

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: P831978

Luminaire Tested: S123RDIP-S1165D365U950-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831978
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-S1165D365U950-4F0-1E-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

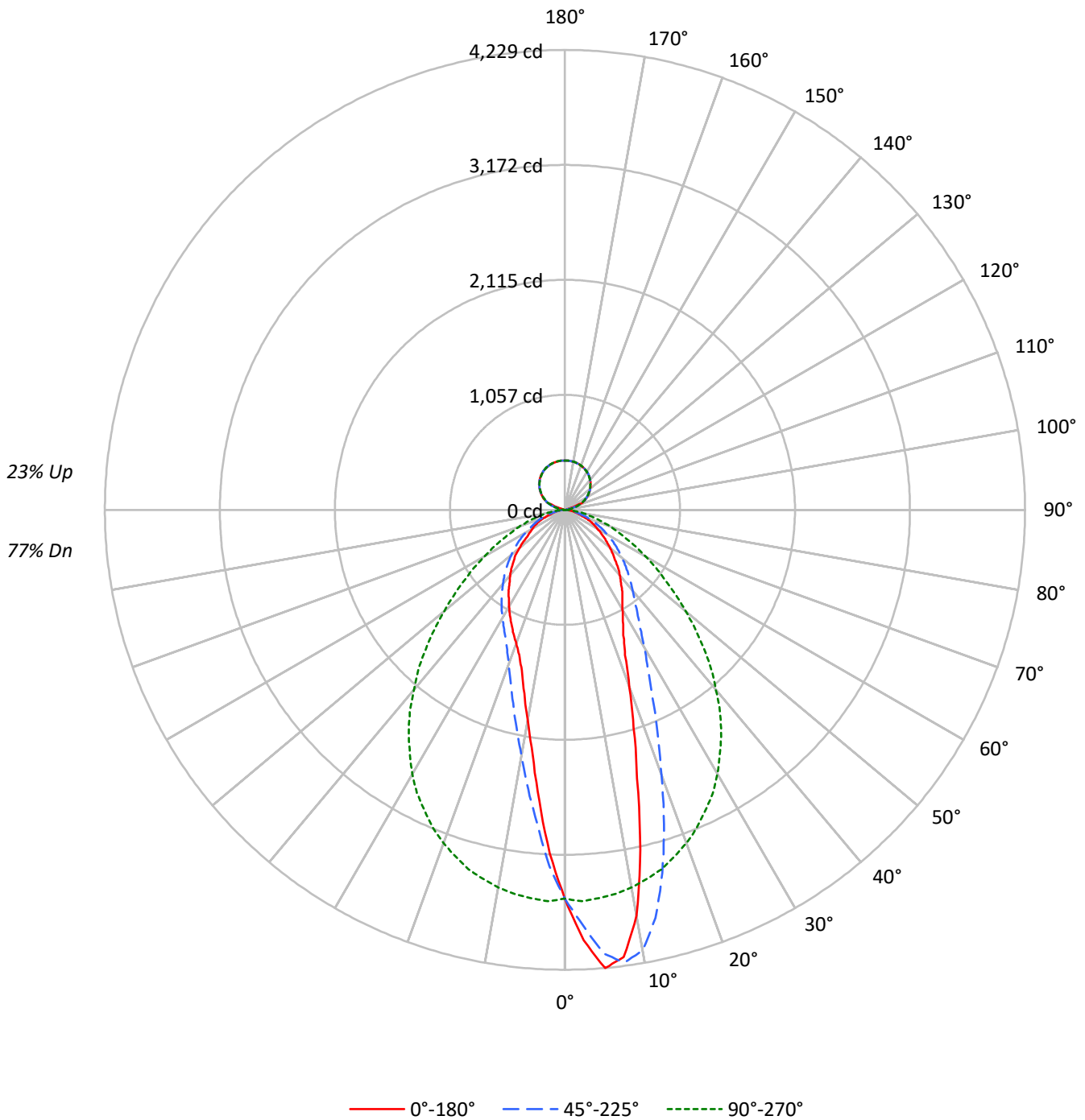
Lumens per Lamp: N/A
Luminaire Lumens: 6124.6 lumens
Efficiency: N/A
Efficacy: 117.3 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Direct

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°	38485	38485	38485	38485	38485
5°	45697	44239	38727	31306	29066
10°	41402	44935	38534	25083	21518
15°	28505	38528	38128	20501	17022
20°	19832	29662	37362	17287	14961
25°	15112	22607	36248	15365	13789
30°	13155	18074	34855	14266	12772
35°	12077	15247	32881	13340	11846
40°	11020	13616	30300	12431	10999
45°	9952	12452	27515	11571	10153
50°	9034	11489	24229	10727	9108
55°	8171	10550	21073	9903	7812
60°	7322	9593	18303	8994	7384
65°	6757	8512	15755	8084	6981
70°	5489	7358	13747	7311	5674
75°	4816	5852	11645	6068	4999
80°	4364	4953	9540	5089	4723
85°	3989	4347	7237	4619	4347

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 29032 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	325.9	5.3
10°-20°	754.1	12.3
20°-30°	865.2	14.1
30°-40°	852.8	13.9
40°-50°	752.1	12.3
50°-60°	578.6	9.4
60°-70°	380.4	6.2
70°-80°	184.7	3.0
80°-90°	47.5	0.8
90°-100°	16.0	0.3
100°-110°	77.3	1.3
110°-120°	189.6	3.1
120°-130°	240.7	3.9
130°-140°	257.1	4.2
140°-150°	240.4	3.9
150°-160°	193.9	3.2
160°-170°	125.1	2.0
170°-180°	43.1	0.7
0°-30°	1945.2	31.8
0°-40°	2798.0	45.7
0°-60°	4128.7	67.4
0°-90°	4741.3	77.4
90°-120°	282.9	4.6
90°-150°	1021.1	16.7
90°-180°	1383.0	22.6
0°-180°	6124.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3575	3575	3575	3575	3575	
5°	4229	4094	3584	2897	2690	386
15°	2558	3457	3422	1840	1528	722
25°	1272	1904	3052	1294	1161	601
35°	919	1160	2502	1015	902	573
45°	654	818	1808	760	667	508
55°	435	562	1123	528	416	391
65°	265	334	619	317	274	260
75°	116	141	280	146	120	125
85°	32	35	59	37	35	34
90°	10	8	0	8	10	6
95°	13	10	21	10	13	11
105°	15	74	100	74	15	31
115°	198	194	188	194	198	186
125°	271	270	266	270	271	242
135°	334	334	331	334	334	258
145°	385	385	382	385	385	241
155°	420	420	420	420	420	194
165°	442	442	443	442	442	125
175°	452	452	454	452	452	43
180°	454	454	454	454	454	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4
2.5°	3962.4	3949.9	3937.5	3933.8	3930.1	3918.4	3906.7	3880.3	3853.9	3826.8	3799.7
5°	4229.2	4230.6	4232.1	4228.4	4224.8	4209.4	4194.0	4161.7	4129.5	4094.3	4059.1
7.5°	4147.1	4170.5	4194.0	4198.4	4202.8	4214.5	4226.2	4218.9	4211.6	4198.4	4185.2
10°	3787.9	3786.5	3785.0	3811.4	3837.8	3916.2	3994.6	4034.9	4075.3	4111.2	4147.1
12.5°	3201.6	3203.8	3206.0	3292.5	3378.9	3453.0	3527.0	3629.6	3732.2	3842.9	3953.6
15°	2558.0	2593.9	2629.9	2706.8	2783.8	2895.2	3006.6	3144.4	3282.2	3457.4	3632.6
17.5°	2100.7	2116.1	2131.4	2205.5	2279.5	2385.1	2490.6	2646.7	2802.8	3028.6	3254.3
20°	1731.3	1745.2	1759.1	1812.6	1866.1	1967.3	2068.4	2217.2	2366.0	2589.5	2813.1
22.5°	1445.4	1472.5	1499.6	1535.6	1571.5	1644.8	1718.1	1869.8	2021.5	2225.3	2429.0
25°	1272.4	1284.9	1297.3	1328.1	1358.9	1429.3	1499.6	1600.1	1700.5	1903.5	2106.5
27.5°	1155.1	1158.8	1162.5	1185.2	1207.9	1253.4	1298.8	1391.9	1485.0	1652.1	1819.2
30°	1058.4	1065.0	1071.6	1089.2	1106.8	1139.8	1172.7	1238.7	1304.7	1454.2	1603.7
32.5°	983.6	987.3	991.0	1005.6	1020.3	1044.5	1068.7	1120.7	1172.7	1287.1	1401.4
35°	919.1	919.9	920.6	931.6	942.6	966.0	989.5	1032.7	1076.0	1160.3	1244.6
37.5°	845.8	851.0	856.1	864.2	872.2	892.7	913.3	948.5	983.6	1053.3	1122.9
40°	784.3	788.7	793.1	802.6	812.1	828.2	844.4	876.6	908.9	969.0	1029.1
42.5°	722.7	725.6	728.6	738.1	747.6	767.4	787.2	812.9	838.5	888.3	938.2
45°	653.8	661.1	668.5	678.7	689.0	705.8	722.7	749.1	775.5	818.0	860.5
47.5°	596.6	600.3	604.0	612.8	621.6	642.1	662.6	686.1	709.5	749.1	788.7
50°	539.5	540.9	542.4	550.5	558.5	576.8	595.2	622.3	649.4	686.1	722.7
52.5°	485.2	488.9	492.5	500.6	508.7	521.1	533.6	561.4	589.3	625.2	661.1
55°	435.4	437.6	439.8	445.6	451.5	466.2	480.8	505.0	529.2	562.2	595.2
57.5°	388.5	391.4	394.3	398.7	403.1	416.3	429.5	450.8	472.0	505.0	538.0
60°	340.1	343.8	347.4	352.6	357.7	367.9	378.2	397.3	416.3	445.6	475.0
62.5°	304.9	305.6	306.4	310.8	315.2	322.5	329.8	345.2	360.6	389.9	419.3
65°	265.3	267.5	269.7	271.9	274.1	280.0	285.9	299.0	312.2	334.2	356.2
67.5°	224.3	226.5	228.7	232.3	236.0	241.1	246.3	255.1	263.9	284.4	304.9
70°	174.4	174.4	174.4	180.3	186.2	195.0	203.8	210.4	217.0	233.8	250.7
72.5°	142.2	142.9	143.7	144.4	145.1	150.3	155.4	166.4	177.4	187.6	197.9
75°	115.8	116.5	117.3	118.0	118.7	120.2	121.7	125.3	129.0	140.7	152.5
77.5°	92.4	93.1	93.8	94.6	95.3	96.8	98.2	99.7	101.1	105.5	109.9
80°	70.4	71.1	71.8	72.6	73.3	74.0	74.8	76.2	77.7	79.9	82.1
82.5°	51.3	51.3	51.3	51.3	51.3	52.8	54.2	54.2	54.2	55.7	57.2
85°	32.3	32.3	32.3	33.0	33.7	33.7	33.7	34.4	35.2	35.2	35.2
87.5°	14.7	13.9	13.2	13.9	14.7	14.7	14.7	15.4	16.1	16.1	16.1
90°	10.1	10.0	9.8	9.7	9.5	9.3	9.0	8.7	8.4	8.1	7.1
92.5°	11.5	11.4	11.3	11.2	11.2	10.9	10.3	9.8	9.3	8.8	8.1
95°	12.8	12.8	12.8	12.8	12.8	12.5	12.0	11.5	11.0	10.5	9.6
97.5°	13.8	13.7	13.7	13.6	13.5	13.2	12.6	12.0	11.4	10.8	14.6
100°	14.2	14.1	14.0	13.9	13.9	13.5	12.9	12.3	11.7	11.1	22.8
102.5°	14.5	14.3	14.2	14.0	13.9	15.1	17.5	20.0	22.5	24.9	38.0
105°	14.8	14.7	14.5	14.4	14.2	20.8	34.0	47.3	60.6	73.8	80.6
107.5°	35.1	44.9	54.7	64.5	74.3	85.0	96.5	108.1	119.6	131.1	130.0
110°	92.7	103.4	114.1	124.8	135.6	142.1	144.6	147.1	149.6	152.0	151.2

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	175.6	175.8	175.9	176.1	176.2	176.0	175.3	174.6	174.0	173.3	172.5
115°	198.2	197.9	197.6	197.3	197.0	196.5	195.8	195.0	194.3	193.5	192.8
117.5°	216.4	216.4	216.3	216.2	216.1	215.8	215.2	214.6	214.0	213.4	213.0
120°	235.3	235.3	235.3	235.3	235.3	235.0	234.4	233.8	233.2	232.6	232.4
122.5°	253.8	253.8	253.7	253.6	253.5	253.3	252.9	252.6	252.2	251.8	251.5
125°	271.0	270.9	270.7	270.6	270.4	270.3	270.1	270.0	269.8	269.7	269.4
127.5°	287.9	288.0	288.2	288.3	288.5	288.5	288.2	288.0	287.8	287.6	287.2
130°	304.1	304.2	304.4	304.5	304.7	304.6	304.3	304.0	303.7	303.4	303.1
132.5°	318.9	319.1	319.4	319.6	319.8	319.8	319.5	319.2	318.9	318.6	318.3
135°	334.1	334.3	334.5	334.8	335.0	335.0	334.8	334.5	334.3	334.1	333.8
137.5°	348.6	348.7	348.9	349.0	349.2	349.1	348.7	348.3	347.9	347.6	347.4
140°	361.4	361.5	361.7	361.8	362.0	361.9	361.6	361.3	361.0	360.7	360.5
142.5°	373.2	373.4	373.6	373.9	374.1	374.1	373.9	373.6	373.4	373.2	373.0
145°	385.3	385.3	385.3	385.3	385.3	385.2	385.1	384.9	384.8	384.6	384.5
147.5°	394.1	394.5	394.8	395.2	395.6	395.7	395.5	395.4	395.2	395.1	394.9
150°	404.2	404.4	404.6	404.9	405.1	405.1	405.0	404.8	404.7	404.5	404.4
152.5°	412.3	412.7	413.0	413.4	413.8	413.8	413.5	413.2	412.9	412.6	412.6
155°	419.7	420.2	420.6	421.1	421.5	421.5	421.2	420.8	420.4	420.0	420.0
157.5°	426.1	426.7	427.3	427.9	428.5	428.6	428.1	427.7	427.2	426.8	426.9
160°	432.2	432.7	433.2	433.8	434.3	434.3	433.9	433.4	433.0	432.5	432.6
162.5°	437.9	438.4	438.8	439.3	439.7	439.7	439.1	438.6	438.1	437.6	437.6
165°	442.3	442.8	443.3	443.9	444.4	444.4	443.8	443.2	442.6	442.0	442.0
167.5°	445.7	446.3	446.9	447.5	448.1	448.1	447.5	446.9	446.3	445.7	445.7
170°	448.7	449.3	449.9	450.5	451.1	451.1	450.5	449.9	449.3	448.7	448.7
172.5°	450.4	451.1	451.7	452.4	453.1	453.1	452.5	451.9	451.3	450.7	450.6
175°	452.1	452.7	453.3	453.9	454.5	454.5	454.0	453.5	452.9	452.4	452.3
177.5°	452.4	453.2	453.9	454.7	455.4	455.5	454.9	454.3	453.7	453.1	453.0
180°	453.8	453.8	453.8	453.8	453.8	453.8	453.8	453.8	453.8	453.8	453.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4
2.5°	3796.0	3792.3	3757.2	3722.0	3687.5	3653.1	3627.4	3601.8	3558.5	3515.3	3488.2
5°	4031.3	4003.4	3947.7	3892.0	3808.5	3724.9	3654.5	3584.2	3494.8	3405.3	3330.6
7.5°	4162.5	4139.8	4072.3	4004.9	3894.2	3783.5	3673.6	3563.7	3431.7	3299.8	3186.9
10°	4166.1	4185.2	4129.5	4073.8	3949.2	3824.6	3675.1	3525.5	3348.2	3170.8	3024.9
12.5°	4035.7	4117.8	4106.0	4094.3	3967.5	3840.7	3658.9	3477.2	3259.5	3041.8	2859.3
15°	3791.6	3950.7	3997.6	4044.5	3939.7	3834.8	3628.2	3421.5	3165.7	2909.9	2700.2
17.5°	3477.2	3700.0	3823.9	3947.7	3871.5	3795.3	3568.8	3342.3	3054.2	2766.2	2538.2
20°	3104.8	3396.5	3590.8	3785.0	3757.2	3729.3	3495.5	3261.7	2950.9	2640.1	2393.1
22.5°	2736.9	3044.7	3313.0	3581.2	3609.8	3638.4	3402.4	3166.4	2826.3	2486.2	2234.8
25°	2419.5	2732.5	3052.0	3371.6	3436.1	3500.6	3276.3	3052.0	2699.5	2346.9	2097.0
27.5°	2116.8	2414.4	2766.2	3118.0	3235.3	3352.6	3147.3	2942.1	2574.9	2207.7	1958.5
30°	1869.8	2135.8	2495.0	2854.1	3017.6	3181.0	2992.7	2804.3	2440.0	2075.7	1831.7
32.5°	1639.6	1877.8	2238.5	2599.1	2788.9	2978.8	2816.0	2653.3	2303.0	1952.6	1711.5
35°	1457.9	1671.1	2007.6	2344.0	2556.6	2769.1	2635.7	2502.3	2160.0	1817.7	1589.8
37.5°	1301.7	1480.6	1796.5	2112.4	2338.1	2563.9	2452.5	2341.1	2019.3	1697.5	1482.0
40°	1172.7	1316.4	1610.3	1904.2	2125.6	2346.9	2251.7	2156.4	1868.3	1580.3	1378.7
42.5°	1062.1	1185.9	1449.8	1713.7	1916.7	2119.7	2056.7	1993.7	1732.7	1471.8	1284.9
45°	964.6	1068.7	1301.0	1533.4	1720.3	1907.2	1857.3	1807.5	1582.5	1357.4	1185.9
47.5°	878.1	967.5	1174.9	1382.4	1550.2	1718.1	1671.9	1625.7	1439.5	1253.4	1097.2
50°	798.9	875.2	1048.1	1221.1	1372.1	1523.1	1485.0	1446.9	1292.9	1139.0	1004.2
52.5°	724.2	787.2	942.6	1098.0	1219.6	1341.3	1312.0	1282.7	1163.9	1045.2	922.8
55°	653.1	711.0	842.2	973.4	1077.5	1181.5	1152.2	1122.9	1030.5	938.2	830.4
57.5°	588.6	639.1	745.4	851.7	934.5	1017.3	1003.4	989.5	912.5	835.6	746.9
60°	520.4	565.8	657.5	749.1	815.8	882.5	866.4	850.2	795.3	740.3	664.1
62.5°	459.6	499.9	573.2	646.5	700.7	754.9	743.2	731.5	689.7	647.9	584.9
65°	395.8	435.4	494.7	554.1	596.6	639.1	628.9	618.6	587.1	555.6	505.0
67.5°	337.9	370.9	422.2	473.5	502.1	530.7	524.8	518.9	494.7	470.6	431.0
70°	279.3	307.8	350.4	392.9	412.7	432.4	434.6	436.8	414.9	392.9	363.5
72.5°	220.6	243.3	282.9	322.5	337.9	353.3	352.6	351.8	338.6	325.4	299.0
75°	169.3	186.2	217.0	247.7	260.9	274.1	277.1	280.0	267.5	255.1	240.4
77.5°	121.7	133.4	156.9	180.3	195.0	209.6	211.1	212.6	206.7	200.8	186.9
80°	85.8	89.4	104.1	118.7	134.1	149.5	151.7	153.9	148.1	142.2	133.4
82.5°	59.4	61.6	66.7	71.8	84.3	96.8	99.7	102.6	99.7	96.8	87.2
85°	35.9	36.6	38.8	41.0	46.9	52.8	55.7	58.6	57.2	55.7	50.6
87.5°	16.1	16.1	16.9	17.6	19.1	20.5	24.2	27.9	25.7	23.5	21.3
90°	6.1	5.2	4.2	3.3	2.6	1.8	1.1	0.3	1.1	1.8	2.6
92.5°	7.4	6.7	6.1	6.0	6.4	6.9	7.3	7.8	7.3	6.9	6.4
95°	8.8	8.0	7.2	8.3	11.3	14.4	17.5	20.6	17.5	14.4	11.3
97.5°	18.4	22.2	26.1	29.0	31.1	33.2	35.3	37.4	35.3	33.2	31.1
100°	34.5	46.2	57.9	63.0	61.5	60.0	58.5	57.0	58.5	60.0	61.5
102.5°	51.0	64.1	77.1	83.1	82.1	81.2	80.2	79.2	80.2	81.2	82.1
105°	87.3	94.1	100.8	103.8	102.9	102.1	101.3	100.5	101.3	102.1	102.9
107.5°	128.9	127.8	126.6	125.7	125.1	124.4	123.7	123.0	123.7	124.4	125.1
110°	150.4	149.6	148.7	148.0	147.4	146.8	146.2	145.6	146.2	146.8	147.4



TEST NUMBER: P831978

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	171.6	170.8	170.0	169.3	168.8	168.3	167.7	167.2	167.7	168.3	168.8
115°	192.2	191.5	190.8	190.2	189.8	189.3	188.9	188.4	188.9	189.3	189.8
117.5°	212.6	212.3	211.9	211.4	210.9	210.4	209.9	209.3	209.9	210.4	210.9
120°	232.2	231.9	231.7	231.3	230.6	229.9	229.2	228.6	229.2	229.9	230.6
122.5°	251.2	250.9	250.6	250.2	249.7	249.2	248.6	248.1	248.6	249.2	249.7
125°	269.1	268.8	268.5	268.0	267.4	266.8	266.2	265.6	266.2	266.8	267.4
127.5°	286.8	286.4	286.1	285.6	285.0	284.4	283.8	283.2	283.8	284.4	285.0
130°	302.8	302.5	302.2	301.8	301.2	300.6	300.0	299.4	300.0	300.6	301.2
132.5°	318.1	317.9	317.7	317.3	316.7	316.1	315.5	314.9	315.5	316.1	316.7
135°	333.5	333.2	332.9	332.5	332.1	331.6	331.2	330.7	331.2	331.6	332.1
137.5°	347.3	347.1	347.0	346.6	346.0	345.4	344.8	344.2	344.8	345.4	346.0
140°	360.3	360.0	359.8	359.5	359.0	358.6	358.1	357.7	358.1	358.6	359.0
142.5°	372.7	372.5	372.3	371.9	371.5	371.1	370.6	370.2	370.6	371.1	371.5
145°	384.3	384.2	384.0	383.7	383.2	382.7	382.1	381.6	382.1	382.7	383.2
147.5°	394.8	394.6	394.5	394.2	393.9	393.5	393.1	392.7	393.1	393.5	393.9
150°	404.2	404.1	403.9	403.8	403.5	403.3	403.1	402.9	403.1	403.3	403.5
152.5°	412.5	412.4	412.3	412.3	412.2	412.1	412.0	412.0	412.0	412.1	412.2
155°	419.9	419.8	419.7	419.8	419.9	420.1	420.2	420.4	420.2	420.1	419.9
157.5°	426.9	427.0	427.1	427.1	427.1	427.1	427.1	427.1	427.1	427.1	427.1
160°	432.7	432.7	432.8	432.9	433.0	433.0	433.1	433.2	433.1	433.0	433.0
162.5°	437.7	437.8	437.9	438.0	438.2	438.5	438.7	438.9	438.7	438.5	438.2
165°	442.1	442.2	442.3	442.4	442.6	442.9	443.1	443.3	443.1	442.9	442.6
167.5°	445.7	445.7	445.7	445.8	446.1	446.4	446.7	447.0	446.7	446.4	446.1
170°	448.7	448.7	448.7	448.8	449.1	449.4	449.7	450.0	449.7	449.4	449.1
172.5°	450.6	450.5	450.4	450.6	450.9	451.3	451.7	452.1	451.7	451.3	450.9
175°	452.3	452.2	452.1	452.3	452.6	453.0	453.4	453.8	453.4	453.0	452.6
177.5°	452.9	452.9	452.8	452.9	453.3	453.7	454.1	454.4	454.1	453.7	453.3
180°	453.8	453.8	453.8	453.8	453.8	453.8	453.8	453.8	453.8	453.8	453.8



TEST NUMBER: P831978

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4	3575.4
2.5°	3461.0	3419.3	3377.5	3347.4	3317.4	3280.0	3242.6	3241.2	3239.7	3211.8	3184.0
5°	3255.8	3183.2	3110.7	3039.6	2968.5	2897.4	2826.3	2810.2	2794.0	2769.9	2745.7
7.5°	3074.0	2958.2	2842.4	2751.5	2660.6	2589.5	2518.5	2470.1	2421.7	2384.3	2346.9
10°	2879.1	2735.4	2591.7	2481.8	2371.9	2294.9	2217.9	2162.2	2106.5	2080.1	2053.8
12.5°	2676.8	2520.7	2364.5	2256.8	2149.0	2056.7	1964.3	1913.8	1863.2	1826.5	1789.9
15°	2490.6	2322.8	2154.9	2040.6	1926.2	1839.7	1753.2	1702.7	1652.1	1615.4	1578.8
17.5°	2310.3	2141.0	1971.7	1855.9	1740.0	1661.6	1583.2	1534.1	1485.0	1462.3	1439.5
20°	2146.1	1975.3	1804.5	1695.3	1586.1	1509.2	1432.2	1405.8	1379.4	1358.2	1336.9
22.5°	1983.4	1819.2	1655.0	1550.2	1445.4	1389.7	1334.0	1312.7	1291.5	1275.4	1259.2
25°	1847.1	1683.6	1520.2	1428.5	1336.9	1293.7	1250.4	1236.5	1222.6	1206.5	1190.3
27.5°	1709.3	1553.9	1398.5	1325.2	1251.9	1216.7	1181.5	1163.9	1146.3	1133.2	1120.0
30°	1587.6	1443.9	1300.3	1239.4	1178.6	1147.8	1117.0	1098.0	1078.9	1066.5	1054.0
32.5°	1470.3	1342.8	1215.2	1163.2	1111.2	1081.1	1051.1	1032.7	1014.4	999.8	985.1
35°	1361.8	1251.2	1140.5	1092.8	1045.2	1015.2	985.1	966.8	948.5	933.8	919.1
37.5°	1266.6	1166.1	1065.7	1021.0	976.3	949.9	923.5	904.5	885.4	870.0	854.6
40°	1177.1	1088.4	999.8	956.5	913.3	884.7	856.1	839.2	822.4	808.5	794.5
42.5°	1098.0	1016.6	935.3	892.7	850.2	823.1	796.0	776.2	756.4	748.4	740.3
45°	1014.4	942.6	870.8	829.7	788.7	760.1	731.5	714.6	697.8	690.4	683.1
47.5°	941.1	874.4	807.7	767.4	727.1	701.4	675.8	662.6	649.4	639.1	628.9
50°	869.3	804.8	740.3	701.4	662.6	640.6	618.6	602.5	586.4	579.0	571.7
52.5°	800.4	741.8	683.1	643.5	604.0	582.7	561.4	547.5	533.6	518.2	502.8
55°	722.7	671.4	620.1	584.9	549.7	527.7	505.7	489.6	473.5	457.4	441.2
57.5°	658.2	607.6	557.0	525.5	494.0	472.8	451.5	433.9	416.3	403.1	389.9
60°	587.8	543.9	499.9	469.1	438.3	417.8	397.3	380.4	363.5	357.0	350.4
62.5°	521.9	480.8	439.8	412.7	385.5	365.7	346.0	335.0	324.0	319.6	315.2
65°	454.4	419.3	384.1	359.2	334.2	317.4	300.5	295.4	290.3	286.6	282.9
67.5°	391.4	361.3	331.3	309.3	287.3	275.6	263.9	258.0	252.1	247.7	243.3
70°	334.2	307.8	281.5	262.4	243.3	232.3	221.4	216.2	211.1	203.0	195.0
72.5°	272.7	252.1	231.6	217.0	202.3	192.8	183.2	173.0	162.7	155.4	148.1
75°	225.8	205.2	184.7	170.8	156.9	145.9	134.9	131.2	127.5	125.3	123.1
77.5°	173.0	155.4	137.8	126.8	115.8	110.7	105.5	103.3	101.1	100.4	99.7
80°	124.6	109.9	95.3	89.4	83.6	82.1	80.6	79.2	77.7	77.0	76.2
82.5°	77.7	70.4	63.0	61.6	60.1	59.4	58.6	57.9	57.2	56.4	55.7
85°	45.4	42.5	39.6	38.8	38.1	37.4	36.6	36.6	36.6	36.6	36.6
87.5°	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	18.3	17.6
90°	3.3	4.2	5.2	6.1	7.1	8.1	8.4	8.7	9.0	9.3	9.5
92.5°	6.0	6.1	6.7	7.4	8.1	8.8	9.3	9.8	10.3	10.9	11.2
95°	8.3	7.2	8.0	8.8	9.6	10.5	11.0	11.5	12.0	12.5	12.8
97.5°	29.0	26.1	22.2	18.4	14.6	10.8	11.4	12.0	12.6	13.2	13.5
100°	63.0	57.9	46.2	34.5	22.8	11.1	11.7	12.3	12.9	13.5	13.9
102.5°	83.1	77.1	64.1	51.0	38.0	24.9	22.5	20.0	17.5	15.1	13.9
105°	103.8	100.8	94.1	87.3	80.6	73.8	60.6	47.3	34.0	20.8	14.2
107.5°	125.7	126.6	127.8	128.9	130.0	131.1	119.6	108.1	96.5	85.0	74.3
110°	148.0	148.7	149.6	150.4	151.2	152.0	149.6	147.1	144.6	142.1	135.6

TEST NUMBER: P831978

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	169.3	170.0	170.8	171.6	172.5	173.3	174.0	174.6	175.3	176.0	176.2
115°	190.2	190.8	191.5	192.2	192.8	193.5	194.3	195.0	195.8	196.5	197.0
117.5°	211.4	211.9	212.3	212.6	213.0	213.4	214.0	214.6	215.2	215.8	216.1
120°	231.3	231.7	231.9	232.2	232.4	232.6	233.2	233.8	234.4	235.0	235.3
122.5°	250.2	250.6	250.9	251.2	251.5	251.8	252.2	252.6	252.9	253.3	253.5
125°	268.0	268.5	268.8	269.1	269.4	269.7	269.8	270.0	270.1	270.3	270.4
127.5°	285.6	286.1	286.4	286.8	287.2	287.6	287.8	288.0	288.2	288.5	288.5
130°	301.8	302.2	302.5	302.8	303.1	303.4	303.7	304.0	304.3	304.6	304.7
132.5°	317.3	317.7	317.9	318.1	318.3	318.6	318.9	319.2	319.5	319.8	319.8
135°	332.5	332.9	333.2	333.5	333.8	334.1	334.3	334.5	334.8	335.0	335.0
137.5°	346.6	347.0	347.1	347.3	347.4	347.6	347.9	348.3	348.7	349.1	349.2
140°	359.5	359.8	360.0	360.3	360.5	360.7	361.0	361.3	361.6	361.9	362.0
142.5°	371.9	372.3	372.5	372.7	373.0	373.2	373.4	373.6	373.9	374.1	374.1
145°	383.7	384.0	384.2	384.3	384.5	384.6	384.8	384.9	385.1	385.2	385.3
147.5°	394.2	394.5	394.6	394.8	394.9	395.1	395.2	395.4	395.5	395.7	395.6
150°	403.8	403.9	404.1	404.2	404.4	404.5	404.7	404.8	405.0	405.1	405.1
152.5°	412.3	412.3	412.4	412.5	412.6	412.6	412.9	413.2	413.5	413.8	413.8
155°	419.8	419.7	419.8	419.9	420.0	420.0	420.4	420.8	421.2	421.5	421.5
157.5°	427.1	427.1	427.0	426.9	426.9	426.8	427.2	427.7	428.1	428.6	428.5
160°	432.9	432.8	432.7	432.7	432.6	432.5	433.0	433.4	433.9	434.3	434.3
162.5°	438.0	437.9	437.8	437.7	437.6	437.6	438.1	438.6	439.1	439.7	439.7
165°	442.4	442.3	442.2	442.1	442.0	442.0	442.6	443.2	443.8	444.4	444.4
167.5°	445.8	445.7	445.7	445.7	445.7	445.7	446.3	446.9	447.5	448.1	448.1
170°	448.8	448.7	448.7	448.7	448.7	448.7	449.3	449.9	450.5	451.1	451.1
172.5°	450.6	450.4	450.5	450.6	450.6	450.7	451.3	451.9	452.5	453.1	453.1
175°	452.3	452.1	452.2	452.3	452.3	452.4	452.9	453.5	454.0	454.5	454.5
177.5°	452.9	452.8	452.9	452.9	453.0	453.1	453.7	454.3	454.9	455.5	455.4
180°	453.8	453.8	453.8	453.8	453.8	453.8	453.8	453.8	453.8	453.8	453.8



TEST NUMBER: P831978

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	3575.4	3575.4	3575.4	3575.4
2.5°	3176.7	3169.3	3166.4	3163.5
5°	2722.9	2700.2	2695.1	2690.0
7.5°	2337.4	2327.9	2296.4	2264.8
10°	2024.4	1995.1	1981.9	1968.7
12.5°	1762.8	1735.7	1731.3	1726.9
15°	1559.7	1540.7	1534.1	1527.5
17.5°	1426.3	1413.1	1405.1	1397.0
20°	1327.4	1317.9	1312.0	1306.1
22.5°	1251.9	1244.6	1240.2	1235.8
25°	1179.3	1168.3	1164.7	1161.0
27.5°	1110.4	1100.9	1097.2	1093.6
30°	1045.9	1037.9	1032.7	1027.6
32.5°	975.6	966.0	963.1	960.2
35°	913.3	907.4	904.5	901.5
37.5°	847.3	840.0	835.6	831.2
40°	790.9	787.2	785.0	782.8
42.5°	733.7	727.1	726.4	725.6
45°	676.5	669.9	668.5	667.0
47.5°	623.0	617.2	616.4	615.7
50°	563.6	555.6	549.7	543.9
52.5°	495.5	488.2	483.0	477.9
55°	433.2	425.1	420.7	416.3
57.5°	386.3	382.6	380.4	378.2
60°	348.2	346.0	344.5	343.0
62.5°	313.0	310.8	310.8	310.8
65°	280.7	278.5	276.3	274.1
67.5°	238.9	234.5	233.8	233.1
70°	188.4	181.8	181.0	180.3
72.5°	147.3	146.6	145.1	143.7
75°	121.7	120.2	120.2	120.2
77.5°	98.2	96.8	96.8	96.8
80°	75.5	74.8	75.5	76.2
82.5°	55.7	55.7	55.0	54.2
85°	35.9	35.2	35.2	35.2
87.5°	17.6	17.6	17.6	17.6
90°	9.7	9.8	10.0	10.1
92.5°	11.2	11.3	11.4	11.5
95°	12.8	12.8	12.8	12.8
97.5°	13.6	13.7	13.7	13.8
100°	13.9	14.0	14.1	14.2
102.5°	14.0	14.2	14.3	14.5
105°	14.4	14.5	14.7	14.8
107.5°	64.5	54.7	44.9	35.1
110°	124.8	114.1	103.4	92.7



TEST NUMBER: P831978

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	176.1	175.9	175.8	175.6
115°	197.3	197.6	197.9	198.2
117.5°	216.2	216.3	216.4	216.4
120°	235.3	235.3	235.3	235.3
122.5°	253.6	253.7	253.8	253.8
125°	270.6	270.7	270.9	271.0
127.5°	288.3	288.2	288.0	287.9
130°	304.5	304.4	304.2	304.1
132.5°	319.6	319.4	319.1	318.9
135°	334.8	334.5	334.3	334.1
137.5°	349.0	348.9	348.7	348.6
140°	361.8	361.7	361.5	361.4
142.5°	373.9	373.6	373.4	373.2
145°	385.3	385.3	385.3	385.3
147.5°	395.2	394.8	394.5	394.1
150°	404.9	404.6	404.4	404.2
152.5°	413.4	413.0	412.7	412.3
155°	421.1	420.6	420.2	419.7
157.5°	427.9	427.3	426.7	426.1
160°	433.8	433.2	432.7	432.2
162.5°	439.3	438.8	438.4	437.9
165°	443.9	443.3	442.8	442.3
167.5°	447.5	446.9	446.3	445.7
170°	450.5	449.9	449.3	448.7
172.5°	452.4	451.7	451.1	450.4
175°	453.9	453.3	452.7	452.1
177.5°	454.7	453.9	453.2	452.4
180°	453.8	453.8	453.8	453.8



TEST NUMBER: P831978

CATALOG NUMBER: S123RDIP-S1165D365U950-4F0-1E-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	15.71	16.79	16.40	17.49	18.31	20.38	21.45	21.07	22.15	22.97
	3H	16.95	17.91	17.66	18.62	19.48	21.89	22.85	22.60	23.57	24.42
	4H	17.34	18.25	18.07	18.97	19.84	22.39	23.30	23.12	24.02	24.89
	6H	17.64	18.47	18.37	19.20	20.08	22.72	23.55	23.45	24.28	25.16
	8H	17.73	18.52	18.48	19.27	20.16	22.80	23.59	23.55	24.34	25.23
	12H	17.79	18.54	18.54	19.29	20.20	22.84	23.60	23.59	24.34	25.25
4H	2H	16.46	17.37	17.19	18.09	18.96	20.40	21.30	21.13	22.03	22.89
	3H	17.85	18.60	18.59	19.36	20.25	22.08	22.83	22.82	23.59	24.47
	4H	18.32	19.00	19.07	19.76	20.67	22.69	23.37	23.45	24.13	25.05
	6H	18.70	19.28	19.47	20.07	20.99	23.14	23.73	23.92	24.51	25.44
	8H	18.83	19.37	19.60	20.15	21.09	23.28	23.83	24.06	24.61	25.54
	12H	18.91	19.40	19.71	20.21	21.15	23.35	23.84	24.15	24.65	25.58
8H	4H	18.65	19.19	19.43	19.98	20.91	22.68	23.22	23.45	24.00	24.94
	6H	19.12	19.57	19.93	20.39	21.33	23.18	23.63	23.99	24.46	25.39
	8H	19.31	19.71	20.13	20.54	21.49	23.37	23.77	24.19	24.59	25.54
	12H	19.46	19.82	20.28	20.63	21.64	23.49	23.85	24.31	24.66	25.67
12H	4H	18.67	19.16	19.47	19.96	20.90	22.64	23.13	23.43	23.93	24.87
	6H	19.18	19.58	20.00	20.40	21.36	23.16	23.56	23.97	24.38	25.33
	8H	19.41	19.76	20.23	20.57	21.58	23.36	23.71	24.18	24.52	25.54