

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: P832028

Luminaire Tested: S123RDIP-S1165D805U935-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P832028
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-S1165D805U935-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

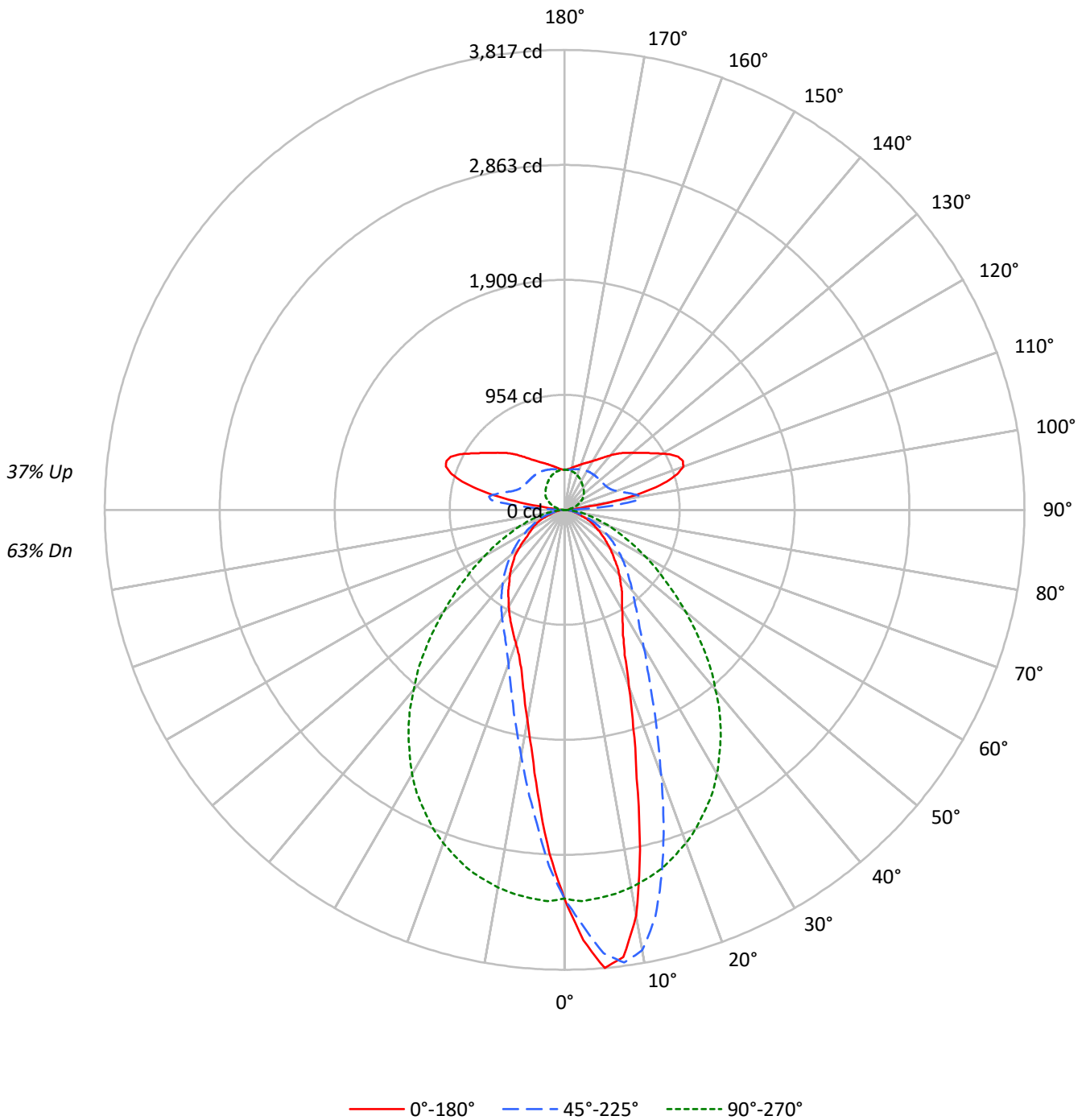
Lumens per Lamp: N/A
Luminaire Lumens: 6781.5 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 62.8
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	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68	63		
1	102	98	94	91	95	92	89	86	81	79	77	71	69	68	62	61	60	55		
2	94	87	81	76	88	82	77	72	72	68	65	64	61	58	56	54	52	48		
3	86	77	70	65	81	73	67	62	65	60	56	57	54	51	50	48	45	42		
4	79	69	62	56	74	65	59	54	58	53	49	52	48	45	46	43	40	37		
5	73	62	55	49	69	59	52	47	53	48	43	47	43	40	42	39	36	33		
6	68	57	49	43	64	54	47	42	48	43	39	43	39	35	39	35	32	30		
7	64	52	44	39	60	49	42	37	45	39	35	40	35	32	36	32	29	27		
8	59	48	40	35	56	45	39	34	41	35	31	37	33	29	33	30	27	25		
9	56	44	37	32	52	42	35	31	38	33	29	34	30	27	31	27	25	23		
10	52	41	34	29	49	39	32	28	35	30	26	32	28	25	29	26	23	21		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	34733	34733	34733	34733	34733
5°	41242	39927	34952	28254	26231
10°	37366	40555	34777	22638	19420
15°	25727	34771	34410	18503	15363
20°	17898	26771	33719	15601	13503
25°	13639	20403	32714	13867	12444
30°	11872	16312	31457	12875	11527
35°	10900	13761	29676	12039	10692
40°	9946	12288	27347	11219	9927
45°	8983	11237	24832	10443	9164
50°	8153	10369	21867	9682	8219
55°	7373	9522	19018	8938	7051
60°	6607	8658	16518	8118	6665
65°	6100	7682	14220	7294	6301
70°	4954	6641	12409	6600	5120
75°	4346	5282	10509	5473	4512
80°	3936	4469	8610	4593	4265
85°	3594	3927	6533	4162	3927

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 26201 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	294.1	4.3
10°-20°	680.6	10.0
20°-30°	780.9	11.5
30°-40°	769.7	11.3
40°-50°	678.8	10.0
50°-60°	522.2	7.7
60°-70°	343.3	5.1
70°-80°	166.7	2.5
80°-90°	43.9	0.6
90°-100°	180.4	2.7
100°-110°	528.3	7.8
110°-120°	515.9	7.6
120°-130°	410.9	6.1
130°-140°	324.2	4.8
140°-150°	241.8	3.6
150°-160°	168.6	2.5
160°-170°	99.0	1.5
170°-180°	32.2	0.5
0°-30°	1755.6	25.9
0°-40°	2525.3	37.2
0°-60°	3726.2	54.9
0°-90°	4280.1	63.1
90°-120°	1224.6	18.1
90°-150°	2201.5	32.5
90°-180°	2501.0	36.9
0°-180°	6781.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3227	3227	3227	3227	3227	
5°	3817	3695	3235	2615	2428	349
15°	2309	3120	3088	1660	1379	652
25°	1148	1718	2754	1168	1048	542
35°	830	1047	2258	916	814	517
45°	590	738	1631	686	602	458
55°	393	507	1013	476	376	352
65°	240	302	558	286	247	235
75°	104	127	253	132	108	112
85°	29	32	53	34	32	31
90°	20	17	1	17	20	12
95°	78	399	23	399	78	127
105°	856	541	78	541	856	854
115°	1041	414	138	414	1041	1016
125°	821	386	192	386	821	743
135°	666	381	225	381	666	516
145°	520	376	256	376	520	330
155°	432	364	292	364	432	201
165°	376	349	318	349	376	107
175°	339	335	332	335	339	33
180°	332	332	332	332	332	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8
2.5°	3576.1	3564.9	3553.6	3550.3	3547.0	3536.4	3525.8	3502.0	3478.2	3453.7	3429.3
5°	3816.9	3818.2	3819.5	3816.2	3812.9	3799.0	3785.1	3756.0	3726.9	3695.2	3663.4
7.5°	3742.8	3764.0	3785.1	3789.1	3793.1	3803.7	3814.2	3807.6	3801.0	3789.1	3777.2
10°	3418.7	3417.3	3416.0	3439.8	3463.6	3534.4	3605.2	3641.6	3678.0	3710.4	3742.8
12.5°	2889.5	2891.4	2893.4	2971.5	3049.5	3116.4	3183.2	3275.8	3368.4	3468.3	3568.2
15°	2308.7	2341.1	2373.5	2442.9	2512.4	2613.0	2713.5	2837.9	2962.2	3120.3	3278.4
17.5°	1895.9	1909.8	1923.7	1990.5	2057.3	2152.5	2247.8	2388.7	2529.6	2733.3	2937.1
20°	1562.5	1575.0	1587.6	1635.9	1684.2	1775.5	1866.8	2001.1	2135.3	2337.1	2538.9
22.5°	1304.5	1329.0	1353.4	1385.9	1418.3	1484.4	1550.6	1687.5	1824.4	2008.3	2192.2
25°	1148.4	1159.6	1170.9	1198.6	1226.4	1289.9	1353.4	1444.1	1534.7	1717.9	1901.2
27.5°	1042.5	1045.8	1049.1	1069.7	1090.2	1131.2	1172.2	1256.2	1340.2	1491.0	1641.9
30°	955.2	961.2	967.1	983.0	998.9	1028.6	1058.4	1117.9	1177.5	1312.4	1447.4
32.5°	887.7	891.0	894.4	907.6	920.8	942.6	964.5	1011.4	1058.4	1161.6	1264.8
35°	829.5	830.2	830.9	840.8	850.7	871.9	893.0	932.1	971.1	1047.2	1123.2
37.5°	763.4	768.0	772.6	779.9	787.2	805.7	824.2	856.0	887.7	950.6	1013.4
40°	707.8	711.8	715.8	724.3	732.9	747.5	762.1	791.2	820.3	874.5	928.8
42.5°	652.2	654.9	657.5	666.1	674.7	692.6	710.5	733.6	756.8	801.7	846.7
45°	590.1	596.7	603.3	612.6	621.8	637.0	652.2	676.1	699.9	738.2	776.6
47.5°	538.5	541.8	545.1	553.0	561.0	579.5	598.0	619.2	640.3	676.1	711.8
50°	486.9	488.2	489.5	496.8	504.1	520.6	537.1	561.6	586.1	619.2	652.2
52.5°	437.9	441.2	444.5	451.8	459.1	470.3	481.6	506.7	531.9	564.3	596.7
55°	392.9	394.9	396.9	402.2	407.5	420.7	433.9	455.8	477.6	507.4	537.1
57.5°	350.6	353.2	355.9	359.9	363.8	375.7	387.6	406.8	426.0	455.8	485.5
60°	306.9	310.2	313.6	318.2	322.8	332.1	341.3	358.5	375.7	402.2	428.7
62.5°	275.2	275.8	276.5	280.5	284.4	291.1	297.7	311.6	325.5	351.9	378.4
65°	239.5	241.4	243.4	245.4	247.4	252.7	258.0	269.9	281.8	301.6	321.5
67.5°	202.4	204.4	206.4	209.7	213.0	217.6	222.3	230.2	238.1	256.7	275.2
70°	157.4	157.4	157.4	162.7	168.0	176.0	183.9	189.9	195.8	211.0	226.2
72.5°	128.3	129.0	129.7	130.3	131.0	135.6	140.2	150.2	160.1	169.3	178.6
75°	104.5	105.2	105.8	106.5	107.2	108.5	109.8	113.1	116.4	127.0	137.6
77.5°	83.3	84.0	84.7	85.3	86.0	87.3	88.6	90.0	91.3	95.3	99.2
80°	63.5	64.2	64.8	65.5	66.2	66.8	67.5	68.8	70.1	72.1	74.1
82.5°	46.3	46.3	46.3	46.3	46.3	47.6	49.0	49.0	49.0	50.3	51.6
85°	29.1	29.1	29.1	29.8	30.4	30.4	30.4	31.1	31.8	31.8	31.8
87.5°	13.2	12.6	11.9	12.6	13.2	13.2	13.2	13.9	14.6	14.6	14.6
90°	19.5	20.2	19.5	18.8	19.5	18.2	17.5	16.8	16.2	16.8	14.8
92.5°	35.7	37.0	36.3	39.0	40.4	45.1	51.8	66.6	93.6	125.2	138.7
95°	78.1	80.8	85.5	91.5	104.3	128.6	164.2	242.3	323.8	399.2	355.4
97.5°	160.2	167.6	183.8	209.3	254.4	331.2	420.0	556.7	634.8	613.9	458.4
100°	422.1	421.4	447.6	496.8	564.8	660.4	739.1	793.6	770.1	637.5	430.8
102.5°	668.4	688.0	708.8	745.2	794.3	846.1	883.8	872.4	776.8	593.7	390.4
105°	856.2	859.6	881.1	906.7	937.7	955.2	942.4	875.1	734.4	541.2	358.8
107.5°	978.8	986.2	994.9	1007.0	1011.1	992.9	940.4	834.7	673.8	494.8	335.9
110°	1048.8	1050.1	1051.5	1046.1	1027.2	980.1	895.3	771.4	617.3	456.4	323.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1062.9	1062.2	1055.5	1036.0	997.6	933.7	836.0	708.8	568.1	430.8	317.1
115°	1041.4	1038.0	1024.5	994.9	944.4	871.0	772.1	655.0	530.4	414.0	316.4
117.5°	994.2	989.5	969.3	936.3	883.8	807.8	716.9	613.2	505.5	402.5	317.1
120°	932.3	928.3	912.1	874.4	821.2	753.2	672.5	581.6	486.7	395.1	319.7
122.5°	874.4	869.0	850.9	817.9	772.1	710.2	636.8	556.7	471.2	390.4	324.5
125°	821.2	816.5	799.7	770.1	727.0	673.1	608.5	535.2	458.4	386.4	329.2
127.5°	775.5	771.4	755.9	730.4	691.3	641.5	582.3	515.6	446.3	384.4	334.6
130°	737.8	732.4	718.2	694.0	658.3	612.6	558.0	497.5	436.9	382.3	339.9
132.5°	700.7	697.4	685.3	661.0	628.0	585.0	535.2	480.6	428.1	381.7	344.0
135°	665.7	661.0	648.9	628.7	595.7	557.4	513.6	465.8	420.7	381.0	348.0
137.5°	628.7	624.7	614.6	593.7	565.4	531.1	492.1	451.7	414.0	379.7	350.7
140°	589.7	590.3	579.6	560.7	535.2	506.2	473.9	439.6	407.9	379.0	353.4
142.5°	553.3	554.0	544.6	528.4	507.6	483.3	456.4	428.1	402.5	377.6	355.4
145°	520.3	519.0	513.6	499.5	482.6	463.1	441.6	419.4	397.8	376.3	356.1
147.5°	492.1	491.4	486.0	475.9	462.5	448.3	430.1	412.0	393.1	374.3	356.1
150°	467.8	467.8	463.8	456.4	446.3	433.5	419.4	403.9	388.4	371.6	356.1
152.5°	447.6	447.6	445.6	438.9	431.5	421.4	409.3	396.5	383.0	368.2	354.1
155°	431.5	430.8	429.5	424.1	418.0	409.9	399.8	389.1	377.6	364.2	352.7
157.5°	416.0	416.0	414.7	410.6	405.2	398.5	390.4	381.0	371.6	360.8	350.7
160°	401.2	401.9	401.9	397.8	393.1	388.4	381.7	374.3	365.5	356.8	349.4
162.5°	387.7	388.4	388.4	385.0	382.3	378.3	372.2	366.2	359.5	352.7	346.7
165°	376.3	376.3	377.0	374.3	371.6	368.2	363.5	359.5	354.1	348.7	344.0
167.5°	364.8	364.8	365.5	363.5	362.2	359.5	356.8	353.4	348.7	344.7	341.3
170°	354.7	354.7	355.4	354.1	353.4	352.1	349.4	347.3	344.0	340.6	338.6
172.5°	345.3	346.0	347.3	346.0	346.0	345.3	343.3	342.0	339.3	337.2	336.6
175°	338.6	339.3	339.9	339.3	339.3	339.3	337.9	337.2	335.9	334.6	334.6
177.5°	333.9	333.9	335.2	334.6	335.2	335.2	334.6	333.9	333.2	332.5	333.2
180°	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8
2.5°	3425.9	3422.6	3390.9	3359.1	3328.0	3296.9	3273.8	3250.6	3211.6	3172.6	3148.1
5°	3638.3	3613.1	3562.9	3512.6	3437.2	3361.8	3298.3	3234.8	3154.1	3073.4	3005.9
7.5°	3756.7	3736.2	3675.3	3614.5	3514.6	3414.7	3315.5	3216.2	3097.2	2978.1	2876.2
10°	3760.0	3777.2	3726.9	3676.7	3564.2	3451.7	3316.8	3181.8	3021.8	2861.7	2730.0
12.5°	3642.3	3716.3	3705.8	3695.2	3580.7	3466.3	3302.2	3138.2	2941.7	2745.3	2580.5
15°	3422.0	3565.5	3607.9	3650.2	3555.6	3461.0	3274.5	3087.9	2857.0	2626.2	2437.0
17.5°	3138.2	3339.3	3451.1	3562.9	3494.1	3425.3	3220.9	3016.5	2756.5	2496.5	2290.8
20°	2802.1	3065.4	3240.7	3416.0	3390.9	3365.7	3154.7	2943.7	2663.2	2382.7	2159.8
22.5°	2470.1	2747.9	2990.0	3232.1	3257.9	3283.7	3070.7	2857.7	2550.8	2243.8	2016.9
25°	2183.6	2466.1	2754.5	3042.9	3101.1	3159.4	2956.9	2754.5	2436.3	2118.1	1892.6
27.5°	1910.4	2179.0	2496.5	2814.0	2919.9	3025.7	2840.5	2655.3	2323.9	1992.5	1767.5
30°	1687.5	1927.6	2251.8	2575.9	2723.4	2870.9	2700.9	2530.9	2202.2	1873.4	1653.1
32.5°	1479.8	1694.8	2020.2	2345.7	2517.0	2688.4	2541.5	2394.7	2078.5	1762.3	1544.6
35°	1315.7	1508.2	1811.9	2115.5	2307.3	2499.2	2378.8	2258.4	1949.5	1640.5	1434.8
37.5°	1174.8	1336.2	1621.4	1906.5	2110.2	2314.0	2213.4	2112.9	1822.5	1532.0	1337.6
40°	1058.4	1188.1	1453.3	1718.6	1918.4	2118.1	2032.1	1946.2	1686.2	1426.2	1244.3
42.5°	958.5	1070.3	1308.5	1546.6	1729.8	1913.1	1856.2	1799.3	1563.8	1328.3	1159.6
45°	870.5	964.5	1174.2	1383.9	1552.6	1721.2	1676.3	1631.3	1428.2	1225.1	1070.3
47.5°	792.5	873.2	1060.4	1247.6	1399.1	1550.6	1508.9	1467.2	1299.2	1131.2	990.3
50°	721.0	789.8	946.0	1102.1	1238.3	1374.6	1340.2	1305.8	1166.9	1028.0	906.3
52.5°	653.6	710.5	850.7	990.9	1100.7	1210.6	1184.1	1157.6	1050.5	943.3	832.8
55°	589.4	641.7	760.1	878.5	972.4	1066.3	1039.9	1013.4	930.1	846.7	749.5
57.5°	531.2	576.8	672.8	768.7	843.4	918.2	905.6	893.0	823.6	754.1	674.1
60°	469.7	510.7	593.4	676.1	736.3	796.5	781.9	767.3	717.7	668.1	599.3
62.5°	414.8	451.1	517.3	583.4	632.4	681.4	670.8	660.2	622.5	584.8	527.9
65°	357.2	392.9	446.5	500.1	538.5	576.8	567.6	558.3	529.9	501.4	455.8
67.5°	305.0	334.7	381.0	427.3	453.1	478.9	473.6	468.3	446.5	424.7	389.0
70°	252.0	277.8	316.2	354.6	372.4	390.3	392.3	394.3	374.4	354.6	328.1
72.5°	199.1	219.6	255.3	291.1	305.0	318.8	318.2	317.5	305.6	293.7	269.9
75°	152.8	168.0	195.8	223.6	235.5	247.4	250.0	252.7	241.4	230.2	217.0
77.5°	109.8	120.4	141.6	162.7	176.0	189.2	190.5	191.8	186.5	181.3	168.7
80°	77.4	80.7	93.9	107.2	121.1	134.9	136.9	138.9	133.6	128.3	120.4
82.5°	53.6	55.6	60.2	64.8	76.1	87.3	90.0	92.6	90.0	87.3	78.7
85°	32.4	33.1	35.1	37.0	42.3	47.6	50.3	52.9	51.6	50.3	45.6
87.5°	14.6	14.6	15.2	15.9	17.2	18.5	21.8	25.1	23.2	21.2	19.2
90°	12.8	10.8	8.8	7.4	6.1	4.0	2.7	1.3	2.7	4.0	6.1
92.5°	103.7	68.0	46.4	34.3	27.6	21.5	14.8	10.1	14.8	21.5	27.6
95°	245.0	144.7	87.5	61.3	43.8	32.3	24.9	22.9	24.9	32.3	43.8
97.5°	272.6	156.2	99.6	70.7	53.2	43.1	37.0	36.3	37.0	43.1	53.2
100°	253.8	154.2	107.0	80.8	64.6	55.2	50.5	49.8	50.5	55.2	64.6
102.5°	237.6	156.8	115.8	92.2	78.1	69.3	65.3	63.9	65.3	69.3	78.1
105°	231.6	162.2	125.9	105.0	92.2	84.1	80.1	78.1	80.1	84.1	92.2
107.5°	230.2	171.0	138.7	119.1	107.0	99.0	94.9	92.9	94.9	99.0	107.0
110°	233.6	182.4	152.1	133.3	121.8	114.4	111.1	109.0	111.1	114.4	121.8



TEST NUMBER: P832028

CATALOG NUMBER: S123RDIP-S1165D805U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	240.3	193.9	166.3	148.1	136.6	129.2	125.9	123.9	125.9	129.2	136.6
115°	247.7	206.7	181.1	162.9	151.5	144.7	140.7	138.0	140.7	144.7	151.5
117.5°	257.1	220.1	194.5	177.7	164.9	158.9	155.5	152.1	155.5	158.9	164.9
120°	267.9	232.9	208.7	191.8	179.1	172.3	169.0	166.9	169.0	172.3	179.1
122.5°	278.0	246.4	222.8	204.6	192.5	185.1	181.7	179.7	181.7	185.1	192.5
125°	288.8	259.2	235.6	217.4	204.6	197.2	193.2	191.8	193.2	197.2	204.6
127.5°	297.5	270.6	247.7	229.5	215.4	208.0	203.3	201.3	203.3	208.0	215.4
130°	306.3	280.7	258.5	240.3	226.2	218.1	212.0	210.0	212.0	218.1	226.2
132.5°	314.4	289.5	267.9	250.4	236.3	226.2	219.4	216.8	219.4	226.2	236.3
135°	321.1	298.2	277.3	259.2	245.0	234.9	227.5	224.8	227.5	234.9	245.0
137.5°	326.5	304.3	284.1	267.2	253.1	242.3	234.9	232.2	234.9	242.3	253.1
140°	330.5	310.3	290.8	274.0	260.5	249.7	243.0	239.6	243.0	249.7	260.5
142.5°	334.6	315.0	296.2	280.7	267.2	257.8	250.4	247.7	250.4	257.8	267.2
145°	337.2	319.1	301.6	286.1	274.6	264.5	258.5	256.5	258.5	264.5	274.6
147.5°	339.3	322.4	306.3	292.8	281.4	272.6	266.6	265.2	266.6	272.6	281.4
150°	339.9	325.8	310.3	298.2	288.8	280.0	274.6	274.0	274.6	280.0	288.8
152.5°	341.3	327.8	315.0	303.6	295.5	288.1	282.7	282.7	282.7	288.1	295.5
155°	341.3	330.5	319.1	309.6	302.2	295.5	291.5	291.5	291.5	295.5	302.2
157.5°	342.0	331.9	322.4	315.0	308.3	302.2	298.9	298.2	298.9	302.2	308.3
160°	342.0	333.9	325.8	319.1	314.4	309.0	306.3	306.3	306.3	309.0	314.4
162.5°	341.3	334.6	327.8	322.4	318.4	314.4	312.3	312.3	312.3	314.4	318.4
165°	339.9	335.2	329.8	325.1	322.4	319.1	317.7	318.4	317.7	319.1	322.4
167.5°	339.3	335.2	331.2	327.8	325.8	323.1	322.4	323.1	322.4	323.1	325.8
170°	337.2	334.6	331.2	329.8	328.5	326.5	325.8	327.1	325.8	326.5	328.5
172.5°	336.6	334.6	331.9	331.2	330.5	329.2	329.2	329.8	329.2	329.2	330.5
175°	335.2	333.9	332.5	331.9	331.9	330.5	331.2	331.9	331.2	330.5	331.9
177.5°	334.6	333.2	332.5	332.5	332.5	331.9	332.5	333.2	332.5	331.9	332.5
180°	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5



TEST NUMBER: P832028

CATALOG NUMBER: S123RDIP-S1165D805U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8	3226.8
2.5°	3123.6	3085.9	3048.2	3021.1	2994.0	2960.2	2926.5	2925.2	2923.9	2898.7	2873.6
5°	2938.4	2872.9	2807.4	2743.3	2679.1	2614.9	2550.8	2536.2	2521.7	2499.8	2478.0
7.5°	2774.4	2669.8	2565.3	2483.3	2401.3	2337.1	2272.9	2229.3	2185.6	2151.9	2118.1
10°	2598.4	2468.7	2339.1	2239.9	2140.6	2071.2	2001.7	1951.4	1901.2	1877.4	1853.5
12.5°	2415.8	2274.9	2134.0	2036.8	1939.5	1856.2	1772.8	1727.2	1681.5	1648.5	1615.4
15°	2247.8	2096.3	1944.8	1841.6	1738.4	1660.4	1582.3	1536.7	1491.0	1458.0	1424.9
17.5°	2085.1	1932.3	1779.5	1674.9	1570.4	1499.6	1428.9	1384.5	1340.2	1319.7	1299.2
20°	1936.9	1782.8	1628.6	1530.1	1431.5	1362.0	1292.6	1268.8	1245.0	1225.8	1206.6
22.5°	1790.0	1641.9	1493.7	1399.1	1304.5	1254.2	1203.9	1184.8	1165.6	1151.0	1136.5
25°	1667.0	1519.5	1372.0	1289.3	1206.6	1167.6	1128.5	1116.0	1103.4	1088.8	1074.3
27.5°	1542.6	1402.4	1262.2	1196.0	1129.9	1098.1	1066.3	1050.5	1034.6	1022.7	1010.8
30°	1432.8	1303.2	1173.5	1118.6	1063.7	1035.9	1008.1	990.9	973.7	962.5	951.2
32.5°	1327.0	1211.9	1096.8	1049.8	1002.8	975.7	948.6	932.1	915.5	902.3	889.1
35°	1229.1	1129.2	1029.3	986.3	943.3	916.2	889.1	872.5	856.0	842.8	829.5
37.5°	1143.1	1052.5	961.8	921.5	881.1	857.3	833.5	816.3	799.1	785.2	771.3
40°	1062.4	982.3	902.3	863.3	824.2	798.4	772.6	757.4	742.2	729.6	717.1
42.5°	990.9	917.5	844.1	805.7	767.3	742.9	718.4	700.5	682.7	675.4	668.1
45°	915.5	850.7	785.9	748.8	711.8	686.0	660.2	645.0	629.8	623.1	616.5
47.5°	849.4	789.2	729.0	692.6	656.2	633.1	609.9	598.0	586.1	576.8	567.6
50°	784.5	726.3	668.1	633.1	598.0	578.2	558.3	543.8	529.2	522.6	516.0
52.5°	722.4	669.4	616.5	580.8	545.1	525.9	506.7	494.1	481.6	467.7	453.8
55°	652.2	605.9	559.6	527.9	496.1	476.3	456.4	441.9	427.3	412.8	398.2
57.5°	594.0	548.4	502.7	474.3	445.9	426.7	407.5	391.6	375.7	363.8	351.9
60°	530.5	490.8	451.1	423.4	395.6	377.1	358.5	343.3	328.1	322.2	316.2
62.5°	471.0	433.9	396.9	372.4	348.0	330.1	312.2	302.3	292.4	288.4	284.4
65°	410.1	378.4	346.6	324.1	301.6	286.4	271.2	266.6	262.0	258.6	255.3
67.5°	353.2	326.1	299.0	279.2	259.3	248.7	238.1	232.9	227.6	223.6	219.6
70°	301.6	277.8	254.0	236.8	219.6	209.7	199.8	195.1	190.5	183.2	176.0
72.5°	246.1	227.6	209.0	195.8	182.6	174.0	165.4	156.1	146.9	140.2	133.6
75°	203.7	185.2	166.7	154.1	141.6	131.6	121.7	118.4	115.1	113.1	111.1
77.5°	156.1	140.2	124.4	114.4	104.5	99.9	95.3	93.3	91.3	90.6	90.0
80°	112.5	99.2	86.0	80.7	75.4	74.1	72.8	71.4	70.1	69.5	68.8
82.5°	70.1	63.5	56.9	55.6	54.2	53.6	52.9	52.3	51.6	50.9	50.3
85°	41.0	38.4	35.7	35.1	34.4	33.7	33.1	33.1	33.1	33.1	33.1
87.5°	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	16.5	15.9
90°	7.4	8.8	10.8	12.8	14.8	16.8	16.2	16.8	17.5	18.2	19.5
92.5°	34.3	46.4	68.0	103.7	138.7	125.2	93.6	66.6	51.8	45.1	40.4
95°	61.3	87.5	144.7	245.0	355.4	399.2	323.8	242.3	164.2	128.6	104.3
97.5°	70.7	99.6	156.2	272.6	458.4	613.9	634.8	556.7	420.0	331.2	254.4
100°	80.8	107.0	154.2	253.8	430.8	637.5	770.1	793.6	739.1	660.4	564.8
102.5°	92.2	115.8	156.8	237.6	390.4	593.7	776.8	872.4	883.8	846.1	794.3
105°	105.0	125.9	162.2	231.6	358.8	541.2	734.4	875.1	942.4	955.2	937.7
107.5°	119.1	138.7	171.0	230.2	335.9	494.8	673.8	834.7	940.4	992.9	1011.1
110°	133.3	152.1	182.4	233.6	323.8	456.4	617.3	771.4	895.3	980.1	1027.2



TEST NUMBER: P832028

CATALOG NUMBER: S123RDIP-S1165D805U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	148.1	166.3	193.9	240.3	317.1	430.8	568.1	708.8	836.0	933.7	997.6
115°	162.9	181.1	206.7	247.7	316.4	414.0	530.4	655.0	772.1	871.0	944.4
117.5°	177.7	194.5	220.1	257.1	317.1	402.5	505.5	613.2	716.9	807.8	883.8
120°	191.8	208.7	232.9	267.9	319.7	395.1	486.7	581.6	672.5	753.2	821.2
122.5°	204.6	222.8	246.4	278.0	324.5	390.4	471.2	556.7	636.8	710.2	772.1
125°	217.4	235.6	259.2	288.8	329.2	386.4	458.4	535.2	608.5	673.1	727.0
127.5°	229.5	247.7	270.6	297.5	334.6	384.4	446.3	515.6	582.3	641.5	691.3
130°	240.3	258.5	280.7	306.3	339.9	382.3	436.9	497.5	558.0	612.6	658.3
132.5°	250.4	267.9	289.5	314.4	344.0	381.7	428.1	480.6	535.2	585.0	628.0
135°	259.2	277.3	298.2	321.1	348.0	381.0	420.7	465.8	513.6	557.4	595.7
137.5°	267.2	284.1	304.3	326.5	350.7	379.7	414.0	451.7	492.1	531.1	565.4
140°	274.0	290.8	310.3	330.5	353.4	379.0	407.9	439.6	473.9	506.2	535.2
142.5°	280.7	296.2	315.0	334.6	355.4	377.6	402.5	428.1	456.4	483.3	507.6
145°	286.1	301.6	319.1	337.2	356.1	376.3	397.8	419.4	441.6	463.1	482.6
147.5°	292.8	306.3	322.4	339.3	356.1	374.3	393.1	412.0	430.1	448.3	462.5
150°	298.2	310.3	325.8	339.9	356.1	371.6	388.4	403.9	419.4	433.5	446.3
152.5°	303.6	315.0	327.8	341.3	354.1	368.2	383.0	396.5	409.3	421.4	431.5
155°	309.6	319.1	330.5	341.3	352.7	364.2	377.6	389.1	399.8	409.9	418.0
157.5°	315.0	322.4	331.9	342.0	350.7	360.8	371.6	381.0	390.4	398.5	405.2
160°	319.1	325.8	333.9	342.0	349.4	356.8	365.5	374.3	381.7	388.4	393.1
162.5°	322.4	327.8	334.6	341.3	346.7	352.7	359.5	366.2	372.2	378.3	382.3
165°	325.1	329.8	335.2	339.9	344.0	348.7	354.1	359.5	363.5	368.2	371.6
167.5°	327.8	331.2	335.2	339.3	341.3	344.7	348.7	353.4	356.8	359.5	362.2
170°	329.8	331.2	334.6	337.2	338.6	340.6	344.0	347.3	349.4	352.1	353.4
172.5°	331.2	331.9	334.6	336.6	336.6	337.2	339.3	342.0	343.3	345.3	346.0
175°	331.9	332.5	333.9	335.2	334.6	334.6	335.9	337.2	337.9	339.3	339.3
177.5°	332.5	332.5	333.2	334.6	333.2	332.5	333.2	333.9	334.6	335.2	335.2
180°	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5	332.5



TEST NUMBER: P832028

CATALOG NUMBER: S123RDIP-S1165D805U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	3226.8	3226.8	3226.8	3226.8
2.5°	2867.0	2860.4	2857.7	2855.1
5°	2457.5	2437.0	2432.4	2427.7
7.5°	2109.5	2100.9	2072.5	2044.1
10°	1827.1	1800.6	1788.7	1776.8
12.5°	1590.9	1566.4	1562.5	1558.5
15°	1407.7	1390.5	1384.5	1378.6
17.5°	1287.3	1275.4	1268.1	1260.8
20°	1198.0	1189.4	1184.1	1178.8
22.5°	1129.9	1123.2	1119.3	1115.3
25°	1064.4	1054.4	1051.1	1047.8
27.5°	1002.2	993.6	990.3	987.0
30°	944.0	936.7	932.1	927.4
32.5°	880.5	871.9	869.2	866.6
35°	824.2	818.9	816.3	813.7
37.5°	764.7	758.1	754.1	750.1
40°	713.8	710.5	708.5	706.5
42.5°	662.2	656.2	655.6	654.9
45°	610.6	604.6	603.3	602.0
47.5°	562.3	557.0	556.3	555.7
50°	508.7	501.4	496.1	490.8
52.5°	447.2	440.6	435.9	431.3
55°	391.0	383.7	379.7	375.7
57.5°	348.6	345.3	343.3	341.3
60°	314.2	312.2	310.9	309.6
62.5°	282.5	280.5	280.5	280.5
65°	253.4	251.4	249.4	247.4
67.5°	215.7	211.7	211.0	210.4
70°	170.0	164.1	163.4	162.7
72.5°	133.0	132.3	131.0	129.7
75°	109.8	108.5	108.5	108.5
77.5°	88.6	87.3	87.3	87.3
80°	68.1	67.5	68.1	68.8
82.5°	50.3	50.3	49.6	49.0
85°	32.4	31.8	31.8	31.8
87.5°	15.9	15.9	15.9	15.9
90°	18.8	19.5	20.2	19.5
92.5°	39.0	36.3	37.0	35.7
95°	91.5	85.5	80.8	78.1
97.5°	209.3	183.8	167.6	160.2
100°	496.8	447.6	421.4	422.1
102.5°	745.2	708.8	688.0	668.4
105°	906.7	881.1	859.6	856.2
107.5°	1007.0	994.9	986.2	978.8
110°	1046.1	1051.5	1050.1	1048.8



TEST NUMBER: P832028

CATALOG NUMBER: S123RDIP-S1165D805U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1036.0	1055.5	1062.2	1062.9
115°	994.9	1024.5	1038.0	1041.4
117.5°	936.3	969.3	989.5	994.2
120°	874.4	912.1	928.3	932.3
122.5°	817.9	850.9	869.0	874.4
125°	770.1	799.7	816.5	821.2
127.5°	730.4	755.9	771.4	775.5
130°	694.0	718.2	732.4	737.8
132.5°	661.0	685.3	697.4	700.7
135°	628.7	648.9	661.0	665.7
137.5°	593.7	614.6	624.7	628.7
140°	560.7	579.6	590.3	589.7
142.5°	528.4	544.6	554.0	553.3
145°	499.5	513.6	519.0	520.3
147.5°	475.9	486.0	491.4	492.1
150°	456.4	463.8	467.8	467.8
152.5°	438.9	445.6	447.6	447.6
155°	424.1	429.5	430.8	431.5
157.5°	410.6	414.7	416.0	416.0
160°	397.8	401.9	401.9	401.2
162.5°	385.0	388.4	388.4	387.7
165°	374.3	377.0	376.3	376.3
167.5°	363.5	365.5	364.8	364.8
170°	354.1	355.4	354.7	354.7
172.5°	346.0	347.3	346.0	345.3
175°	339.3	339.9	339.3	338.6
177.5°	334.6	335.2	333.9	333.9
180°	332.5	332.5	332.5	332.5



TEST NUMBER: P832028

CATALOG NUMBER: S123RDIP-S1165D805U935-4F0-1E-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	14.23	15.15	15.07	16.01	17.08	18.89	19.81	19.74	20.67	21.75
	3H	15.45	16.27	16.31	17.15	18.25	20.40	21.22	21.26	22.09	23.19
	4H	15.84	16.61	16.72	17.49	18.60	20.89	21.66	21.77	22.54	23.66
	6H	16.12	16.84	17.01	17.72	18.85	21.21	21.92	22.09	22.80	23.93
	8H	16.21	16.89	17.11	17.79	18.92	21.29	21.96	22.18	22.87	23.99
	12H	16.27	16.91	17.17	17.81	18.96	21.32	21.97	22.22	22.86	24.01
4H	2H	14.96	15.73	15.84	16.61	17.72	18.90	19.67	19.78	20.55	21.66
	3H	16.34	16.98	17.23	17.89	19.02	20.56	21.20	21.45	22.11	23.24
	4H	16.79	17.38	17.70	18.28	19.44	21.17	21.76	22.07	22.66	23.82
	6H	17.17	17.67	18.09	18.60	19.76	21.61	22.12	22.53	23.05	24.20
	8H	17.29	17.76	18.21	18.69	19.86	21.75	22.22	22.67	23.14	24.31
	12H	17.37	17.79	18.31	18.74	19.91	21.81	22.23	22.75	23.18	24.35
8H	4H	17.11	17.58	18.04	18.51	19.68	21.14	21.61	22.06	22.54	23.71
	6H	17.58	17.97	18.53	18.93	20.10	21.64	22.03	22.59	23.00	24.16
	8H	17.78	18.12	18.73	19.07	20.26	21.83	22.17	22.79	23.13	24.31
	12H	17.92	18.22	18.88	19.17	20.40	21.95	22.25	22.91	23.20	24.44
12H	4H	17.13	17.55	18.07	18.49	19.67	21.10	21.52	22.04	22.46	23.64
	6H	17.64	17.98	18.60	18.94	20.13	21.62	21.96	22.57	22.92	24.10
	8H	17.86	18.16	18.82	19.11	20.35	21.82	22.12	22.77	23.06	24.30