

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: P831242

Luminaire Tested: S123DIP-S1165D365U840-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831242
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-17)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D365U840-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

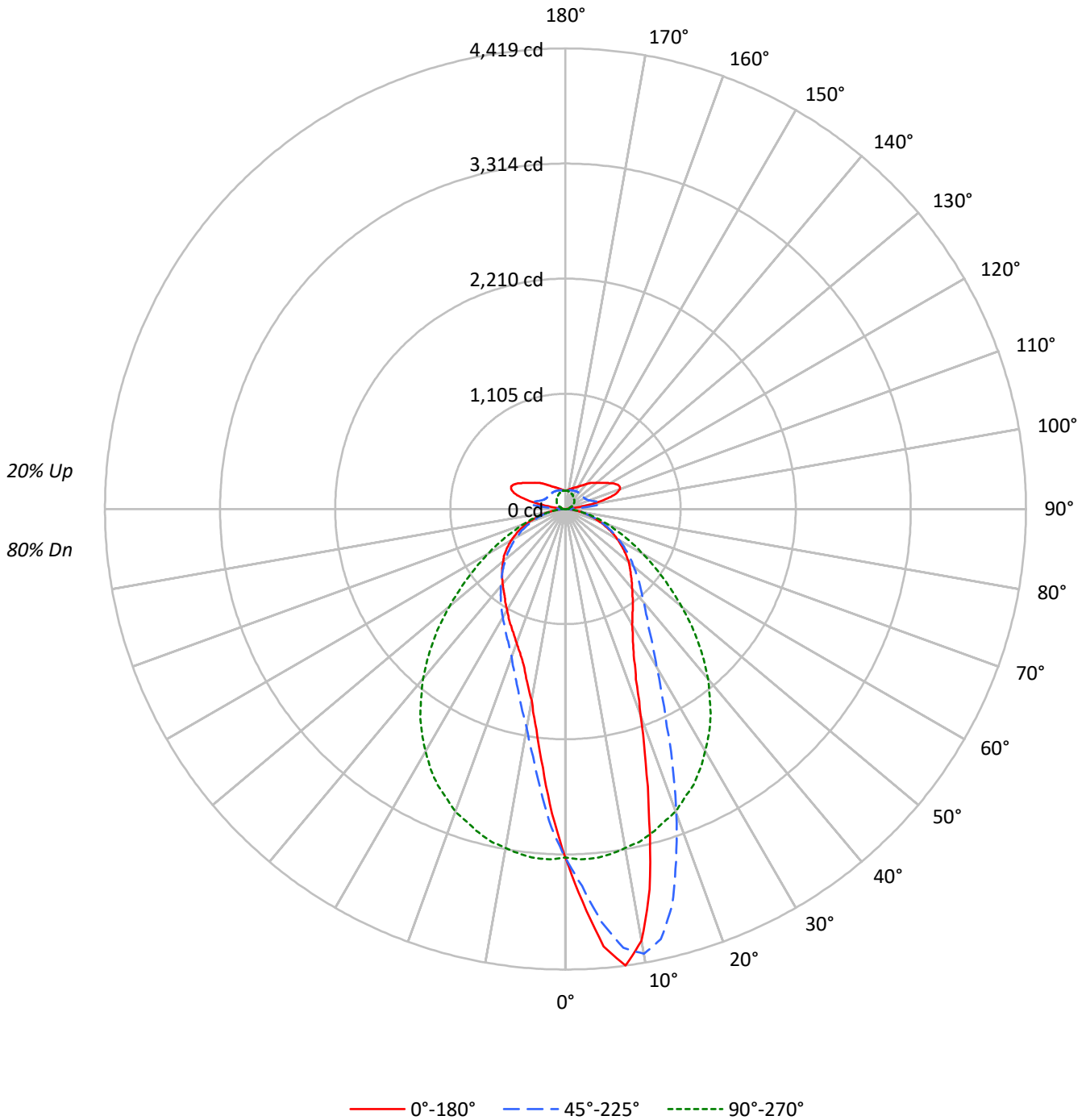
Lumens per Lamp: N/A
Luminaire Lumens: 6704.1 lumens
Efficiency: N/A
Efficacy: 128.4 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Direct

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					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	114	114	114	114	109	109	109	109	100	100	100	92	92	92	84	84	84	84	84	84	80	
1	105	101	97	94	101	97	94	91	89	87	84	82	80	78	75	74	73	73	73	73	69	
2	97	89	83	78	92	86	81	76	79	75	71	73	70	67	68	65	62	62	62	62	59	
3	89	80	72	67	85	77	70	65	71	66	61	66	61	58	61	57	54	54	54	54	52	
4	82	71	64	58	78	69	62	56	64	58	53	59	54	51	55	51	48	48	48	48	45	
5	76	64	56	50	73	62	55	49	58	52	47	54	49	45	50	46	43	43	43	43	40	
6	71	59	50	45	67	57	49	44	53	47	42	49	44	40	46	42	38	38	38	38	36	
7	66	54	46	40	63	52	44	39	49	42	38	46	40	36	43	38	35	35	35	35	32	
8	61	49	41	36	59	48	40	35	45	39	34	42	37	33	40	35	31	31	31	31	29	
9	58	45	38	33	55	44	37	32	42	35	31	39	34	30	37	32	29	29	29	29	27	
10	54	42	35	30	52	41	34	30	39	33	29	37	31	28	35	30	27	27	27	27	25	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	36004	36004	36004	36004	36004
5°	45533	42976	36327	29274	26901
10°	45976	47367	36085	23335	20392
15°	34628	43977	35839	19762	17245
20°	24127	35586	35381	17282	15664
25°	18398	27366	34601	15899	14693
30°	15915	21742	33356	14922	13909
35°	14767	18357	31919	14217	13360
40°	13980	16467	29901	13544	13173
45°	13515	15239	27338	13018	13090
50°	13283	14269	24303	12541	13021
55°	12787	13559	21322	12087	13078
60°	12329	12798	18378	11662	12865
65°	11584	12078	15852	11207	12610
70°	10697	11163	13482	10455	11871
75°	9682	10006	11553	9715	10846
80°	7984	8753	9143	8467	9143
85°	6323	7089	6706	7188	7287

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 31212 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	316.2	4.7
10°-20°	786.7	11.7
20°-30°	931.5	13.9
30°-40°	936.6	14.0
40°-50°	859.3	12.8
50°-60°	709.2	10.6
60°-70°	501.7	7.5
70°-80°	267.8	4.0
80°-90°	68.9	1.0
90°-100°	95.7	1.4
100°-110°	280.1	4.2
110°-120°	273.5	4.1
120°-130°	217.8	3.2
130°-140°	171.9	2.6
140°-150°	128.2	1.9
150°-160°	89.4	1.3
160°-170°	52.5	0.8
170°-180°	17.1	0.3
0°-30°	2034.4	30.3
0°-40°	2971.0	44.3
0°-60°	4539.6	67.7
0°-90°	5378.0	80.2
90°-120°	649.2	9.7
90°-150°	1167.1	17.4
90°-180°	1326.0	19.8
0°-180°	6704.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3345	3345	3345	3345	3345	
5°	4214	3977	3362	2709	2490	402
15°	3107	3946	3216	1773	1548	858
25°	1549	2304	2913	1339	1237	731
35°	1124	1397	2429	1082	1017	706
45°	888	1001	1796	855	860	688
55°	681	722	1136	644	697	610
65°	455	474	622	440	495	452
75°	233	241	278	234	261	245
85°	51	57	54	58	59	57
90°	10	9	1	9	10	9
95°	41	212	12	212	41	67
105°	454	287	41	287	454	453
115°	552	220	73	220	552	538
125°	435	205	102	205	435	394
135°	353	202	119	202	353	274
145°	276	200	136	200	276	175
155°	229	193	154	193	229	107
165°	200	185	169	185	200	57
175°	180	177	176	177	180	17
180°	176	176	176	176	176	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9
2.5°	3770.2	3766.3	3762.5	3743.1	3723.6	3714.3	3705.0	3677.1	3649.1	3618.1	3587.1
5°	4214.1	4225.0	4235.9	4223.4	4211.0	4173.0	4135.0	4084.5	4034.1	3977.4	3920.8
7.5°	4419.0	4425.2	4431.4	4423.7	4415.9	4405.8	4395.7	4350.7	4305.7	4247.5	4189.3
10°	4206.4	4220.3	4234.3	4264.6	4294.8	4329.0	4363.1	4356.9	4350.7	4333.7	4316.6
12.5°	3739.2	3756.2	3773.3	3833.9	3894.4	3972.0	4049.6	4116.3	4183.1	4229.7	4276.2
15°	3107.4	3154.8	3202.1	3257.2	3312.3	3426.4	3540.5	3681.0	3821.4	3946.4	4071.3
17.5°	2559.5	2577.4	2595.2	2654.2	2713.2	2856.8	3000.3	3162.5	3324.7	3532.0	3739.2
20°	2106.3	2122.6	2138.9	2216.5	2294.1	2406.6	2519.2	2701.5	2883.9	3106.7	3329.4
22.5°	1769.5	1795.1	1820.7	1864.2	1907.6	2015.5	2123.4	2285.6	2447.8	2693.8	2939.8
25°	1549.1	1567.7	1586.3	1612.7	1639.1	1725.2	1811.4	1944.9	2078.4	2304.2	2530.0
27.5°	1398.5	1406.3	1414.0	1440.4	1466.8	1522.7	1578.6	1693.4	1808.3	2000.0	2191.7
30°	1280.5	1286.0	1291.4	1314.7	1338.0	1376.0	1414.0	1497.1	1580.1	1749.3	1918.5
32.5°	1198.3	1202.2	1206.0	1223.9	1241.7	1268.9	1296.1	1356.6	1417.1	1556.8	1696.5
35°	1123.8	1126.1	1128.4	1141.6	1154.8	1175.0	1195.2	1241.0	1286.7	1397.0	1507.2
37.5°	1058.6	1061.7	1064.8	1072.5	1080.3	1098.2	1116.0	1152.5	1189.0	1273.6	1358.1
40°	994.9	1000.4	1005.8	1011.2	1016.7	1031.4	1046.2	1074.1	1102.0	1171.9	1241.7
42.5°	940.6	946.0	951.5	953.8	956.1	964.7	973.2	998.8	1024.4	1076.4	1128.4
45°	887.8	890.2	892.5	894.8	897.2	904.1	911.1	933.6	956.1	1001.1	1046.2
47.5°	839.7	839.7	839.7	841.3	842.8	849.0	855.2	871.5	887.8	922.8	957.7
50°	793.2	793.2	793.2	790.8	788.5	792.4	796.3	808.7	821.1	852.1	883.2
52.5°	737.3	737.3	737.3	738.1	738.8	738.8	738.8	749.7	760.6	788.5	816.4
55°	681.4	684.5	687.6	685.3	683.0	684.5	686.1	693.0	700.0	722.5	745.0
57.5°	625.5	627.1	628.6	627.9	627.1	627.9	628.6	634.8	641.0	658.1	675.2
60°	572.7	572.7	572.7	571.2	569.6	571.2	572.7	575.9	579.0	594.5	610.0
62.5°	513.8	514.5	515.3	516.1	516.9	515.3	513.8	517.6	521.5	533.2	544.8
65°	454.8	455.6	456.3	458.7	461.0	459.4	457.9	461.8	465.7	474.2	482.7
67.5°	402.0	400.5	398.9	399.7	400.5	402.8	405.1	405.9	406.7	416.0	425.3
70°	339.9	341.5	343.0	342.3	341.5	342.3	343.0	345.4	347.7	354.7	361.7
72.5°	284.0	284.8	285.6	285.6	285.6	287.2	288.7	291.0	293.4	297.2	301.1
75°	232.8	232.8	232.8	234.4	235.9	236.7	237.5	237.5	237.5	240.6	243.7
77.5°	176.9	180.8	184.7	183.9	183.2	184.7	186.3	188.6	190.9	192.5	194.0
80°	128.8	128.8	128.8	129.6	130.4	132.7	135.0	136.6	138.1	141.2	144.4
82.5°	82.3	83.0	83.8	86.1	88.5	90.0	91.6	93.9	96.2	96.2	96.2
85°	51.2	49.7	48.1	49.7	51.2	52.8	54.3	55.1	55.9	57.4	59.0
87.5°	24.8	24.8	24.8	24.8	24.8	25.6	26.4	26.4	26.4	26.4	26.4
90°	10.3	10.7	10.3	10.0	10.3	9.6	9.3	8.9	8.6	8.9	7.9
92.5°	18.9	19.6	19.3	20.7	21.4	23.9	27.5	35.3	49.6	66.4	73.5
95°	41.4	42.8	45.3	48.5	55.3	68.2	87.1	128.5	171.7	211.6	188.4
97.5°	84.9	88.9	97.4	111.0	134.9	175.6	222.7	295.1	336.5	325.5	243.0
100°	223.8	223.4	237.3	263.4	299.4	350.1	391.8	420.7	408.3	338.0	228.4
102.5°	354.4	364.7	375.8	395.1	421.1	448.6	468.6	462.5	411.8	314.8	207.0
105°	453.9	455.7	467.1	480.7	497.1	506.4	499.6	463.9	389.3	286.9	190.2
107.5°	518.9	522.8	527.4	533.9	536.0	526.4	498.5	442.5	357.2	262.3	178.1
110°	556.0	556.7	557.4	554.6	544.6	519.6	474.6	409.0	327.2	242.0	171.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	563.5	563.1	559.6	549.2	528.9	495.0	443.2	375.8	301.2	228.4	168.1
115°	552.1	550.3	543.2	527.4	500.7	461.8	409.3	347.2	281.2	219.5	167.7
117.5°	527.1	524.6	513.9	496.4	468.6	428.2	380.1	325.1	268.0	213.4	168.1
120°	494.3	492.1	483.6	463.6	435.4	399.3	356.5	308.3	258.0	209.5	169.5
122.5°	463.6	460.7	451.1	433.6	409.3	376.5	337.6	295.1	249.8	207.0	172.0
125°	435.4	432.9	424.0	408.3	385.4	356.9	322.6	283.7	243.0	204.8	174.5
127.5°	411.1	409.0	400.8	387.2	366.5	340.1	308.7	273.4	236.6	203.8	177.4
130°	391.1	388.3	380.8	367.9	349.0	324.7	295.8	263.7	231.6	202.7	180.2
132.5°	371.5	369.7	363.3	350.4	333.0	310.1	283.7	254.8	227.0	202.3	182.4
135°	352.9	350.4	344.0	333.3	315.8	295.5	272.3	247.0	223.0	202.0	184.5
137.5°	333.3	331.2	325.8	314.8	299.8	281.6	260.9	239.5	219.5	201.3	185.9
140°	312.6	313.0	307.3	297.3	283.7	268.4	251.2	233.0	216.3	200.9	187.4
142.5°	293.3	293.7	288.7	280.1	269.1	256.2	242.0	227.0	213.4	200.2	188.4
145°	275.9	275.1	272.3	264.8	255.9	245.5	234.1	222.3	210.9	199.5	188.8
147.5°	260.9	260.5	257.7	252.3	245.2	237.7	228.0	218.4	208.4	198.4	188.8
150°	248.0	248.0	245.9	242.0	236.6	229.8	222.3	214.1	205.9	197.0	188.8
152.5°	237.3	237.3	236.2	232.7	228.8	223.4	217.0	210.2	203.1	195.2	187.7
155°	228.8	228.4	227.7	224.8	221.6	217.3	212.0	206.3	200.2	193.1	187.0
157.5°	220.5	220.5	219.8	217.7	214.8	211.3	207.0	202.0	197.0	191.3	185.9
160°	212.7	213.0	213.0	210.9	208.4	205.9	202.3	198.4	193.8	189.1	185.2
162.5°	205.6	205.9	205.9	204.1	202.7	200.6	197.3	194.1	190.6	187.0	183.8
165°	199.5	199.5	199.8	198.4	197.0	195.2	192.7	190.6	187.7	184.9	182.4
167.5°	193.4	193.4	193.8	192.7	192.0	190.6	189.1	187.4	184.9	182.7	180.9
170°	188.1	188.1	188.4	187.7	187.4	186.6	185.2	184.1	182.4	180.6	179.5
172.5°	183.1	183.4	184.1	183.4	183.4	183.1	182.0	181.3	179.9	178.8	178.4
175°	179.5	179.9	180.2	179.9	179.9	179.9	179.1	178.8	178.1	177.4	177.4
177.5°	177.0	177.0	177.7	177.4	177.7	177.7	177.4	177.0	176.6	176.3	176.6
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9
2.5°	3577.7	3568.4	3534.3	3500.1	3461.3	3422.5	3393.8	3365.1	3322.4	3279.7	3244.8
5°	3877.3	3833.9	3761.7	3689.5	3591.7	3493.9	3428.0	3362.0	3273.5	3185.0	3114.4
7.5°	4114.8	4040.3	3939.4	3838.5	3710.5	3582.4	3461.3	3340.3	3205.2	3070.2	2960.0
10°	4266.1	4215.7	4099.3	3982.9	3811.3	3639.8	3470.6	3301.5	3127.6	2953.8	2807.9
12.5°	4280.9	4285.5	4178.4	4071.3	3877.3	3683.3	3477.6	3272.0	3053.1	2834.3	2664.3
15°	4151.3	4231.2	4172.2	4113.2	3917.7	3722.1	3469.1	3216.1	2963.9	2711.6	2515.3
17.5°	3910.7	4082.2	4090.7	4099.3	3903.7	3708.1	3428.0	3147.8	2862.2	2576.6	2370.2
20°	3582.4	3835.4	3922.3	4009.2	3850.2	3691.1	3389.9	3088.8	2769.1	2449.3	2232.8
22.5°	3247.1	3554.5	3713.6	3872.7	3754.7	3636.7	3316.2	2995.7	2658.1	2320.5	2100.9
25°	2865.3	3200.6	3445.0	3689.5	3617.3	3545.1	3229.3	2913.4	2554.1	2194.8	1970.5
27.5°	2532.4	2873.1	3168.0	3462.9	3447.4	3431.8	3118.3	2804.8	2436.9	2069.0	1852.5
30°	2235.9	2553.3	2883.2	3213.0	3251.0	3289.0	2986.4	2683.7	2315.1	1946.4	1737.7
32.5°	1973.6	2250.6	2604.5	2958.4	3032.9	3107.4	2834.3	2561.1	2196.3	1831.6	1630.6
35°	1758.6	2010.1	2364.0	2717.8	2811.0	2904.1	2666.6	2429.1	2073.7	1718.2	1526.6
37.5°	1568.5	1778.8	2124.1	2469.5	2583.6	2697.7	2485.0	2272.4	1939.4	1606.5	1430.3
40°	1410.9	1580.1	1897.5	2214.9	2346.9	2478.8	2303.4	2128.0	1812.2	1496.3	1334.1
42.5°	1279.0	1429.5	1717.5	2005.4	2131.9	2258.4	2110.2	1961.9	1681.0	1400.1	1251.8
45°	1166.5	1286.7	1548.3	1809.8	1930.1	2050.4	1923.1	1795.9	1548.3	1300.7	1162.6
47.5°	1060.9	1164.1	1387.6	1611.1	1718.2	1825.3	1726.0	1626.7	1417.1	1207.6	1082.6
50°	966.2	1049.3	1244.8	1440.4	1533.5	1626.7	1539.0	1451.3	1279.0	1106.7	998.0
52.5°	884.0	951.5	1115.2	1279.0	1358.9	1438.9	1363.6	1288.3	1151.7	1015.1	920.4
55°	802.5	859.9	1001.9	1143.9	1198.3	1252.6	1194.4	1136.2	1026.0	915.8	835.8
57.5°	726.4	777.6	894.0	1010.5	1052.4	1094.3	1041.5	988.7	905.7	822.6	755.9
60°	651.9	693.8	790.8	887.8	913.5	939.1	896.4	853.7	795.5	737.3	677.5
62.5°	582.8	620.9	693.0	765.2	782.3	799.4	766.8	734.2	689.9	645.7	599.1
65°	511.4	540.2	599.1	658.1	669.0	679.8	651.1	622.4	589.0	555.7	521.5
67.5°	445.5	465.7	513.8	561.9	562.7	563.4	540.2	516.9	498.2	479.6	452.5
70°	381.1	400.5	432.3	464.1	464.9	465.7	447.0	428.4	414.4	400.5	380.3
72.5°	315.1	329.1	353.1	377.2	375.6	374.1	362.4	350.8	339.9	329.1	314.3
75°	255.3	267.0	283.3	299.6	294.9	290.3	284.0	277.8	268.5	259.2	249.9
77.5°	201.0	208.0	217.3	226.6	223.5	220.4	215.0	209.5	202.6	195.6	191.7
80°	147.5	150.6	156.8	163.0	161.4	159.9	153.7	147.5	145.9	144.4	138.9
82.5°	100.1	104.0	105.5	107.1	106.3	105.5	100.9	96.2	94.7	93.1	92.4
85°	59.8	60.5	61.3	62.1	59.8	57.4	55.9	54.3	54.3	54.3	53.5
87.5°	27.2	27.9	27.9	27.9	27.2	26.4	24.8	23.3	24.1	24.8	24.8
90°	6.8	5.7	4.6	3.9	3.2	2.1	1.4	0.7	1.4	2.1	3.2
92.5°	55.0	36.0	24.6	18.2	14.6	11.4	7.9	5.4	7.9	11.4	14.6
95°	129.9	76.7	46.4	32.5	23.2	17.1	13.2	12.1	13.2	17.1	23.2
97.5°	144.5	82.8	52.8	37.5	28.2	22.8	19.6	19.3	19.6	22.8	28.2
100°	134.5	81.7	56.7	42.8	34.3	29.3	26.8	26.4	26.8	29.3	34.3
102.5°	126.0	83.2	61.4	48.9	41.4	36.8	34.6	33.9	34.6	36.8	41.4
105°	122.8	86.0	66.7	55.7	48.9	44.6	42.5	41.4	42.5	44.6	48.9
107.5°	122.0	90.6	73.5	63.2	56.7	52.5	50.3	49.2	50.3	52.5	56.7
110°	123.8	96.7	80.7	70.7	64.6	60.7	58.9	57.8	58.9	60.7	64.6



TEST NUMBER: P831242

CATALOG NUMBER: S123DIP-S1165D365U840-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	127.4	102.8	88.1	78.5	72.4	68.5	66.7	65.7	66.7	68.5	72.4
115°	131.3	109.6	96.0	86.4	80.3	76.7	74.6	73.2	74.6	76.7	80.3
117.5°	136.3	116.7	103.1	94.2	87.4	84.2	82.4	80.7	82.4	84.2	87.4
120°	142.0	123.5	110.6	101.7	94.9	91.4	89.6	88.5	89.6	91.4	94.9
122.5°	147.4	130.6	118.1	108.5	102.1	98.1	96.4	95.3	96.4	98.1	102.1
125°	153.1	137.4	124.9	115.3	108.5	104.6	102.4	101.7	102.4	104.6	108.5
127.5°	157.7	143.5	131.3	121.7	114.2	110.3	107.8	106.7	107.8	110.3	114.2
130°	162.4	148.8	137.0	127.4	119.9	115.6	112.4	111.3	112.4	115.6	119.9
132.5°	166.7	153.5	142.0	132.8	125.3	119.9	116.3	114.9	116.3	119.9	125.3
135°	170.2	158.1	147.0	137.4	129.9	124.5	120.6	119.2	120.6	124.5	129.9
137.5°	173.1	161.3	150.6	141.7	134.2	128.5	124.5	123.1	124.5	128.5	134.2
140°	175.2	164.5	154.2	145.2	138.1	132.4	128.8	127.0	128.8	132.4	138.1
142.5°	177.4	167.0	157.0	148.8	141.7	136.7	132.8	131.3	132.8	136.7	141.7
145°	178.8	169.2	159.9	151.7	145.6	140.2	137.0	136.0	137.0	140.2	145.6
147.5°	179.9	170.9	162.4	155.2	149.2	144.5	141.3	140.6	141.3	144.5	149.2
150°	180.2	172.7	164.5	158.1	153.1	148.5	145.6	145.2	145.6	148.5	153.1
152.5°	180.9	173.8	167.0	160.9	156.7	152.7	149.9	149.9	149.9	152.7	156.7
155°	180.9	175.2	169.2	164.2	160.2	156.7	154.5	154.5	154.5	156.7	160.2
157.5°	181.3	175.9	170.9	167.0	163.4	160.2	158.4	158.1	158.4	160.2	163.4
160°	181.3	177.0	172.7	169.2	166.7	163.8	162.4	162.4	162.4	163.8	166.7
162.5°	180.9	177.4	173.8	170.9	168.8	166.7	165.6	165.6	165.6	166.7	168.8
165°	180.2	177.7	174.9	172.4	170.9	169.2	168.4	168.8	168.4	169.2	170.9
167.5°	179.9	177.7	175.6	173.8	172.7	171.3	170.9	171.3	170.9	171.3	172.7
170°	178.8	177.4	175.6	174.9	174.2	173.1	172.7	173.4	172.7	173.1	174.2
172.5°	178.4	177.4	175.9	175.6	175.2	174.5	174.5	174.9	174.5	174.5	175.2
175°	177.7	177.0	176.3	175.9	175.9	175.2	175.6	175.9	175.6	175.2	175.9
177.5°	177.4	176.6	176.3	176.3	176.3	175.9	176.3	176.6	176.3	175.9	176.3
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3



TEST NUMBER: P831242

CATALOG NUMBER: S123DIP-S1165D365U840-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9	3344.9
2.5°	3209.9	3179.6	3149.3	3126.1	3102.8	3063.2	3023.6	3014.3	3005.0	2991.8	2978.6
5°	3043.8	2969.3	2894.8	2828.0	2761.3	2709.3	2657.3	2623.2	2589.0	2564.2	2539.3
7.5°	2849.8	2738.0	2626.3	2547.1	2467.9	2392.7	2317.4	2293.3	2269.3	2236.7	2204.1
10°	2662.0	2538.6	2415.2	2312.0	2208.7	2135.0	2061.3	2031.8	2002.3	1961.2	1920.0
12.5°	2494.3	2359.3	2224.3	2120.3	2016.3	1944.9	1873.5	1830.8	1788.1	1764.8	1741.5
15°	2318.9	2174.6	2030.2	1934.0	1837.8	1773.4	1708.9	1671.7	1634.4	1611.9	1589.4
17.5°	2163.7	2020.9	1878.1	1785.8	1693.4	1634.4	1575.4	1542.9	1510.3	1493.2	1476.1
20°	2016.3	1876.6	1736.9	1646.8	1556.8	1508.7	1460.6	1439.6	1418.7	1404.7	1390.7
22.5°	1881.2	1743.9	1606.5	1529.7	1452.8	1414.0	1375.2	1360.5	1345.7	1334.1	1322.4
25°	1746.2	1623.6	1500.9	1435.8	1370.6	1338.7	1306.9	1292.2	1277.4	1265.8	1254.2
27.5°	1636.0	1518.8	1401.6	1345.7	1289.9	1265.0	1240.2	1228.5	1216.9	1206.0	1195.2
30°	1528.9	1424.1	1319.3	1271.2	1223.1	1200.6	1178.1	1166.5	1154.8	1144.7	1134.6
32.5°	1429.5	1339.5	1249.5	1205.3	1161.0	1142.4	1123.8	1109.8	1095.8	1088.1	1080.3
35°	1334.9	1254.2	1173.4	1137.0	1100.5	1081.9	1063.2	1051.6	1040.0	1033.7	1027.5
37.5°	1254.2	1182.0	1109.8	1074.9	1040.0	1022.1	1004.3	994.2	984.1	981.7	979.4
40°	1171.9	1109.8	1047.7	1013.6	979.4	963.9	948.4	942.2	936.0	934.4	932.9
42.5°	1103.6	1043.1	982.5	951.5	920.4	907.2	894.0	890.9	887.8	890.2	892.5
45°	1024.4	974.0	923.5	894.8	866.1	855.2	844.4	842.1	839.7	844.4	849.0
47.5°	957.7	911.1	864.6	837.4	810.2	802.5	794.7	793.9	793.2	799.4	805.6
50°	889.4	844.4	799.4	777.6	755.9	748.9	741.9	744.3	746.6	756.7	766.8
52.5°	825.8	783.8	741.9	721.8	701.6	696.9	692.3	697.7	703.1	714.0	724.9
55°	755.9	717.9	679.8	664.3	648.8	644.1	639.5	650.4	661.2	671.3	681.4
57.5°	689.2	655.8	622.4	608.4	594.5	593.7	592.9	603.0	613.1	624.0	634.8
60°	617.8	589.8	561.9	551.0	540.2	541.7	543.3	554.9	566.5	575.1	583.6
62.5°	552.6	529.3	506.0	495.9	485.8	489.7	493.6	505.2	516.9	527.0	537.0
65°	487.4	468.0	448.6	441.6	434.6	440.0	445.5	455.6	465.7	472.6	479.6
67.5°	425.3	409.0	392.7	387.3	381.8	387.3	392.7	402.8	412.9	419.9	426.8
70°	360.1	346.9	333.7	329.8	326.0	332.2	338.4	346.9	355.4	362.4	369.4
72.5°	299.6	289.5	279.4	278.6	277.8	283.3	288.7	297.2	305.8	310.4	315.1
75°	240.6	235.2	229.7	228.9	228.2	233.6	239.0	243.7	248.3	252.2	256.1
77.5°	187.8	183.2	178.5	179.3	180.1	183.9	187.8	192.5	197.1	199.5	201.8
80°	133.5	131.9	130.4	131.9	133.5	136.6	139.7	142.8	145.9	147.5	149.0
82.5°	91.6	90.0	88.5	90.8	93.1	95.5	97.8	100.1	102.4	103.2	104.0
85°	52.8	55.1	57.4	57.4	57.4	58.2	59.0	59.8	60.5	59.8	59.0
87.5°	24.8	25.6	26.4	26.4	26.4	27.2	27.9	27.9	27.9	27.2	26.4
90°	3.9	4.6	5.7	6.8	7.9	8.9	8.6	8.9	9.3	9.6	10.3
92.5°	18.2	24.6	36.0	55.0	73.5	66.4	49.6	35.3	27.5	23.9	21.4
95°	32.5	46.4	76.7	129.9	188.4	211.6	171.7	128.5	87.1	68.2	55.3
97.5°	37.5	52.8	82.8	144.5	243.0	325.5	336.5	295.1	222.7	175.6	134.9
100°	42.8	56.7	81.7	134.5	228.4	338.0	408.3	420.7	391.8	350.1	299.4
102.5°	48.9	61.4	83.2	126.0	207.0	314.8	411.8	462.5	468.6	448.6	421.1
105°	55.7	66.7	86.0	122.8	190.2	286.9	389.3	463.9	499.6	506.4	497.1
107.5°	63.2	73.5	90.6	122.0	178.1	262.3	357.2	442.5	498.5	526.4	536.0
110°	70.7	80.7	96.7	123.8	171.7	242.0	327.2	409.0	474.6	519.6	544.6



TEST NUMBER: P831242

CATALOG NUMBER: S123DIP-S1165D365U840-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	78.5	88.1	102.8	127.4	168.1	228.4	301.2	375.8	443.2	495.0	528.9
115°	86.4	96.0	109.6	131.3	167.7	219.5	281.2	347.2	409.3	461.8	500.7
117.5°	94.2	103.1	116.7	136.3	168.1	213.4	268.0	325.1	380.1	428.2	468.6
120°	101.7	110.6	123.5	142.0	169.5	209.5	258.0	308.3	356.5	399.3	435.4
122.5°	108.5	118.1	130.6	147.4	172.0	207.0	249.8	295.1	337.6	376.5	409.3
125°	115.3	124.9	137.4	153.1	174.5	204.8	243.0	283.7	322.6	356.9	385.4
127.5°	121.7	131.3	143.5	157.7	177.4	203.8	236.6	273.4	308.7	340.1	366.5
130°	127.4	137.0	148.8	162.4	180.2	202.7	231.6	263.7	295.8	324.7	349.0
132.5°	132.8	142.0	153.5	166.7	182.4	202.3	227.0	254.8	283.7	310.1	333.0
135°	137.4	147.0	158.1	170.2	184.5	202.0	223.0	247.0	272.3	295.5	315.8
137.5°	141.7	150.6	161.3	173.1	185.9	201.3	219.5	239.5	260.9	281.6	299.8
140°	145.2	154.2	164.5	175.2	187.4	200.9	216.3	233.0	251.2	268.4	283.7
142.5°	148.8	157.0	167.0	177.4	188.4	200.2	213.4	227.0	242.0	256.2	269.1
145°	151.7	159.9	169.2	178.8	188.8	199.5	210.9	222.3	234.1	245.5	255.9
147.5°	155.2	162.4	170.9	179.9	188.8	198.4	208.4	218.4	228.0	237.7	245.2
150°	158.1	164.5	172.7	180.2	188.8	197.0	205.9	214.1	222.3	229.8	236.6
152.5°	160.9	167.0	173.8	180.9	187.7	195.2	203.1	210.2	217.0	223.4	228.8
155°	164.2	169.2	175.2	180.9	187.0	193.1	200.2	206.3	212.0	217.3	221.6
157.5°	167.0	170.9	175.9	181.3	185.9	191.3	197.0	202.0	207.0	211.3	214.8
160°	169.2	172.7	177.0	181.3	185.2	189.1	193.8	198.4	202.3	205.9	208.4
162.5°	170.9	173.8	177.4	180.9	183.8	187.0	190.6	194.1	197.3	200.6	202.7
165°	172.4	174.9	177.7	180.2	182.4	184.9	187.7	190.6	192.7	195.2	197.0
167.5°	173.8	175.6	177.7	179.9	180.9	182.7	184.9	187.4	189.1	190.6	192.0
170°	174.9	175.6	177.4	178.8	179.5	180.6	182.4	184.1	185.2	186.6	187.4
172.5°	175.6	175.9	177.4	178.4	178.4	178.8	179.9	181.3	182.0	183.1	183.4
175°	175.9	176.3	177.0	177.7	177.4	177.4	178.1	178.8	179.1	179.9	179.9
177.5°	176.3	176.3	176.6	177.4	176.6	176.3	176.6	177.0	177.4	177.7	177.7
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3

TEST NUMBER: P831242

CATALOG NUMBER: S123DIP-S1165D365U840-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	3344.9	3344.9	3344.9	3344.9
2.5°	2973.2	2967.7	2946.0	2924.3
5°	2520.7	2502.1	2495.9	2489.7
7.5°	2202.5	2201.0	2168.4	2135.8
10°	1922.4	1924.7	1895.2	1865.7
12.5°	1722.1	1702.7	1700.4	1698.1
15°	1571.6	1553.7	1550.6	1547.5
17.5°	1465.2	1454.4	1451.3	1448.2
20°	1384.5	1378.3	1372.9	1367.5
22.5°	1314.7	1306.9	1302.3	1297.6
25°	1247.2	1240.2	1238.6	1237.1
27.5°	1186.6	1178.1	1178.1	1178.1
30°	1129.2	1123.8	1121.4	1119.1
32.5°	1075.7	1071.0	1071.0	1071.0
35°	1025.2	1022.9	1019.8	1016.7
37.5°	979.4	979.4	977.9	976.3
40°	935.2	937.5	937.5	937.5
42.5°	894.8	897.2	897.2	897.2
45°	852.9	856.8	858.3	859.9
47.5°	811.8	818.0	819.5	821.1
50°	771.4	776.1	776.9	777.6
52.5°	730.3	735.7	739.6	743.5
55°	686.8	692.3	694.6	696.9
57.5°	640.3	645.7	646.5	647.3
60°	589.0	594.5	596.0	597.6
62.5°	540.2	543.3	544.8	546.4
65°	484.3	488.9	492.0	495.1
67.5°	430.7	434.6	434.6	434.6
70°	371.0	372.5	374.8	377.2
72.5°	315.9	316.6	316.6	316.6
75°	257.7	259.2	260.0	260.8
77.5°	202.6	203.3	203.3	203.3
80°	148.2	147.5	147.5	147.5
82.5°	101.7	99.3	99.3	99.3
85°	58.2	57.4	58.2	59.0
87.5°	26.4	26.4	26.4	26.4
90°	10.0	10.3	10.7	10.3
92.5°	20.7	19.3	19.6	18.9
95°	48.5	45.3	42.8	41.4
97.5°	111.0	97.4	88.9	84.9
100°	263.4	237.3	223.4	223.8
102.5°	395.1	375.8	364.7	354.4
105°	480.7	467.1	455.7	453.9
107.5°	533.9	527.4	522.8	518.9
110°	554.6	557.4	556.7	556.0



TEST NUMBER: P831242

CATALOG NUMBER: S123DIP-S1165D365U840-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	549.2	559.6	563.1	563.5
115°	527.4	543.2	550.3	552.1
117.5°	496.4	513.9	524.6	527.1
120°	463.6	483.6	492.1	494.3
122.5°	433.6	451.1	460.7	463.6
125°	408.3	424.0	432.9	435.4
127.5°	387.2	400.8	409.0	411.1
130°	367.9	380.8	388.3	391.1
132.5°	350.4	363.3	369.7	371.5
135°	333.3	344.0	350.4	352.9
137.5°	314.8	325.8	331.2	333.3
140°	297.3	307.3	313.0	312.6
142.5°	280.1	288.7	293.7	293.3
145°	264.8	272.3	275.1	275.9
147.5°	252.3	257.7	260.5	260.9
150°	242.0	245.9	248.0	248.0
152.5°	232.7	236.2	237.3	237.3
155°	224.8	227.7	228.4	228.8
157.5°	217.7	219.8	220.5	220.5
160°	210.9	213.0	213.0	212.7
162.5°	204.1	205.9	205.9	205.6
165°	198.4	199.8	199.5	199.5
167.5°	192.7	193.8	193.4	193.4
170°	187.7	188.4	188.1	188.1
172.5°	183.4	184.1	183.4	183.1
175°	179.9	180.2	179.9	179.5
177.5°	177.4	177.7	177.0	177.0
180°	176.3	176.3	176.3	176.3

TEST NUMBER: P831242

CATALOG NUMBER: S123DIP-S1165D365U840-4F0-1E-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	18.49	19.64	19.14	20.30	21.07	20.73	21.88	21.38	22.54	23.30
	3H	20.16	21.19	20.83	21.86	22.66	22.17	23.20	22.84	23.88	24.68
	4H	20.75	21.72	21.44	22.40	23.22	22.64	23.61	23.32	24.29	25.10
	6H	21.13	22.03	21.83	22.72	23.55	22.93	23.82	23.62	24.51	25.34
	8H	21.24	22.09	21.95	22.80	23.63	23.00	23.85	23.71	24.56	25.39
	12H	21.29	22.10	22.01	22.81	23.67	23.02	23.84	23.74	24.54	25.40
4H	2H	19.10	20.07	19.79	20.75	21.57	20.92	21.89	21.61	22.58	23.39
	3H	20.95	21.76	21.65	22.48	23.31	22.57	23.37	23.27	24.10	24.93
	4H	21.66	22.39	22.38	23.12	23.98	23.16	23.89	23.88	24.62	25.48
	6H	22.15	22.78	22.89	23.53	24.41	23.58	24.21	24.32	24.96	25.84
	8H	22.29	22.88	23.04	23.63	24.51	23.70	24.29	24.44	25.04	25.92
	12H	22.37	22.90	23.13	23.67	24.56	23.76	24.29	24.52	25.06	25.94
8H	4H	21.95	22.54	22.69	23.29	24.17	23.29	23.88	24.03	24.63	25.51
	6H	22.55	23.03	23.32	23.82	24.71	23.80	24.29	24.57	25.08	25.96
	8H	22.76	23.19	23.54	23.98	24.88	23.98	24.42	24.77	25.21	26.11
	12H	22.89	23.27	23.68	24.05	25.02	24.10	24.48	24.88	25.26	26.22
12H	4H	21.96	22.49	22.72	23.26	24.15	23.28	23.81	24.04	24.58	25.46
	6H	22.60	23.03	23.38	23.82	24.72	23.82	24.25	24.60	25.04	25.94
	8H	22.85	23.23	23.63	24.01	24.97	24.03	24.41	24.81	25.19	26.15