2	407.3	392.3	383.3	380.3	383.3	392.3	407.3
147.5°	503.1	478.1	454.2	434.2	417.2	404.3	395.3	393.3	395.3	404.3	417.2
150°	504.1	483.1	460.2	442.2	428.2	415.2	407.3	406.3	407.3	415.2	428.2
152.5°	506.1	486.1	467.1	450.2	438.2	427.2	419.2	419.2	419.2	427.2	438.2
155°	506.1	490.1	473.1	459.2	448.2	438.2	432.2	432.2	432.2	438.2	448.2
157.5°	507.1	492.1	478.1	467.1	457.2	448.2	443.2	442.2	443.2	448.2	457.2
160°	507.1	495.1	483.1	473.1	466.1	458.2	454.2	454.2	454.2	458.2	466.1
162.5°	506.1	496.1	486.1	478.1	472.1	466.1	463.2	463.2	463.2	466.1	472.1
165°	504.1	497.1	489.1	482.1	478.1	473.1	471.1	472.1	471.1	473.1	478.1
167.5°	503.1	497.1	491.1	486.1	483.1	479.1	478.1	479.1	478.1	479.1	483.1
170°	500.1	496.1	491.1	489.1	487.1	484.1	483.1	485.1	483.1	484.1	487.1
172.5°	499.1	496.1	492.1	491.1	490.1	488.1	488.1	489.1	488.1	488.1	490.1
175°	497.1	495.1	493.1	492.1	492.1	490.1	491.1	492.1	491.1	490.1	492.1
177.5°	496.1	494.1	493.1	493.1	493.1	492.1	493.1	494.1	493.1	492.1	493.1
180°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1



TEST NUMBER: P831905

CATALOG NUMBER: S123RDIP-S1165D1025U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8	3747.8
2.5°	3627.9	3584.1	3540.3	3508.8	3477.3	3438.2	3399.0	3397.4	3395.9	3366.7	3337.5
5°	3412.8	3336.7	3260.7	3186.1	3111.6	3037.1	2962.6	2945.7	2928.8	2903.4	2878.1
7.5°	3222.3	3100.9	2979.5	2884.2	2788.9	2714.4	2639.9	2589.2	2538.5	2499.3	2460.1
10°	3017.9	2867.3	2716.7	2601.5	2486.2	2405.6	2324.9	2266.5	2208.1	2180.4	2152.8
12.5°	2805.8	2642.2	2478.5	2365.6	2252.7	2155.9	2059.1	2006.0	1953.0	1914.6	1876.2
15°	2610.7	2434.7	2258.8	2139.0	2019.1	1928.4	1837.8	1784.8	1731.8	1693.3	1654.9
17.5°	2421.7	2244.2	2066.7	1945.3	1823.9	1741.7	1659.5	1608.1	1556.6	1532.8	1508.9
20°	2249.6	2070.6	1891.6	1777.1	1662.6	1581.9	1501.3	1473.6	1445.9	1423.7	1401.4
22.5°	2079.0	1906.9	1734.8	1625.0	1515.1	1456.7	1398.3	1376.0	1353.7	1336.8	1319.9
25°	1936.1	1764.8	1593.5	1497.4	1401.4	1356.1	1310.7	1296.1	1281.5	1264.6	1247.7
27.5°	1791.7	1628.8	1465.9	1389.1	1312.3	1275.4	1238.5	1220.1	1201.6	1187.8	1174.0
30°	1664.1	1513.6	1363.0	1299.2	1235.4	1203.2	1170.9	1150.9	1130.9	1117.9	1104.8
32.5°	1541.2	1407.5	1273.8	1219.3	1164.7	1133.2	1101.7	1082.5	1063.3	1048.0	1032.6
35°	1427.5	1311.5	1195.5	1145.5	1095.6	1064.1	1032.6	1013.4	994.2	978.8	963.5
37.5°	1327.6	1222.4	1117.1	1070.2	1023.4	995.7	968.1	948.1	928.1	912.0	895.8
40°	1233.9	1140.9	1048.0	1002.6	957.3	927.3	897.4	879.7	862.0	847.4	832.8
42.5°	1150.9	1065.6	980.4	935.8	891.2	862.8	834.4	813.6	792.9	784.4	776.0
45°	1063.3	988.0	912.7	869.7	826.7	796.7	766.8	749.1	731.4	723.7	716.1
47.5°	986.5	916.6	846.7	804.4	762.2	735.3	708.4	694.5	680.7	670.0	659.2
50°	911.2	843.6	776.0	735.3	694.5	671.5	648.4	631.5	614.6	607.0	599.3
52.5°	839.0	777.5	716.1	674.6	633.1	610.8	588.5	573.9	559.3	543.2	527.1
55°	757.5	703.8	650.0	613.1	576.2	553.2	530.1	513.2	496.3	479.4	462.5
57.5°	689.9	636.9	583.9	550.9	517.8	495.6	473.3	454.8	436.4	422.6	408.7
60°	616.2	570.1	524.0	491.7	459.4	437.9	416.4	398.7	381.1	374.2	367.2
62.5°	547.0	504.0	461.0	432.6	404.1	383.4	362.6	351.1	339.6	335.0	330.4
65°	476.3	439.5	402.6	376.5	350.3	332.7	315.0	309.6	304.2	300.4	296.6
67.5°	410.3	378.8	347.3	324.2	301.2	288.9	276.6	270.4	264.3	259.7	255.1
70°	350.3	322.7	295.0	275.1	255.1	243.6	232.0	226.6	221.3	212.8	204.4
72.5°	285.8	264.3	242.8	227.4	212.1	202.1	192.1	181.3	170.6	162.9	155.2
75°	236.6	215.1	193.6	179.0	164.4	152.9	141.4	137.5	133.7	131.4	129.1
77.5°	181.3	162.9	144.4	132.9	121.4	116.0	110.6	108.3	106.0	105.3	104.5
80°	130.6	115.2	99.9	93.7	87.6	86.0	84.5	83.0	81.4	80.7	79.9
82.5°	81.4	73.8	66.1	64.5	63.0	62.2	61.5	60.7	59.9	59.2	58.4
85°	47.6	44.6	41.5	40.7	40.0	39.2	38.4	38.4	38.4	38.4	38.4
87.5°	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	19.2	18.4
90°	11.0	13.0	16.0	19.0	22.0	25.0	24.0	25.0	26.0	27.0	28.9
92.5°	50.9	68.9	100.8	153.7	205.6	185.7	138.7	98.8	76.9	66.9	59.9
95°	90.8	129.8	214.6	363.3	527.0	591.9	480.1	359.3	243.6	190.7	154.7
97.5°	104.8	147.7	231.6	404.3	679.8	910.3	941.3	825.5	622.9	491.1	377.3
100°	119.8	158.7	228.6	376.3	638.8	945.3	1141.9	1176.9	1096.0	979.2	837.5
102.5°	136.8	171.7	232.6	352.4	578.9	880.4	1151.9	1293.6	1310.6	1254.7	1177.9
105°	155.7	186.7	240.6	343.4	532.0	802.5	1089.0	1297.6	1397.5	1416.4	1390.5
107.5°	176.7	205.6	253.5	341.4	498.1	733.7	999.2	1237.7	1394.5	1472.3	1499.3
110°	197.6	225.6	270.5	346.4	480.1	676.8	915.3	1143.9	1327.6	1453.3	1523.2



TEST NUMBER: P831905

CATALOG NUMBER: S123RDIP-S1165D1025U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	219.6	246.6	287.5	356.3	470.1	638.8	842.5	1051.1	1239.7	1384.5	1479.3
115°	241.6	268.5	306.4	367.3	469.1	613.9	786.6	971.2	1144.9	1291.6	1400.4
117.5°	263.5	288.5	326.4	381.3	470.1	596.9	749.6	909.3	1063.1	1197.8	1310.6
120°	284.5	309.4	345.4	397.3	474.1	585.9	721.7	862.4	997.2	1117.0	1217.8
122.5°	303.4	330.4	365.3	412.2	481.1	578.9	698.7	825.5	944.3	1053.1	1144.9
125°	322.4	349.4	384.3	428.2	488.1	573.0	679.8	793.6	902.4	998.2	1078.0
127.5°	340.4	367.3	401.3	441.2	496.1	570.0	661.8	764.6	863.4	951.3	1025.1
130°	356.3	383.3	416.2	454.2	504.1	567.0	647.8	737.7	827.5	908.3	976.2
132.5°	371.3	397.3	429.2	466.1	510.1	566.0	634.8	712.7	793.6	867.4	931.3
135°	384.3	411.2	442.2	476.1	516.1	565.0	623.9	690.7	761.6	826.5	883.4
137.5°	396.3	421.2	451.2	484.1	520.1	563.0	613.9	669.8	729.7	787.6	838.5
140°	406.3	431.2	460.2	490.1	524.0	562.0	604.9	651.8	702.7	750.6	793.6
142.5°	416.2	439.2	467.1	496.1	527.0	560.0	596.9	634.8	676.8	716.7	752.6
145°	424.2	447.2	473.1	500.1	528.0	558.0	589.9	621.9	654.8	686.7	715.7
147.5°	434.2	454.2	478.1	503.1	528.0	555.0	582.9	610.9	637.8	664.8	685.7
150°	442.2	460.2	483.1	504.1	528.0	551.0	575.9	598.9	621.9	642.8	661.8
152.5°	450.2	467.1	486.1	506.1	525.0	546.0	568.0	587.9	606.9	624.9	639.8
155°	459.2	473.1	490.1	506.1	523.0	540.0	560.0	576.9	592.9	607.9	619.9
157.5°	467.1	478.1	492.1	507.1	520.1	535.0	551.0	565.0	578.9	590.9	600.9
160°	473.1	483.1	495.1	507.1	518.1	529.0	542.0	555.0	566.0	575.9	582.9
162.5°	478.1	486.1	496.1	506.1	514.1	523.0	533.0	543.0	552.0	561.0	567.0
165°	482.1	489.1	497.1	504.1	510.1	517.1	525.0	533.0	539.0	546.0	551.0
167.5°	486.1	491.1	497.1	503.1	506.1	511.1	517.1	524.0	529.0	533.0	537.0
170°	489.1	491.1	496.1	500.1	502.1	505.1	510.1	515.1	518.1	522.0	524.0
172.5°	491.1	492.1	496.1	499.1	499.1	500.1	503.1	507.1	509.1	512.1	513.1
175°	492.1	493.1	495.1	497.1	496.1	496.1	498.1	500.1	501.1	503.1	503.1
177.5°	493.1	493.1	494.1	496.1	494.1	493.1	494.1	495.1	496.1	497.1	497.1
180°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1



TEST NUMBER: P831905

CATALOG NUMBER: S123RDIP-S1165D1025U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	3747.8	3747.8	3747.8	3747.8
2.5°	3329.8	3322.1	3319.1	3316.0
5°	2854.2	2830.4	2825.0	2819.7
7.5°	2450.1	2440.1	2407.1	2374.1
10°	2122.1	2091.3	2077.5	2063.7
12.5°	1847.8	1819.3	1814.7	1810.1
15°	1634.9	1615.0	1608.1	1601.1
17.5°	1495.1	1481.3	1472.8	1464.4
20°	1391.4	1381.4	1375.3	1369.1
22.5°	1312.3	1304.6	1300.0	1295.4
25°	1236.2	1224.7	1220.8	1217.0
27.5°	1164.0	1154.0	1150.1	1146.3
30°	1096.4	1087.9	1082.5	1077.2
32.5°	1022.6	1012.6	1009.5	1006.5
35°	957.3	951.2	948.1	945.0
37.5°	888.2	880.5	875.9	871.3
40°	829.0	825.2	822.9	820.5
42.5°	769.1	762.2	761.4	760.6
45°	709.1	702.2	700.7	699.2
47.5°	653.1	646.9	646.1	645.4
50°	590.8	582.4	576.2	570.1
52.5°	519.4	511.7	506.3	500.9
55°	454.1	445.6	441.0	436.4
57.5°	404.9	401.1	398.7	396.4
60°	364.9	362.6	361.1	359.6
62.5°	328.1	325.8	325.8	325.8
65°	294.3	292.0	289.6	287.3
67.5°	250.5	245.9	245.1	244.3
70°	197.5	190.5	189.8	189.0
72.5°	154.4	153.7	152.1	150.6
75°	127.5	126.0	126.0	126.0
77.5°	103.0	101.4	101.4	101.4
80°	79.1	78.4	79.1	79.9
82.5°	58.4	58.4	57.6	56.9
85°	37.6	36.9	36.9	36.9
87.5°	18.4	18.4	18.4	18.4
90°	27.9	28.9	29.9	28.9
92.5°	57.9	53.9	54.9	52.9
95°	135.8	126.8	119.8	115.8
97.5°	310.4	272.5	248.5	237.6
100°	736.7	663.8	624.9	625.9
102.5°	1105.0	1051.1	1020.1	991.2
105°	1344.5	1306.6	1274.7	1269.7
107.5°	1493.3	1475.3	1462.3	1451.4
110°	1551.2	1559.2	1557.2	1555.2



TEST NUMBER: P831905

CATALOG NUMBER: S123RDIP-S1165D1025U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1536.2	1565.1	1575.1	1576.1
115°	1475.3	1519.2	1539.2	1544.2
117.5°	1388.5	1437.4	1467.3	1474.3
120°	1296.6	1352.5	1376.5	1382.5
122.5°	1212.8	1261.7	1288.6	1296.6
125°	1141.9	1185.8	1210.8	1217.8
127.5°	1083.0	1121.0	1143.9	1149.9
130°	1029.1	1065.1	1086.0	1094.0
132.5°	980.2	1016.1	1034.1	1039.1
135°	932.3	962.2	980.2	987.2
137.5°	880.4	911.3	926.3	932.3
140°	831.5	859.4	875.4	874.4
142.5°	783.6	807.5	821.5	820.5
145°	740.6	761.6	769.6	771.6
147.5°	705.7	720.7	728.7	729.7
150°	676.8	687.7	693.7	693.7
152.5°	650.8	660.8	663.8	663.8
155°	628.9	636.8	638.8	639.8
157.5°	608.9	614.9	616.9	616.9
160°	589.9	595.9	595.9	594.9
162.5°	571.0	575.9	575.9	575.0
165°	555.0	559.0	558.0	558.0
167.5°	539.0	542.0	541.0	541.0
170°	525.0	527.0	526.0	526.0
172.5°	513.1	515.1	513.1	512.1
175°	503.1	504.1	503.1	502.1
177.5°	496.1	497.1	495.1	495.1
180°	493.1	493.1	493.1	493.1

TEST NUMBER: P831905

CATALOG NUMBER: S123RDIP-S1165D1025U835-4F0-1E-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	14.25	15.12	15.16	16.03	17.20	18.91	19.78	19.82	20.70	21.86
	3H	15.47	16.25	16.39	17.17	18.37	20.42	21.19	21.33	22.12	23.31
	4H	15.86	16.59	16.79	17.52	18.72	20.91	21.64	21.84	22.57	23.77
	6H	16.14	16.81	17.08	17.75	18.96	21.22	21.89	22.16	22.83	24.04
	8H	16.23	16.87	17.18	17.82	19.03	21.30	21.94	22.25	22.89	24.11
	12H	16.28	16.89	17.24	17.84	19.07	21.33	21.94	22.29	22.89	24.13
4H	2H	14.98	15.71	15.91	16.64	17.84	18.91	19.64	19.85	20.57	21.78
	3H	16.35	16.96	17.30	17.92	19.13	20.58	21.18	21.52	22.14	23.36
	4H	16.81	17.36	17.76	18.31	19.56	21.18	21.74	22.14	22.69	23.93
	6H	17.18	17.65	18.15	18.63	19.87	21.62	22.10	22.59	23.08	24.32
	8H	17.30	17.75	18.27	18.72	19.97	21.75	22.20	22.72	23.17	24.42
	12H	17.38	17.78	18.37	18.77	20.03	21.82	22.22	22.81	23.21	24.47
8H	4H	17.12	17.57	18.09	18.54	19.79	21.15	21.60	22.12	22.57	23.82
	6H	17.59	17.95	18.58	18.97	20.22	21.65	22.01	22.65	23.03	24.28
	8H	17.78	18.10	18.79	19.11	20.38	21.84	22.16	22.84	23.16	24.43
	12H	17.92	18.21	18.93	19.20	20.52	21.95	22.24	22.96	23.23	24.55
12H	4H	17.14	17.53	18.12	18.52	19.78	21.10	21.50	22.09	22.49	23.75
	6H	17.65	17.97	18.65	18.97	20.24	21.62	21.95	22.63	22.95	24.22
	8H	17.87	18.15	18.87	19.15	20.46	21.82	22.10	22.83	23.10	24.42