

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: P831910

Luminaire Tested: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831910
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-9)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: -

Summary

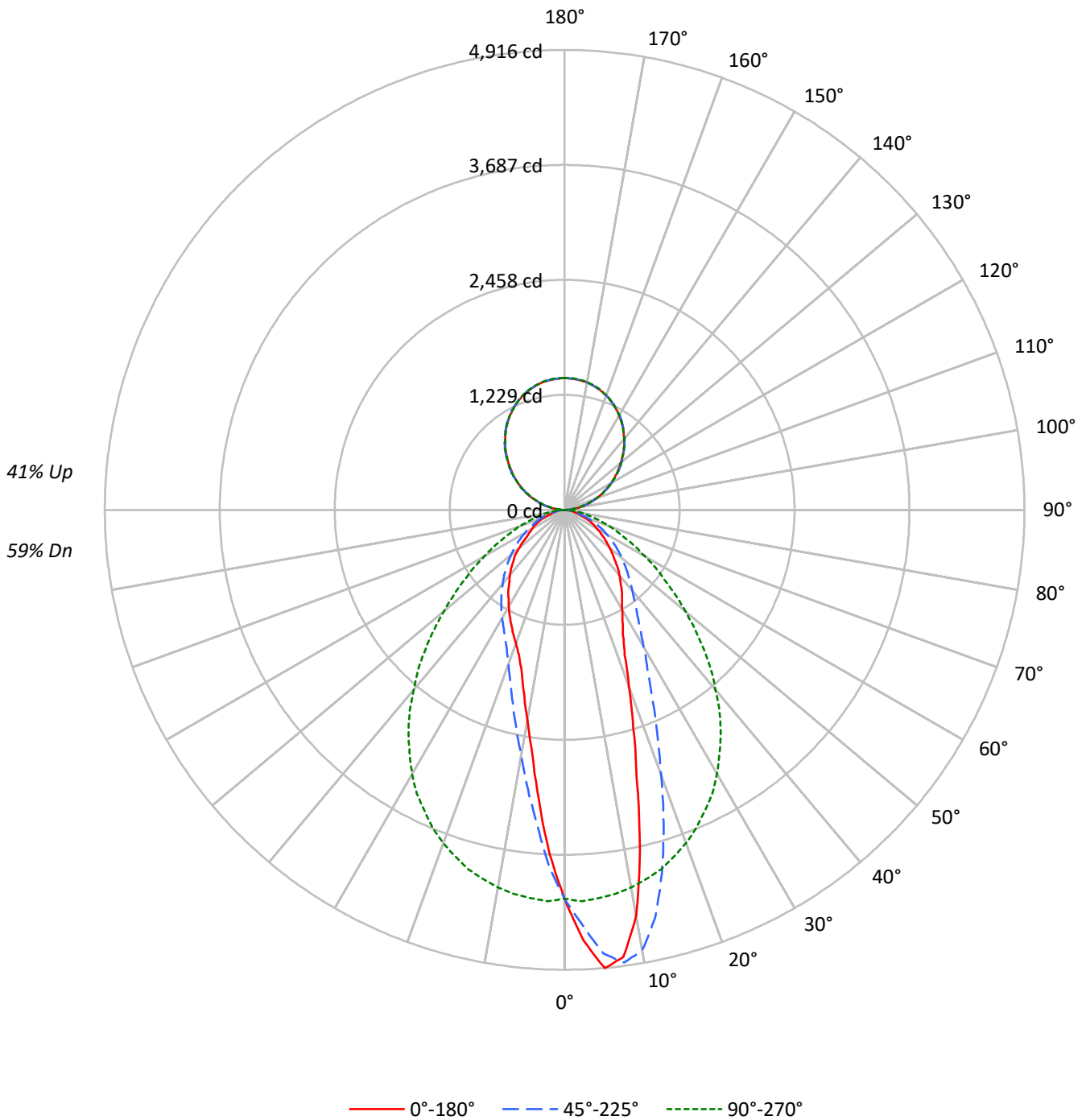
Lumens per Lamp: N/A
Luminaire Lumens: 9418.3 lumens
Efficiency: N/A
Efficacy: 138.3 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

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

TEST NUMBER: P831910

CATALOG NUMBER: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

Luminous Intensity Polar Plot





TEST NUMBER: P831910

CATALOG NUMBER: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

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	0	
RCR																						
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59				
1	101	97	93	90	94	90	87	84	79	76	74	68	66	65	58	57	56	51				
2	92	86	80	75	86	80	75	71	70	66	63	61	58	56	52	50	49	44				
3	85	76	69	64	79	72	65	61	63	58	54	55	51	48	47	45	43	39				
4	78	68	61	55	73	64	58	52	57	51	47	50	46	42	43	40	38	34				
5	73	61	54	48	68	58	51	46	51	46	42	45	41	38	39	36	34	31				
6	67	56	48	42	63	53	46	41	47	41	37	41	37	34	36	33	30	28				
7	63	51	43	38	59	48	41	36	43	37	33	38	34	30	34	30	28	25				
8	58	47	39	34	55	44	37	33	40	34	30	35	31	28	31	28	25	23				
9	55	43	36	31	51	41	34	30	37	31	28	33	28	25	29	26	23	21				
10	51	40	33	28	48	38	32	27	34	29	25	31	26	23	27	24	21	20				

AVERAGE LUMINANCE (cd/sqm):

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

MAXIMUM LUMINANCE 45°-90°:

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



TEST NUMBER: P831910

CATALOG NUMBER: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	378.8	4.0
10°-20°	876.6	9.3
20°-30°	1005.8	10.7
30°-40°	991.4	10.5
40°-50°	874.3	9.3
50°-60°	672.6	7.1
60°-70°	442.2	4.7
70°-80°	214.8	2.3
80°-90°	57.1	0.6
90°-100°	90.7	1.0
100°-110°	274.6	2.9
110°-120°	467.4	5.0
120°-130°	614.9	6.5
130°-140°	691.2	7.3
140°-150°	679.5	7.2
150°-160°	572.1	6.1
160°-170°	380.9	4.0
170°-180°	133.4	1.4
0°-30°	2261.3	24.0
0°-40°	3252.7	34.5
0°-60°	4799.5	51.0
0°-90°	5513.6	58.5
90°-120°	832.7	8.8
90°-150°	2818.3	29.9
90°-180°	3905.0	41.5
0°-180°	9418.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4156	4156	4156	4156	4156	
5°	4916	4760	4166	3368	3127	449
15°	2974	4019	3977	2139	1776	839
25°	1479	2213	3548	1504	1350	699
35°	1068	1349	2909	1180	1048	666
45°	760	951	2101	884	775	590
55°	506	654	1305	614	484	454
65°	308	388	719	369	319	302
75°	135	164	326	170	140	145
85°	38	41	68	44	41	40
90°	33	27	1	27	33	18
95°	86	82	65	82	86	87
105°	264	261	249	261	264	279
115°	472	472	470	472	472	467
125°	681	690	689	690	681	609
135°	892	899	893	899	892	686
145°	1084	1089	1084	1089	1084	677
155°	1239	1242	1241	1242	1239	571
165°	1347	1348	1352	1348	1347	380
175°	1400	1402	1406	1402	1400	133
180°	1409	1409	1409	1409	1409	



TEST NUMBER: P831910

CATALOG NUMBER: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3
2.5°	4606.2	4591.7	4577.2	4572.9	4568.7	4555.0	4541.4	4510.7	4480.1	4448.5	4417.0
5°	4916.3	4918.0	4919.7	4915.5	4911.2	4893.3	4875.4	4837.9	4800.4	4759.5	4718.6
7.5°	4820.9	4848.1	4875.4	4880.5	4885.6	4899.3	4912.9	4904.4	4895.9	4880.5	4865.2
10°	4403.4	4401.7	4400.0	4430.6	4461.3	4552.5	4643.7	4690.5	4737.4	4779.1	4820.9
12.5°	3721.7	3724.3	3726.9	3827.4	3927.9	4014.0	4100.1	4219.3	4338.6	4467.3	4595.9
15°	2973.6	3015.4	3057.1	3146.6	3236.1	3365.6	3495.1	3655.3	3815.5	4019.1	4222.7
17.5°	2442.0	2459.9	2477.8	2563.8	2649.9	2772.6	2895.3	3076.7	3258.2	3520.7	3783.1
20°	2012.5	2028.7	2044.9	2107.1	2169.3	2286.9	2404.5	2577.4	2750.4	3010.3	3270.2
22.5°	1680.2	1711.8	1743.3	1785.0	1826.8	1912.0	1997.2	2173.6	2349.9	2586.8	2823.7
25°	1479.2	1493.6	1508.1	1543.9	1579.7	1661.5	1743.3	1860.0	1976.7	2212.8	2448.8
27.5°	1342.8	1347.1	1351.3	1377.8	1404.2	1457.0	1509.8	1618.0	1726.2	1920.5	2114.8
30°	1230.4	1238.0	1245.7	1266.1	1286.6	1324.9	1363.3	1440.0	1516.6	1690.5	1864.3
32.5°	1143.4	1147.7	1152.0	1169.0	1186.0	1214.2	1242.3	1302.8	1363.3	1496.2	1629.1
35°	1068.5	1069.3	1070.2	1083.0	1095.7	1123.0	1150.3	1200.5	1250.8	1348.8	1446.8
37.5°	983.3	989.2	995.2	1004.6	1013.9	1037.8	1061.7	1102.5	1143.4	1224.4	1305.3
40°	911.7	916.8	921.9	933.0	944.1	962.8	981.6	1019.0	1056.5	1126.4	1196.3
42.5°	840.1	843.5	846.9	858.0	869.1	892.1	915.1	944.9	974.7	1032.7	1090.6
45°	760.0	768.5	777.1	789.0	800.9	820.5	840.1	870.8	901.5	950.9	1000.3
47.5°	693.6	697.8	702.1	712.3	722.5	746.4	770.3	797.5	824.8	870.8	916.8
50°	627.1	628.8	630.5	639.9	649.3	670.6	691.9	723.4	754.9	797.5	840.1
52.5°	564.1	568.3	572.6	581.9	591.3	605.8	620.3	652.7	685.0	726.8	768.5
55°	506.1	508.7	511.2	518.0	524.9	541.9	558.9	587.1	615.2	653.5	691.9
57.5°	451.6	455.0	458.4	463.5	468.6	484.0	499.3	524.0	548.7	587.1	625.4
60°	395.3	399.6	403.9	409.8	415.8	427.7	439.7	461.8	484.0	518.0	552.1
62.5°	354.5	355.3	356.2	361.3	366.4	374.9	383.4	401.3	419.2	453.3	487.4
65°	308.4	311.0	313.6	316.1	318.7	325.5	332.3	347.6	363.0	388.5	414.1
67.5°	260.7	263.3	265.8	270.1	274.4	280.3	286.3	296.5	306.7	330.6	354.5
70°	202.8	202.8	202.8	209.6	216.4	226.6	236.9	244.5	252.2	271.8	291.4
72.5°	165.3	166.1	167.0	167.9	168.7	174.7	180.6	193.4	206.2	218.1	230.1
75°	134.6	135.5	136.3	137.2	138.0	139.7	141.4	145.7	150.0	163.6	177.2
77.5°	107.4	108.2	109.1	109.9	110.8	112.5	114.2	115.9	117.6	122.7	127.8
80°	81.8	82.6	83.5	84.4	85.2	86.1	86.9	88.6	90.3	92.9	95.4
82.5°	59.6	59.6	59.6	59.6	59.6	61.3	63.1	63.1	63.1	64.8	66.5
85°	37.5	37.5	37.5	38.3	39.2	39.2	39.2	40.0	40.9	40.9	40.9
87.5°	17.0	16.2	15.3	16.2	17.0	17.0	17.0	17.9	18.7	18.7	18.7
90°	33.2	32.7	32.2	31.7	31.2	30.5	29.5	28.5	27.6	26.6	23.4
92.5°	47.6	48.1	48.6	49.1	49.6	49.4	48.7	48.0	47.2	46.5	45.0
95°	86.3	86.3	86.3	86.3	86.3	85.9	84.9	83.9	82.9	81.9	80.0
97.5°	124.0	124.2	124.5	124.7	125.0	124.5	123.2	122.0	120.8	119.6	118.1
100°	168.3	167.8	167.3	166.8	166.3	165.7	164.9	164.2	163.5	162.7	161.5
102.5°	213.7	213.9	214.1	214.4	214.6	214.4	213.7	212.9	212.2	211.4	209.7
105°	263.5	263.0	262.5	262.0	261.5	261.3	261.3	261.3	261.3	261.3	259.0
107.5°	314.4	314.6	314.9	315.1	315.4	315.1	314.4	313.7	312.9	312.2	311.2
110°	366.4	366.9	367.4	367.9	368.4	368.1	367.2	366.2	365.2	364.2	363.7



TEST NUMBER: P831910

CATALOG NUMBER: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	421.8	421.8	421.8	421.8	421.8	421.2	419.9	418.7	417.5	416.2	416.2
115°	471.6	471.8	472.1	472.3	472.6	472.6	472.3	472.1	471.8	471.6	472.1
117.5°	522.5	523.2	524.0	524.7	525.5	525.8	525.8	525.8	525.8	525.8	526.3
120°	576.8	577.2	577.7	578.2	578.7	579.1	579.3	579.6	579.8	580.1	581.3
122.5°	628.8	629.5	630.3	631.0	631.7	632.5	633.2	633.9	634.7	635.4	635.9
125°	680.8	681.8	682.8	683.8	684.7	685.7	686.7	687.7	688.7	689.7	690.2
127.5°	732.8	733.8	734.8	735.8	736.8	738.0	739.5	741.0	742.4	743.9	744.4
130°	783.8	785.5	787.2	788.9	790.7	792.0	793.0	794.0	795.0	795.9	796.7
132.5°	836.9	838.1	839.4	840.6	841.8	843.1	844.3	845.5	846.7	848.0	848.5
135°	892.3	892.7	893.2	893.7	894.2	895.0	895.9	896.9	897.9	898.9	899.1
137.5°	941.0	941.7	942.4	943.2	943.9	944.9	946.1	947.4	948.6	949.8	949.1
140°	988.6	990.3	992.0	993.7	995.5	996.4	996.7	996.9	997.2	997.4	997.2
142.5°	1037.3	1038.5	1039.7	1041.0	1042.2	1042.9	1043.2	1043.4	1043.7	1043.9	1043.4
145°	1083.8	1084.7	1085.7	1086.7	1087.7	1088.3	1088.6	1088.8	1089.1	1089.3	1088.6
147.5°	1125.8	1127.3	1128.8	1130.3	1131.7	1132.5	1132.5	1132.5	1132.5	1132.5	1131.7
150°	1165.7	1167.2	1168.6	1170.1	1171.6	1172.3	1172.3	1172.3	1172.3	1172.3	1171.8
152.5°	1204.4	1205.7	1206.9	1208.1	1209.4	1209.7	1209.2	1208.7	1208.2	1207.8	1207.5
155°	1238.7	1240.5	1242.2	1243.9	1245.6	1246.0	1245.0	1244.0	1243.1	1242.1	1241.8
157.5°	1270.9	1272.3	1273.8	1275.3	1276.8	1277.0	1276.0	1275.0	1274.0	1273.1	1272.8
160°	1301.8	1302.8	1303.8	1304.8	1305.8	1305.7	1304.4	1303.2	1302.0	1300.7	1300.7
162.5°	1325.1	1326.8	1328.5	1330.3	1332.0	1332.2	1331.0	1329.8	1328.5	1327.3	1327.1
165°	1347.2	1349.0	1350.7	1352.4	1354.1	1354.2	1352.8	1351.3	1349.8	1348.3	1348.3
167.5°	1367.2	1368.6	1370.1	1371.6	1373.1	1373.1	1371.6	1370.1	1368.6	1367.2	1366.9
170°	1381.6	1383.3	1385.0	1386.7	1388.4	1388.4	1386.7	1385.0	1383.3	1381.6	1381.6
172.5°	1392.6	1394.3	1396.1	1397.8	1399.5	1399.6	1398.2	1396.7	1395.2	1393.7	1393.7
175°	1400.4	1402.1	1403.8	1405.5	1407.3	1407.4	1405.9	1404.4	1403.0	1401.5	1401.5
177.5°	1404.8	1406.5	1408.2	1410.0	1411.7	1411.8	1410.3	1408.9	1407.4	1405.9	1405.9
180°	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2



TEST NUMBER: P831910

CATALOG NUMBER: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3
2.5°	4412.8	4408.5	4367.6	4326.7	4286.6	4246.6	4216.8	4187.0	4136.7	4086.4	4054.9
5°	4686.3	4653.9	4589.1	4524.4	4427.2	4330.1	4248.3	4166.5	4062.6	3958.6	3871.7
7.5°	4838.8	4812.4	4734.0	4655.6	4526.9	4398.3	4270.5	4142.7	3989.3	3835.9	3704.7
10°	4843.0	4865.2	4800.4	4735.7	4590.8	4446.0	4272.2	4098.3	3892.2	3686.0	3516.4
12.5°	4691.4	4786.8	4773.2	4759.5	4612.1	4464.7	4253.4	4042.1	3789.1	3536.0	3323.8
15°	4407.6	4592.5	4647.1	4701.6	4579.8	4457.9	4217.6	3977.4	3680.0	3382.6	3138.9
17.5°	4042.1	4301.1	4445.1	4589.1	4500.5	4411.9	4148.6	3885.3	3550.5	3215.6	2950.6
20°	3609.3	3948.4	4174.2	4400.0	4367.6	4335.2	4063.4	3791.6	3430.3	3069.1	2781.9
22.5°	3181.5	3539.4	3851.3	4163.1	4196.3	4229.6	3955.2	3680.8	3285.5	2890.1	2597.9
25°	2812.6	3176.4	3547.9	3919.4	3994.4	4069.4	3808.7	3547.9	3138.1	2728.3	2437.7
27.5°	2460.7	2806.6	3215.6	3624.6	3760.9	3897.3	3658.7	3420.1	2993.2	2566.4	2276.7
30°	2173.6	2482.9	2900.4	3317.9	3507.9	3697.9	3478.9	3259.9	2836.5	2413.0	2129.3
32.5°	1906.0	2182.9	2602.2	3021.4	3242.0	3462.7	3273.6	3084.4	2677.1	2269.9	1989.5
35°	1694.7	1942.7	2333.8	2724.8	2971.9	3219.0	3064.0	2908.9	2511.0	2113.1	1848.1
37.5°	1513.2	1721.1	2088.4	2455.6	2718.0	2980.5	2850.9	2721.4	2347.4	1973.3	1722.8
40°	1363.3	1530.3	1871.9	2213.6	2470.9	2728.3	2617.5	2506.7	2171.9	1837.0	1602.7
42.5°	1234.6	1378.6	1685.3	1992.1	2228.1	2464.1	2390.8	2317.6	2014.2	1710.9	1493.6
45°	1121.3	1242.3	1512.4	1782.5	1999.8	2217.0	2159.1	2101.1	1839.6	1578.0	1378.6
47.5°	1020.8	1124.7	1365.8	1607.0	1802.1	1997.2	1943.5	1889.8	1673.4	1457.0	1275.5
50°	928.7	1017.3	1218.4	1419.5	1595.0	1770.6	1726.2	1681.9	1503.0	1324.1	1167.3
52.5°	841.8	915.1	1095.7	1276.4	1417.8	1559.2	1525.2	1491.1	1353.1	1215.0	1072.7
55°	759.2	826.5	979.0	1131.5	1252.5	1373.5	1339.4	1305.3	1198.0	1090.6	965.4
57.5°	684.2	743.0	866.5	990.1	1086.4	1182.6	1166.5	1150.3	1060.8	971.3	868.2
60°	605.0	657.8	764.3	870.8	948.3	1025.9	1007.1	988.4	924.5	860.6	772.0
62.5°	534.2	581.1	666.3	751.5	814.6	877.6	864.0	850.3	801.8	753.2	679.9
65°	460.1	506.1	575.1	644.1	693.6	743.0	731.1	719.1	682.5	645.9	587.1
67.5°	392.8	431.1	490.8	550.4	583.7	616.9	610.1	603.2	575.1	547.0	501.0
70°	324.6	357.9	407.3	456.7	479.7	502.7	505.3	507.8	482.3	456.7	422.6
72.5°	256.5	282.9	328.9	374.9	392.8	410.7	409.8	409.0	393.6	378.3	347.6
75°	196.8	216.4	252.2	288.0	303.3	318.7	322.1	325.5	311.0	296.5	279.5
77.5°	141.4	155.1	182.3	209.6	226.6	243.7	245.4	247.1	240.3	233.5	217.3
80°	99.7	103.9	121.0	138.0	155.9	173.8	176.4	178.9	172.1	165.3	155.1
82.5°	69.0	71.6	77.5	83.5	98.0	112.5	115.9	119.3	115.9	112.5	101.4
85°	41.8	42.6	45.2	47.7	54.5	61.3	64.8	68.2	66.5	64.8	58.8
87.5°	18.7	18.7	19.6	20.4	22.2	23.9	28.1	32.4	29.8	27.3	24.7
90°	20.2	17.0	13.8	10.9	8.5	6.0	3.6	1.1	3.6	6.0	8.5
92.5°	43.5	42.1	40.6	39.1	37.6	36.2	34.7	33.2	34.7	36.2	37.6
95°	78.0	76.0	74.0	72.2	70.5	68.8	67.0	65.3	67.0	68.8	70.5
97.5°	116.6	115.1	113.7	112.3	111.1	109.8	108.6	107.4	108.6	109.8	111.1
100°	160.3	159.0	157.8	156.5	155.0	153.5	152.0	150.6	152.0	153.5	155.0
102.5°	208.0	206.3	204.6	203.3	202.6	201.8	201.1	200.4	201.1	201.8	202.6
105°	256.8	254.6	252.4	251.0	250.6	250.1	249.6	249.1	249.6	250.1	250.6
107.5°	310.2	309.2	308.2	307.6	307.4	307.1	306.9	306.6	306.9	307.1	307.4
110°	363.2	362.7	362.2	361.7	361.3	360.8	360.3	359.8	360.3	360.8	361.3



TEST NUMBER: P831910

CATALOG NUMBER: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	416.2	416.2	416.2	416.1	415.9	415.6	415.4	415.1	415.4	415.6	415.9
115°	472.6	473.1	473.6	473.4	472.7	472.0	471.2	470.5	471.2	472.0	472.7
117.5°	526.8	527.3	527.8	527.9	527.7	527.4	527.2	526.9	527.2	527.4	527.7
120°	582.5	583.8	585.0	584.9	583.4	581.9	580.4	579.0	580.4	581.9	583.4
122.5°	636.4	636.9	637.4	637.1	636.2	635.2	634.2	633.2	634.2	635.2	636.2
125°	690.7	691.1	691.6	691.5	690.8	690.0	689.3	688.6	689.3	690.0	690.8
127.5°	744.9	745.4	745.9	745.4	743.9	742.4	741.0	739.5	741.0	742.4	743.9
130°	797.4	798.2	798.9	798.3	796.3	794.3	792.4	790.4	792.4	794.3	796.3
132.5°	849.0	849.4	849.9	849.2	847.2	845.3	843.3	841.3	843.3	845.3	847.2
135°	899.4	899.6	899.9	899.3	897.8	896.3	894.8	893.4	894.8	896.3	897.8
137.5°	948.3	947.6	946.9	945.9	944.7	943.4	942.2	941.0	942.2	943.4	944.7
140°	996.9	996.7	996.4	995.7	994.5	993.2	992.0	990.8	992.0	993.2	994.5
142.5°	1042.9	1042.4	1041.9	1041.1	1039.9	1038.6	1037.4	1036.2	1037.4	1038.6	1039.9
145°	1087.8	1087.1	1086.3	1085.7	1085.2	1084.7	1084.3	1083.8	1084.3	1084.7	1085.2
147.5°	1131.0	1130.3	1129.5	1128.7	1127.7	1126.7	1125.7	1124.7	1125.7	1126.7	1127.7
150°	1171.3	1170.9	1170.4	1169.9	1169.4	1168.9	1168.4	1167.9	1168.4	1168.9	1169.4
152.5°	1207.3	1207.0	1206.8	1206.3	1205.5	1204.8	1204.1	1203.3	1204.1	1204.8	1205.5
155°	1241.6	1241.3	1241.1	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0
157.5°	1272.6	1272.3	1272.1	1272.1	1272.3	1272.6	1272.8	1273.1	1272.8	1272.6	1272.3
160°	1300.7	1300.7	1300.7	1301.0	1301.5	1302.0	1302.5	1303.0	1302.5	1302.0	1301.5
162.5°	1326.8	1326.6	1326.3	1326.6	1327.3	1328.0	1328.8	1329.5	1328.8	1328.0	1327.3
165°	1348.3	1348.3	1348.3	1348.7	1349.4	1350.2	1350.9	1351.7	1350.9	1350.2	1349.4
167.5°	1366.7	1366.4	1366.2	1366.5	1367.5	1368.5	1369.5	1370.5	1369.5	1368.5	1367.5
170°	1381.6	1381.6	1381.6	1382.0	1383.0	1384.0	1385.0	1386.0	1385.0	1384.0	1383.0
172.5°	1393.7	1393.7	1393.7	1394.2	1395.2	1396.2	1397.2	1398.2	1397.2	1396.2	1395.2
175°	1401.5	1401.5	1401.5	1402.0	1403.0	1403.9	1404.9	1405.9	1404.9	1403.9	1403.0
177.5°	1405.9	1405.9	1405.9	1406.4	1407.4	1408.4	1409.4	1410.3	1409.4	1408.4	1407.4
180°	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2



TEST NUMBER: P831910

CATALOG NUMBER: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3
2.5°	4023.4	3974.8	3926.2	3891.3	3856.4	3812.9	3769.5	3767.8	3766.0	3733.7	3701.3
5°	3784.8	3700.4	3616.1	3533.4	3450.8	3368.1	3285.5	3266.7	3248.0	3219.9	3191.8
7.5°	3573.5	3438.9	3304.2	3198.6	3092.9	3010.3	2927.6	2871.4	2815.2	2771.7	2728.3
10°	3346.8	3179.8	3012.8	2885.0	2757.2	2667.8	2578.3	2513.5	2448.8	2418.1	2387.4
12.5°	3111.7	2930.2	2748.7	2623.5	2498.2	2390.8	2283.5	2224.7	2165.9	2123.3	2080.7
15°	2895.3	2700.1	2505.0	2372.1	2239.2	2138.6	2038.1	1979.3	1920.5	1877.9	1835.3
17.5°	2685.7	2488.8	2292.0	2157.4	2022.8	1931.6	1840.4	1783.3	1726.2	1699.8	1673.4
20°	2494.8	2296.3	2097.7	1970.8	1843.8	1754.4	1664.9	1634.2	1603.6	1578.8	1554.1
22.5°	2305.6	2114.8	1923.9	1802.1	1680.2	1615.5	1550.7	1526.0	1501.3	1482.6	1463.8
25°	2147.2	1957.2	1767.1	1660.6	1554.1	1503.9	1453.6	1437.4	1421.2	1402.5	1383.7
27.5°	1987.0	1806.3	1625.7	1540.5	1455.3	1414.4	1373.5	1353.1	1332.6	1317.3	1301.9
30°	1845.5	1678.5	1511.5	1440.8	1370.1	1334.3	1298.5	1276.4	1254.2	1239.7	1225.2
32.5°	1709.2	1561.0	1412.7	1352.2	1291.7	1256.8	1221.8	1200.5	1179.2	1162.2	1145.2
35°	1583.1	1454.4	1325.8	1270.4	1215.0	1180.1	1145.2	1123.9	1102.5	1085.5	1068.5
37.5°	1472.3	1355.6	1238.9	1186.9	1134.9	1104.3	1073.6	1051.4	1029.3	1011.4	993.5
40°	1368.4	1265.3	1162.2	1111.9	1061.7	1028.4	995.2	975.6	956.0	939.8	923.6
42.5°	1276.4	1181.8	1087.2	1037.8	988.4	956.8	925.3	902.3	879.3	869.9	860.6
45°	1179.2	1095.7	1012.2	964.5	916.8	883.6	850.3	830.7	811.1	802.6	794.1
47.5°	1094.0	1016.5	939.0	892.1	845.2	815.4	785.6	770.3	754.9	743.0	731.1
50°	1010.5	935.5	860.6	815.4	770.3	744.7	719.1	700.4	681.6	673.1	664.6
52.5°	930.4	862.3	794.1	748.1	702.1	677.4	652.7	636.5	620.3	602.4	584.5
55°	840.1	780.5	720.8	679.9	639.0	613.5	587.9	569.2	550.4	531.7	512.9
57.5°	765.1	706.3	647.6	610.9	574.3	549.6	524.9	504.4	484.0	468.6	453.3
60°	683.3	632.2	581.1	545.3	509.5	485.7	461.8	442.2	422.6	414.9	407.3
62.5°	606.7	558.9	511.2	479.7	448.2	425.2	402.2	389.4	376.6	371.5	366.4
65°	528.3	487.4	446.5	417.5	388.5	368.9	349.3	343.4	337.4	333.2	328.9
67.5°	455.0	420.1	385.1	359.6	334.0	320.4	306.7	299.9	293.1	288.0	282.9
70°	388.5	357.9	327.2	305.0	282.9	270.1	257.3	251.4	245.4	236.0	226.6
72.5°	317.0	293.1	269.2	252.2	235.2	224.1	213.0	201.1	189.2	180.6	172.1
75°	262.4	238.6	214.7	198.5	182.3	169.6	156.8	152.5	148.3	145.7	143.1
77.5°	201.1	180.6	160.2	147.4	134.6	128.7	122.7	120.1	117.6	116.7	115.9
80°	144.8	127.8	110.8	103.9	97.1	95.4	93.7	92.0	90.3	89.5	88.6
82.5°	90.3	81.8	73.3	71.6	69.9	69.0	68.2	67.3	66.5	65.6	64.8
85°	52.8	49.4	46.0	45.2	44.3	43.5	42.6	42.6	42.6	42.6	42.6
87.5°	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	21.3	20.4
90°	10.9	13.8	17.0	20.2	23.4	26.6	27.6	28.5	29.5	30.5	31.2
92.5°	39.1	40.6	42.1	43.5	45.0	46.5	47.2	48.0	48.7	49.4	49.6
95°	72.2	74.0	76.0	78.0	80.0	81.9	82.9	83.9	84.9	85.9	86.3
97.5°	112.3	113.7	115.1	116.6	118.1	119.6	120.8	122.0	123.2	124.5	125.0
100°	156.5	157.8	159.0	160.3	161.5	162.7	163.5	164.2	164.9	165.7	166.3
102.5°	203.3	204.6	206.3	208.0	209.7	211.4	212.2	212.9	213.7	214.4	214.6
105°	251.0	252.4	254.6	256.8	259.0	261.3	261.3	261.3	261.3	261.3	261.5
107.5°	307.6	308.2	309.2	310.2	311.2	312.2	312.9	313.7	314.4	315.1	315.4
110°	361.7	362.2	362.7	363.2	363.7	364.2	365.2	366.2	367.2	368.1	368.4



TEST NUMBER: P831910

CATALOG NUMBER: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	416.1	416.2	416.2	416.2	416.2	416.2	417.5	418.7	419.9	421.2	421.8
115°	473.4	473.6	473.1	472.6	472.1	471.6	471.8	472.1	472.3	472.6	472.6
117.5°	527.9	527.8	527.3	526.8	526.3	525.8	525.8	525.8	525.8	525.8	525.5
120°	584.9	585.0	583.8	582.5	581.3	580.1	579.8	579.6	579.3	579.1	578.7
122.5°	637.1	637.4	636.9	636.4	635.9	635.4	634.7	633.9	633.2	632.5	631.7
125°	691.5	691.6	691.1	690.7	690.2	689.7	688.7	687.7	686.7	685.7	684.7
127.5°	745.4	745.9	745.4	744.9	744.4	743.9	742.4	741.0	739.5	738.0	736.8
130°	798.3	798.9	798.2	797.4	796.7	795.9	795.0	794.0	793.0	792.0	790.7
132.5°	849.2	849.9	849.4	849.0	848.5	848.0	846.7	845.5	844.3	843.1	841.8
135°	899.3	899.9	899.6	899.4	899.1	898.9	897.9	896.9	895.9	895.0	894.2
137.5°	945.9	946.9	947.6	948.3	949.1	949.8	948.6	947.4	946.1	944.9	943.9
140°	995.7	996.4	996.7	996.9	997.2	997.4	997.2	996.9	996.7	996.4	995.5
142.5°	1041.1	1041.9	1042.4	1042.9	1043.4	1043.9	1043.7	1043.4	1043.2	1042.9	1042.2
145°	1085.7	1086.3	1087.1	1087.8	1088.6	1089.3	1089.1	1088.8	1088.6	1088.3	1087.7
147.5°	1128.7	1129.5	1130.3	1131.0	1131.7	1132.5	1132.5	1132.5	1132.5	1132.5	1131.7
150°	1169.9	1170.4	1170.9	1171.3	1171.8	1172.3	1172.3	1172.3	1172.3	1172.3	1171.6
152.5°	1206.3	1206.8	1207.0	1207.3	1207.5	1207.8	1208.2	1208.7	1209.2	1209.7	1209.4
155°	1241.0	1241.1	1241.3	1241.6	1241.8	1242.1	1243.1	1244.0	1245.0	1246.0	1245.6
157.5°	1272.1	1272.1	1272.3	1272.6	1272.8	1273.1	1274.0	1275.0	1276.0	1277.0	1276.8
160°	1301.0	1300.7	1300.7	1300.7	1300.7	1300.7	1302.0	1303.2	1304.4	1305.7	1305.8
162.5°	1326.6	1326.3	1326.6	1326.8	1327.1	1327.3	1328.5	1329.8	1331.0	1332.2	1332.0
165°	1348.7	1348.3	1348.3	1348.3	1348.3	1348.3	1349.8	1351.3	1352.8	1354.2	1354.1
167.5°	1366.5	1366.2	1366.4	1366.7	1366.9	1367.2	1368.6	1370.1	1371.6	1373.1	1373.1
170°	1382.0	1381.6	1381.6	1381.6	1381.6	1381.6	1383.3	1385.0	1386.7	1388.4	1388.4
172.5°	1394.2	1393.7	1393.7	1393.7	1393.7	1393.7	1395.2	1396.7	1398.2	1399.6	1399.5
175°	1402.0	1401.5	1401.5	1401.5	1401.5	1401.5	1403.0	1404.4	1405.9	1407.4	1407.3
177.5°	1406.4	1405.9	1405.9	1405.9	1405.9	1405.9	1407.4	1408.9	1410.3	1411.8	1411.7
180°	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2



TEST NUMBER: P831910

CATALOG NUMBER: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	4156.3	4156.3	4156.3	4156.3
2.5°	3692.8	3684.3	3680.8	3677.4
5°	3165.4	3138.9	3133.0	3127.0
7.5°	2717.2	2706.1	2669.5	2632.8
10°	2353.4	2319.3	2303.9	2288.6
12.5°	2049.2	2017.6	2012.5	2007.4
15°	1813.2	1791.0	1783.3	1775.7
17.5°	1658.1	1642.7	1633.4	1624.0
20°	1543.1	1532.0	1525.2	1518.3
22.5°	1455.3	1446.8	1441.7	1436.6
25°	1370.9	1358.2	1353.9	1349.6
27.5°	1290.9	1279.8	1275.5	1271.3
30°	1215.9	1206.5	1200.5	1194.6
32.5°	1134.1	1123.0	1119.6	1116.2
35°	1061.7	1054.8	1051.4	1048.0
37.5°	985.0	976.4	971.3	966.2
40°	919.4	915.1	912.5	910.0
42.5°	852.9	845.2	844.4	843.5
45°	786.4	778.8	777.1	775.4
47.5°	724.2	717.4	716.6	715.7
50°	655.2	645.9	639.0	632.2
52.5°	576.0	567.5	561.5	555.5
55°	503.6	494.2	489.1	484.0
57.5°	449.0	444.8	442.2	439.7
60°	404.7	402.2	400.5	398.8
62.5°	363.8	361.3	361.3	361.3
65°	326.3	323.8	321.2	318.7
67.5°	277.8	272.7	271.8	271.0
70°	219.0	211.3	210.5	209.6
72.5°	171.3	170.4	168.7	167.0
75°	141.4	139.7	139.7	139.7
77.5°	114.2	112.5	112.5	112.5
80°	87.8	86.9	87.8	88.6
82.5°	64.8	64.8	63.9	63.1
85°	41.8	40.9	40.9	40.9
87.5°	20.4	20.4	20.4	20.4
90°	31.7	32.2	32.7	33.2
92.5°	49.1	48.6	48.1	47.6
95°	86.3	86.3	86.3	86.3
97.5°	124.7	124.5	124.2	124.0
100°	166.8	167.3	167.8	168.3
102.5°	214.4	214.1	213.9	213.7
105°	262.0	262.5	263.0	263.5
107.5°	315.1	314.9	314.6	314.4
110°	367.9	367.4	366.9	366.4



TEST NUMBER: P831910

CATALOG NUMBER: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	421.8	421.8	421.8	421.8
115°	472.3	472.1	471.8	471.6
117.5°	524.7	524.0	523.2	522.5
120°	578.2	577.7	577.2	576.8
122.5°	631.0	630.3	629.5	628.8
125°	683.8	682.8	681.8	680.8
127.5°	735.8	734.8	733.8	732.8
130°	788.9	787.2	785.5	783.8
132.5°	840.6	839.4	838.1	836.9
135°	893.7	893.2	892.7	892.3
137.5°	943.2	942.4	941.7	941.0
140°	993.7	992.0	990.3	988.6
142.5°	1041.0	1039.7	1038.5	1037.3
145°	1086.7	1085.7	1084.7	1083.8
147.5°	1130.3	1128.8	1127.3	1125.8
150°	1170.1	1168.6	1167.2	1165.7
152.5°	1208.1	1206.9	1205.7	1204.4
155°	1243.9	1242.2	1240.5	1238.7
157.5°	1275.3	1273.8	1272.3	1270.9
160°	1304.8	1303.8	1302.8	1301.8
162.5°	1330.3	1328.5	1326.8	1325.1
165°	1352.4	1350.7	1349.0	1347.2
167.5°	1371.6	1370.1	1368.6	1367.2
170°	1386.7	1385.0	1383.3	1381.6
172.5°	1397.8	1396.1	1394.3	1392.6
175°	1405.5	1403.8	1402.1	1400.4
177.5°	1410.0	1408.2	1406.5	1404.8
180°	1409.2	1409.2	1409.2	1409.2



TEST NUMBER: P831910

CATALOG NUMBER: S123RDIP-S1165D1025U850-4F0-1E-UDD-G1

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	14.72	15.60	15.61	16.50	17.65	19.38	20.26	20.28	21.16	22.31
	3H	15.94	16.73	16.85	17.64	18.82	20.89	21.67	21.79	22.58	23.76
	4H	16.33	17.07	17.25	17.99	19.17	21.38	22.12	22.30	23.04	24.22
	6H	16.61	17.29	17.54	18.22	19.41	21.69	22.37	22.62	23.30	24.49
	8H	16.70	17.35	17.64	18.29	19.48	21.77	22.42	22.71	23.36	24.56
	12H	16.75	17.37	17.70	18.30	19.52	21.81	22.42	22.75	23.36	24.58
4H	2H	15.45	16.19	16.37	17.11	18.29	19.38	20.12	20.31	21.04	22.23
	3H	16.82	17.44	17.76	18.39	19.58	21.05	21.66	21.98	22.61	23.81
	4H	17.28	17.84	18.22	18.78	20.01	21.66	22.21	22.60	23.16	24.38
	6H	17.65	18.13	18.61	19.10	20.32	22.10	22.58	23.05	23.54	24.77
	8H	17.78	18.22	18.73	19.19	20.42	22.23	22.68	23.19	23.64	24.87
	12H	17.85	18.26	18.83	19.24	20.48	22.29	22.69	23.27	23.67	24.92
8H	4H	17.60	18.04	18.56	19.01	20.24	21.63	22.07	22.58	23.04	24.27
	6H	18.06	18.43	19.05	19.44	20.67	22.12	22.49	23.11	23.50	24.73
	8H	18.25	18.58	19.25	19.57	20.83	22.31	22.63	23.30	23.63	24.88
	12H	18.40	18.68	19.39	19.67	20.97	22.43	22.71	23.42	23.70	25.00
12H	4H	17.61	18.01	18.59	18.99	20.23	21.58	21.98	22.56	22.96	24.20
	6H	18.12	18.45	19.11	19.44	20.69	22.10	22.42	23.09	23.42	24.67
	8H	18.34	18.63	19.34	19.61	20.91	22.29	22.58	23.29	23.56	24.87