

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: P831239

Luminaire Tested: S123DIP-S1165D365U835-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831239
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-S1165D365U835-4F0-1E-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

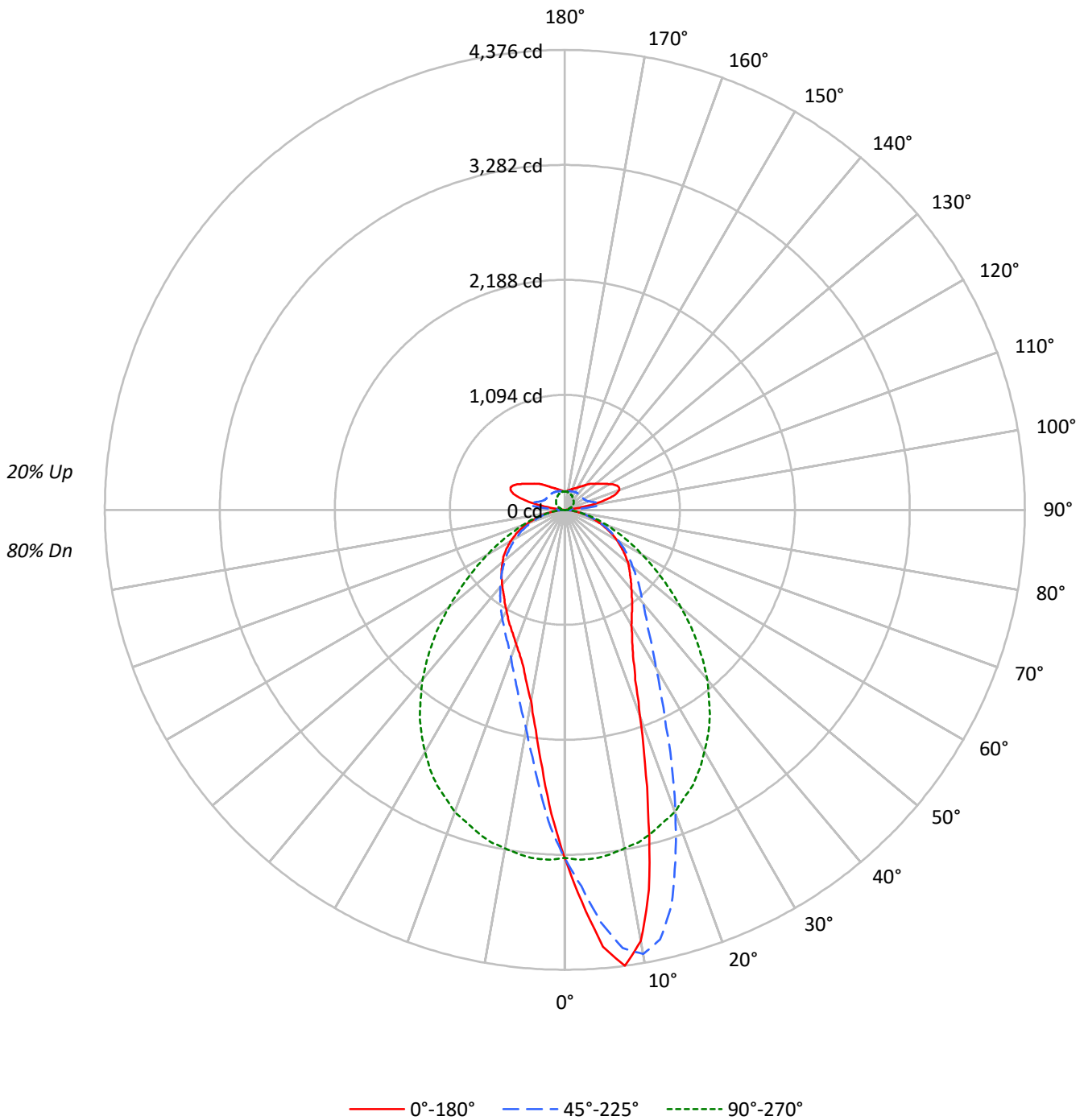
Lumens per Lamp: N/A
Luminaire Lumens: 6638.6 lumens
Efficiency: N/A
Efficacy: 127.2 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	35652	35652	35652	35652	35652
5°	45089	42557	35971	28988	26639
10°	45527	46904	35732	23107	20193
15°	34290	43547	35489	19568	17076
20°	23891	35238	35035	17113	15511
25°	18218	27099	34264	15745	14549
30°	15760	21530	33030	14777	13774
35°	14623	18177	31608	14077	13228
40°	13843	16305	29609	13412	13045
45°	13384	15092	27070	12892	12962
50°	13152	14130	24065	12419	12894
55°	12662	13427	21114	11971	12951
60°	12211	12673	18200	11548	12738
65°	11469	11961	15697	11097	12488
70°	10593	11053	13350	10351	11755
75°	9590	9906	11441	9619	10738
80°	7910	8672	9050	8387	9050
85°	6262	7027	6644	7114	7213

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 30908 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	313.1	4.7
10°-20°	779.0	11.7
20°-30°	922.4	13.9
30°-40°	927.4	14.0
40°-50°	850.9	12.8
50°-60°	702.3	10.6
60°-70°	496.8	7.5
70°-80°	265.2	4.0
80°-90°	68.3	1.0
90°-100°	94.7	1.4
100°-110°	277.3	4.2
110°-120°	270.8	4.1
120°-130°	215.7	3.2
130°-140°	170.2	2.6
140°-150°	126.9	1.9
150°-160°	88.5	1.3
160°-170°	52.0	0.8
170°-180°	16.9	0.3
0°-30°	2014.6	30.3
0°-40°	2942.0	44.3
0°-60°	4495.2	67.7
0°-90°	5325.5	80.2
90°-120°	642.9	9.7
90°-150°	1155.7	17.4
90°-180°	1313.0	19.8
0°-180°	6638.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3312	3312	3312	3312	3312	
5°	4173	3939	3329	2683	2465	398
15°	3077	3908	3185	1756	1532	850
25°	1534	2282	2885	1326	1225	724
35°	1113	1383	2405	1071	1007	699
45°	879	991	1778	847	852	681
55°	675	716	1125	638	690	604
65°	450	470	616	436	490	447
75°	231	238	275	231	258	242
85°	51	57	54	58	58	57
90°	10	9	1	9	10	9
95°	41	210	12	210	41	67
105°	450	284	41	284	450	448
115°	547	217	72	217	547	533
125°	431	203	101	203	431	390
135°	350	200	118	200	350	271
145°	273	198	135	198	273	173
155°	226	191	153	191	226	106
165°	198	183	167	183	198	56
175°	178	176	174	176	178	17
180°	175	175	175	175	175	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2
2.5°	3733.4	3729.5	3725.7	3706.5	3687.3	3678.0	3668.8	3641.2	3613.5	3582.8	3552.0
5°	4173.0	4183.7	4194.5	4182.2	4169.9	4132.2	4094.6	4044.6	3994.7	3938.6	3882.5
7.5°	4375.8	4382.0	4388.1	4380.5	4372.8	4362.8	4352.8	4308.2	4263.6	4206.0	4148.4
10°	4165.3	4179.1	4192.9	4222.9	4252.9	4286.7	4320.5	4314.4	4308.2	4291.3	4274.4
12.5°	3702.6	3719.5	3736.5	3796.4	3856.3	3933.2	4010.0	4076.1	4142.2	4188.3	4234.4
15°	3077.1	3124.0	3170.8	3225.4	3280.0	3392.9	3505.9	3645.0	3784.1	3907.8	4031.6
17.5°	2534.5	2552.2	2569.9	2628.3	2686.7	2828.9	2971.0	3131.6	3292.3	3497.5	3702.6
20°	2085.7	2101.9	2118.0	2194.8	2271.7	2383.1	2494.6	2675.2	2855.8	3076.3	3296.9
22.5°	1752.2	1777.5	1802.9	1845.9	1889.0	1995.8	2102.6	2263.2	2423.9	2667.5	2911.1
25°	1533.9	1552.4	1570.8	1596.9	1623.1	1708.4	1793.7	1925.9	2058.0	2281.7	2505.3
27.5°	1384.8	1392.5	1400.2	1426.3	1452.5	1507.8	1563.1	1676.9	1790.6	1980.4	2170.2
30°	1268.0	1273.4	1278.8	1301.8	1324.9	1362.6	1400.2	1482.4	1564.7	1732.2	1899.7
32.5°	1186.6	1190.4	1194.3	1211.9	1229.6	1256.5	1283.4	1343.3	1403.3	1541.6	1679.9
35°	1112.8	1115.1	1117.4	1130.5	1143.5	1163.5	1183.5	1228.8	1274.2	1383.3	1492.4
37.5°	1048.2	1051.3	1054.4	1062.1	1069.8	1087.4	1105.1	1141.2	1177.3	1261.1	1344.9
40°	985.2	990.6	996.0	1001.4	1006.7	1021.3	1035.9	1063.6	1091.3	1160.4	1229.6
42.5°	931.4	936.8	942.2	944.5	946.8	955.2	963.7	989.1	1014.4	1065.9	1117.4
45°	879.2	881.5	883.8	886.1	888.4	895.3	902.2	924.5	946.8	991.4	1035.9
47.5°	831.5	831.5	831.5	833.1	834.6	840.7	846.9	863.0	879.2	913.7	948.3
50°	785.4	785.4	785.4	783.1	780.8	784.6	788.5	800.8	813.1	843.8	874.6
52.5°	730.1	730.1	730.1	730.8	731.6	731.6	731.6	742.4	753.1	780.8	808.5
55°	674.7	677.8	680.9	678.6	676.3	677.8	679.4	686.3	693.2	715.5	737.8
57.5°	619.4	620.9	622.5	621.7	620.9	621.7	622.5	628.6	634.8	651.7	668.6
60°	567.2	567.2	567.2	565.6	564.1	565.6	567.2	570.2	573.3	588.7	604.0
62.5°	508.7	509.5	510.3	511.1	511.8	510.3	508.7	512.6	516.4	528.0	539.5
65°	450.3	451.1	451.9	454.2	456.5	455.0	453.4	457.3	461.1	469.6	478.0
67.5°	398.1	396.5	395.0	395.8	396.5	398.9	401.2	401.9	402.7	411.9	421.1
70°	336.6	338.1	339.7	338.9	338.1	338.9	339.7	342.0	344.3	351.2	358.1
72.5°	281.3	282.0	282.8	282.8	282.8	284.3	285.9	288.2	290.5	294.3	298.2
75°	230.6	230.6	230.6	232.1	233.6	234.4	235.2	235.2	235.2	238.2	241.3
77.5°	175.2	179.1	182.9	182.1	181.4	182.9	184.4	186.7	189.1	190.6	192.1
80°	127.6	127.6	127.6	128.3	129.1	131.4	133.7	135.3	136.8	139.9	142.9
82.5°	81.5	82.2	83.0	85.3	87.6	89.1	90.7	93.0	95.3	95.3	95.3
85°	50.7	49.2	47.6	49.2	50.7	52.3	53.8	54.6	55.3	56.9	58.4
87.5°	24.6	24.6	24.6	24.6	24.6	25.4	26.1	26.1	26.1	26.1	26.1
90°	10.2	10.6	10.2	9.9	10.2	9.5	9.2	8.8	8.5	8.8	7.8
92.5°	18.7	19.4	19.1	20.5	21.2	23.7	27.2	35.0	49.1	65.7	72.8
95°	41.0	42.4	44.9	48.1	54.8	67.5	86.2	127.2	170.0	209.6	186.6
97.5°	84.1	88.0	96.5	109.9	133.6	173.9	220.5	292.2	333.2	322.3	240.7
100°	221.6	221.2	235.0	260.8	296.5	346.7	388.0	416.6	404.3	334.7	226.2
102.5°	350.9	361.2	372.1	391.2	417.0	444.2	464.0	458.0	407.8	311.7	205.0
105°	449.5	451.3	462.6	476.0	492.3	501.4	494.7	459.4	385.5	284.1	188.4
107.5°	513.8	517.7	522.3	528.7	530.8	521.2	493.7	438.2	353.7	259.7	176.3
110°	550.6	551.3	552.0	549.2	539.3	514.5	470.0	405.0	324.1	239.6	170.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	558.0	557.6	554.1	543.9	523.7	490.1	438.9	372.1	298.3	226.2	166.4
115°	546.7	544.9	537.8	522.3	495.8	457.3	405.3	343.8	278.5	217.3	166.1
117.5°	521.9	519.5	508.9	491.6	464.0	424.1	376.4	321.9	265.4	211.3	166.4
120°	489.4	487.3	478.8	459.0	431.1	395.4	353.0	305.3	255.5	207.4	167.9
122.5°	459.0	456.2	446.7	429.4	405.3	372.8	334.3	292.2	247.4	205.0	170.3
125°	431.1	428.7	419.8	404.3	381.7	353.4	319.5	280.9	240.7	202.8	172.8
127.5°	407.1	405.0	396.8	383.4	362.9	336.8	305.7	270.7	234.3	201.8	175.6
130°	387.3	384.5	377.1	364.3	345.6	321.6	293.0	261.1	229.3	200.7	178.5
132.5°	367.9	366.1	359.7	347.0	329.7	307.1	280.9	252.3	224.8	200.4	180.6
135°	349.5	347.0	340.7	330.1	312.7	292.6	269.6	244.5	220.9	200.0	182.7
137.5°	330.1	327.9	322.6	311.7	296.8	278.8	258.3	237.1	217.3	199.3	184.1
140°	309.6	309.9	304.3	294.4	280.9	265.7	248.8	230.8	214.1	199.0	185.5
142.5°	290.5	290.8	285.9	277.4	266.4	253.7	239.6	224.8	211.3	198.2	186.6
145°	273.2	272.5	269.6	262.2	253.4	243.1	231.8	220.2	208.8	197.5	186.9
147.5°	258.3	258.0	255.1	249.8	242.8	235.4	225.8	216.3	206.4	196.5	186.9
150°	245.6	245.6	243.5	239.6	234.3	227.6	220.2	212.0	203.9	195.1	186.9
152.5°	235.0	235.0	233.9	230.4	226.5	221.2	214.9	208.1	201.1	193.3	185.9
155°	226.5	226.2	225.5	222.6	219.4	215.2	209.9	204.3	198.2	191.2	185.2
157.5°	218.4	218.4	217.7	215.6	212.7	209.2	205.0	200.0	195.1	189.4	184.1
160°	210.6	211.0	211.0	208.8	206.4	203.9	200.4	196.5	191.9	187.3	183.4
162.5°	203.5	203.9	203.9	202.1	200.7	198.6	195.4	192.2	188.7	185.2	182.0
165°	197.5	197.5	197.9	196.5	195.1	193.3	190.8	188.7	185.9	183.1	180.6
167.5°	191.5	191.5	191.9	190.8	190.1	188.7	187.3	185.5	183.1	180.9	179.2
170°	186.2	186.2	186.6	185.9	185.5	184.8	183.4	182.3	180.6	178.8	177.8
172.5°	181.3	181.6	182.3	181.6	181.6	181.3	180.2	179.5	178.1	177.0	176.7
175°	177.8	178.1	178.5	178.1	178.1	178.1	177.4	177.0	176.3	175.6	175.6
177.5°	175.3	175.3	176.0	175.6	176.0	176.0	175.6	175.3	174.9	174.6	174.9
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2
2.5°	3542.8	3533.6	3499.8	3465.9	3427.5	3389.1	3360.7	3332.2	3290.0	3247.7	3213.1
5°	3839.4	3796.4	3724.9	3653.5	3556.6	3459.8	3394.5	3329.1	3241.5	3153.9	3084.0
7.5°	4074.6	4000.8	3900.9	3801.0	3674.2	3547.4	3427.5	3307.6	3173.9	3040.2	2931.1
10°	4224.5	4174.5	4059.2	3944.0	3774.1	3604.3	3436.7	3269.2	3097.1	2924.9	2780.4
12.5°	4239.1	4243.7	4137.6	4031.6	3839.4	3647.3	3443.7	3240.0	3023.3	2806.6	2638.3
15°	4110.7	4189.9	4131.5	4073.1	3879.4	3685.7	3435.2	3184.7	2934.9	2685.1	2490.7
17.5°	3872.5	4042.3	4050.8	4059.2	3865.6	3671.9	3394.5	3117.0	2834.2	2551.4	2347.0
20°	3547.4	3797.9	3884.0	3970.1	3812.5	3655.0	3356.8	3058.6	2742.0	2425.4	2211.0
22.5°	3215.4	3519.7	3677.3	3834.8	3718.0	3601.2	3283.8	2966.4	2632.1	2297.8	2080.3
25°	2837.3	3169.3	3411.4	3653.5	3582.0	3510.5	3197.7	2885.0	2529.1	2173.3	1951.2
27.5°	2507.6	2845.0	3137.0	3429.1	3413.7	3398.3	3087.8	2777.4	2413.1	2048.8	1834.4
30°	2214.1	2528.4	2855.0	3181.6	3219.3	3256.9	2957.2	2657.5	2292.4	1927.4	1720.7
32.5°	1954.3	2228.7	2579.1	2929.5	3003.3	3077.1	2806.6	2536.1	2174.9	1813.7	1614.6
35°	1741.4	1990.4	2340.9	2691.3	2783.5	2875.7	2640.6	2405.4	2053.4	1701.5	1511.6
37.5°	1553.1	1761.4	2103.4	2445.4	2558.3	2671.3	2460.7	2250.2	1920.5	1590.8	1416.3
40°	1397.1	1564.7	1879.0	2193.3	2323.9	2454.6	2280.9	2107.2	1794.5	1481.7	1321.1
42.5°	1266.5	1415.6	1700.7	1985.8	2111.1	2236.3	2089.6	1942.8	1664.6	1386.4	1239.6
45°	1155.1	1274.2	1533.2	1792.1	1911.3	2030.4	1904.3	1778.3	1533.2	1288.0	1151.2
47.5°	1050.5	1152.8	1374.1	1595.4	1701.5	1807.5	1709.1	1610.8	1403.3	1195.8	1072.1
50°	956.8	1039.0	1232.7	1426.3	1518.6	1610.8	1523.9	1437.1	1266.5	1095.9	988.3
52.5°	875.3	942.2	1104.3	1266.5	1345.6	1424.8	1350.3	1275.7	1140.5	1005.2	911.4
55°	794.6	851.5	992.1	1132.8	1186.6	1240.4	1182.7	1125.1	1016.0	906.8	827.7
57.5°	719.3	770.0	885.3	1000.6	1042.1	1083.6	1031.3	979.1	896.8	814.6	748.5
60°	645.5	687.0	783.1	879.2	904.5	929.9	887.6	845.4	787.7	730.1	670.9
62.5°	577.1	614.8	686.3	757.7	774.6	791.6	759.3	727.0	683.2	639.4	593.3
65°	506.4	534.9	593.3	651.7	662.4	673.2	644.8	616.3	583.3	550.2	516.4
67.5°	441.1	461.1	508.7	556.4	557.2	557.9	534.9	511.8	493.4	474.9	448.0
70°	377.3	396.5	428.1	459.6	460.3	461.1	442.7	424.2	410.4	396.5	376.6
72.5°	312.0	325.8	349.7	373.5	372.0	370.4	358.9	347.4	336.6	325.8	311.2
75°	252.8	264.4	280.5	296.6	292.0	287.4	281.3	275.1	265.9	256.7	247.5
77.5°	199.0	206.0	215.2	224.4	221.3	218.3	212.9	207.5	200.6	193.7	189.8
80°	146.0	149.1	155.2	161.4	159.8	158.3	152.2	146.0	144.5	142.9	137.6
82.5°	99.1	103.0	104.5	106.1	105.3	104.5	99.9	95.3	93.8	92.2	91.5
85°	59.2	59.9	60.7	61.5	59.2	56.9	55.3	53.8	53.8	53.8	53.0
87.5°	26.9	27.7	27.7	27.7	26.9	26.1	24.6	23.1	23.8	24.6	24.6
90°	6.7	5.7	4.6	3.9	3.2	2.1	1.4	0.7	1.4	2.1	3.2
92.5°	54.4	35.7	24.4	18.0	14.5	11.3	7.8	5.3	7.8	11.3	14.5
95°	128.6	76.0	45.9	32.2	23.0	17.0	13.1	12.0	13.1	17.0	23.0
97.5°	143.1	82.0	52.3	37.1	27.9	22.6	19.4	19.1	19.4	22.6	27.9
100°	133.2	80.9	56.2	42.4	33.9	29.0	26.5	26.2	26.5	29.0	33.9
102.5°	124.7	82.3	60.8	48.4	41.0	36.4	34.3	33.6	34.3	36.4	41.0
105°	121.6	85.2	66.1	55.1	48.4	44.2	42.1	41.0	42.1	44.2	48.4
107.5°	120.9	89.8	72.8	62.5	56.2	51.9	49.8	48.8	49.8	51.9	56.2
110°	122.6	95.8	79.9	70.0	64.0	60.1	58.3	57.2	58.3	60.1	64.0



TEST NUMBER: P831239

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	126.2	101.8	87.3	77.7	71.7	67.8	66.1	65.0	66.1	67.8	71.7
115°	130.0	108.5	95.1	85.5	79.5	76.0	73.9	72.4	73.9	76.0	79.5
117.5°	135.0	115.6	102.1	93.3	86.6	83.4	81.6	79.9	81.6	83.4	86.6
120°	140.6	122.3	109.5	100.7	94.0	90.5	88.7	87.6	88.7	90.5	94.0
122.5°	145.9	129.3	117.0	107.4	101.1	97.2	95.4	94.4	95.4	97.2	101.1
125°	151.6	136.1	123.7	114.1	107.4	103.5	101.4	100.7	101.4	103.5	107.4
127.5°	156.2	142.1	130.0	120.5	113.1	109.2	106.7	105.7	106.7	109.2	113.1
130°	160.8	147.4	135.7	126.2	118.7	114.5	111.3	110.3	111.3	114.5	118.7
132.5°	165.0	152.0	140.6	131.5	124.0	118.7	115.2	113.8	115.2	118.7	124.0
135°	168.6	156.5	145.6	136.1	128.6	123.3	119.4	118.0	119.4	123.3	128.6
137.5°	171.4	159.7	149.1	140.3	132.9	127.2	123.3	121.9	123.3	127.2	132.9
140°	173.5	162.9	152.7	143.8	136.8	131.1	127.6	125.8	127.6	131.1	136.8
142.5°	175.6	165.4	155.5	147.4	140.3	135.3	131.5	130.0	131.5	135.3	140.3
145°	177.0	167.5	158.3	150.2	144.2	138.9	135.7	134.6	135.7	138.9	144.2
147.5°	178.1	169.3	160.8	153.7	147.7	143.1	139.9	139.2	139.9	143.1	147.7
150°	178.5	171.0	162.9	156.5	151.6	147.0	144.2	143.8	144.2	147.0	151.6
152.5°	179.2	172.1	165.4	159.4	155.1	151.2	148.4	148.4	148.4	151.2	155.1
155°	179.2	173.5	167.5	162.6	158.7	155.1	153.0	153.0	153.0	155.1	158.7
157.5°	179.5	174.2	169.3	165.4	161.8	158.7	156.9	156.5	156.9	158.7	161.8
160°	179.5	175.3	171.0	167.5	165.0	162.2	160.8	160.8	160.8	162.2	165.0
162.5°	179.2	175.6	172.1	169.3	167.1	165.0	164.0	164.0	164.0	165.0	167.1
165°	178.5	176.0	173.2	170.7	169.3	167.5	166.8	167.1	166.8	167.5	169.3
167.5°	178.1	176.0	173.9	172.1	171.0	169.6	169.3	169.6	169.3	169.6	171.0
170°	177.0	175.6	173.9	173.2	172.4	171.4	171.0	171.7	171.0	171.4	172.4
172.5°	176.7	175.6	174.2	173.9	173.5	172.8	172.8	173.2	172.8	172.8	173.5
175°	176.0	175.3	174.6	174.2	174.2	173.5	173.9	174.2	173.9	173.5	174.2
177.5°	175.6	174.9	174.6	174.6	174.6	174.2	174.6	174.9	174.6	174.2	174.6
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6

TEST NUMBER: P831239

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2
2.5°	3178.5	3148.6	3118.6	3095.5	3072.5	3033.3	2994.1	2984.9	2975.6	2962.6	2949.5
5°	3014.1	2940.3	2866.5	2800.4	2734.3	2682.8	2631.4	2597.5	2563.7	2539.1	2514.5
7.5°	2821.9	2711.3	2600.6	2522.2	2443.8	2369.3	2294.7	2270.9	2247.1	2214.8	2182.5
10°	2636.0	2513.8	2391.6	2289.4	2187.2	2114.1	2041.1	2011.9	1982.7	1942.0	1901.3
12.5°	2470.0	2336.2	2202.5	2099.5	1996.6	1925.9	1855.2	1812.9	1770.6	1747.6	1724.5
15°	2296.3	2153.3	2010.4	1915.1	1819.8	1756.0	1692.2	1655.4	1618.5	1596.2	1573.9
17.5°	2142.6	2001.2	1859.8	1768.3	1676.9	1618.5	1560.1	1527.8	1495.5	1478.6	1461.7
20°	1996.6	1858.2	1719.9	1630.8	1541.6	1494.0	1446.3	1425.6	1404.8	1391.0	1377.2
22.5°	1862.8	1726.8	1590.8	1514.7	1438.6	1400.2	1361.8	1347.2	1332.6	1321.1	1309.5
25°	1729.1	1607.7	1486.3	1421.7	1357.2	1325.7	1294.2	1279.6	1265.0	1253.4	1241.9
27.5°	1620.0	1504.0	1387.9	1332.6	1277.2	1252.7	1228.1	1216.5	1205.0	1194.3	1183.5
30°	1513.9	1410.2	1306.5	1258.8	1211.2	1188.9	1166.6	1155.1	1143.5	1133.5	1123.5
32.5°	1415.6	1326.4	1237.3	1193.5	1149.7	1131.2	1112.8	1099.0	1085.1	1077.4	1069.8
35°	1321.8	1241.9	1162.0	1125.9	1089.7	1071.3	1052.8	1041.3	1029.8	1023.6	1017.5
37.5°	1241.9	1170.4	1099.0	1064.4	1029.8	1012.1	994.4	984.5	974.5	972.2	969.8
40°	1160.4	1099.0	1037.5	1003.7	969.8	954.5	939.1	933.0	926.8	925.3	923.7
42.5°	1092.8	1032.9	972.9	942.2	911.4	898.4	885.3	882.2	879.2	881.5	883.8
45°	1014.4	964.5	914.5	886.1	857.6	846.9	836.1	833.8	831.5	836.1	840.7
47.5°	948.3	902.2	856.1	829.2	802.3	794.6	786.9	786.2	785.4	791.6	797.7
50°	880.7	836.1	791.6	770.0	748.5	741.6	734.7	737.0	739.3	749.3	759.3
52.5°	817.7	776.2	734.7	714.7	694.7	690.1	685.5	690.9	696.3	707.0	717.8
55°	748.5	710.9	673.2	657.8	642.5	637.9	633.2	644.0	654.8	664.8	674.7
57.5°	682.4	649.4	616.3	602.5	588.7	587.9	587.1	597.1	607.1	617.9	628.6
60°	611.7	584.1	556.4	545.6	534.9	536.4	538.0	549.5	561.0	569.5	577.9
62.5°	547.2	524.1	501.1	491.1	481.1	484.9	488.8	500.3	511.8	521.8	531.8
65°	482.6	463.4	444.2	437.3	430.4	435.7	441.1	451.1	461.1	468.0	474.9
67.5°	421.1	405.0	388.9	383.5	378.1	383.5	388.9	398.9	408.8	415.8	422.7
70°	356.6	343.5	330.5	326.6	322.8	328.9	335.1	343.5	352.0	358.9	365.8
72.5°	296.6	286.7	276.7	275.9	275.1	280.5	285.9	294.3	302.8	307.4	312.0
75°	238.2	232.9	227.5	226.7	225.9	231.3	236.7	241.3	245.9	249.8	253.6
77.5°	186.0	181.4	176.8	177.5	178.3	182.1	186.0	190.6	195.2	197.5	199.8
80°	132.2	130.6	129.1	130.6	132.2	135.3	138.3	141.4	144.5	146.0	147.6
82.5°	90.7	89.1	87.6	89.9	92.2	94.5	96.8	99.1	101.4	102.2	103.0
85°	52.3	54.6	56.9	56.9	56.9	57.6	58.4	59.2	59.9	59.2	58.4
87.5°	24.6	25.4	26.1	26.1	26.1	26.9	27.7	27.7	27.7	26.9	26.1
90°	3.9	4.6	5.7	6.7	7.8	8.8	8.5	8.8	9.2	9.5	10.2
92.5°	18.0	24.4	35.7	54.4	72.8	65.7	49.1	35.0	27.2	23.7	21.2
95°	32.2	45.9	76.0	128.6	186.6	209.6	170.0	127.2	86.2	67.5	54.8
97.5°	37.1	52.3	82.0	143.1	240.7	322.3	333.2	292.2	220.5	173.9	133.6
100°	42.4	56.2	80.9	133.2	226.2	334.7	404.3	416.6	388.0	346.7	296.5
102.5°	48.4	60.8	82.3	124.7	205.0	311.7	407.8	458.0	464.0	444.2	417.0
105°	55.1	66.1	85.2	121.6	188.4	284.1	385.5	459.4	494.7	501.4	492.3
107.5°	62.5	72.8	89.8	120.9	176.3	259.7	353.7	438.2	493.7	521.2	530.8
110°	70.0	79.9	95.8	122.6	170.0	239.6	324.1	405.0	470.0	514.5	539.3



TEST NUMBER: P831239

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	77.7	87.3	101.8	126.2	166.4	226.2	298.3	372.1	438.9	490.1	523.7
115°	85.5	95.1	108.5	130.0	166.1	217.3	278.5	343.8	405.3	457.3	495.8
117.5°	93.3	102.1	115.6	135.0	166.4	211.3	265.4	321.9	376.4	424.1	464.0
120°	100.7	109.5	122.3	140.6	167.9	207.4	255.5	305.3	353.0	395.4	431.1
122.5°	107.4	117.0	129.3	145.9	170.3	205.0	247.4	292.2	334.3	372.8	405.3
125°	114.1	123.7	136.1	151.6	172.8	202.8	240.7	280.9	319.5	353.4	381.7
127.5°	120.5	130.0	142.1	156.2	175.6	201.8	234.3	270.7	305.7	336.8	362.9
130°	126.2	135.7	147.4	160.8	178.5	200.7	229.3	261.1	293.0	321.6	345.6
132.5°	131.5	140.6	152.0	165.0	180.6	200.4	224.8	252.3	280.9	307.1	329.7
135°	136.1	145.6	156.5	168.6	182.7	200.0	220.9	244.5	269.6	292.6	312.7
137.5°	140.3	149.1	159.7	171.4	184.1	199.3	217.3	237.1	258.3	278.8	296.8
140°	143.8	152.7	162.9	173.5	185.5	199.0	214.1	230.8	248.8	265.7	280.9
142.5°	147.4	155.5	165.4	175.6	186.6	198.2	211.3	224.8	239.6	253.7	266.4
145°	150.2	158.3	167.5	177.0	186.9	197.5	208.8	220.2	231.8	243.1	253.4
147.5°	153.7	160.8	169.3	178.1	186.9	196.5	206.4	216.3	225.8	235.4	242.8
150°	156.5	162.9	171.0	178.5	186.9	195.1	203.9	212.0	220.2	227.6	234.3
152.5°	159.4	165.4	172.1	179.2	185.9	193.3	201.1	208.1	214.9	221.2	226.5
155°	162.6	167.5	173.5	179.2	185.2	191.2	198.2	204.3	209.9	215.2	219.4
157.5°	165.4	169.3	174.2	179.5	184.1	189.4	195.1	200.0	205.0	209.2	212.7
160°	167.5	171.0	175.3	179.5	183.4	187.3	191.9	196.5	200.4	203.9	206.4
162.5°	169.3	172.1	175.6	179.2	182.0	185.2	188.7	192.2	195.4	198.6	200.7
165°	170.7	173.2	176.0	178.5	180.6	183.1	185.9	188.7	190.8	193.3	195.1
167.5°	172.1	173.9	176.0	178.1	179.2	180.9	183.1	185.5	187.3	188.7	190.1
170°	173.2	173.9	175.6	177.0	177.8	178.8	180.6	182.3	183.4	184.8	185.5
172.5°	173.9	174.2	175.6	176.7	176.7	177.0	178.1	179.5	180.2	181.3	181.6
175°	174.2	174.6	175.3	176.0	175.6	175.6	176.3	177.0	177.4	178.1	178.1
177.5°	174.6	174.6	174.9	175.6	174.9	174.6	174.9	175.3	175.6	176.0	176.0
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6



TEST NUMBER: P831239

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	3312.2	3312.2	3312.2	3312.2
2.5°	2944.1	2938.8	2917.2	2895.7
5°	2496.1	2477.6	2471.5	2465.4
7.5°	2181.0	2179.5	2147.2	2114.9
10°	1903.6	1905.9	1876.7	1847.5
12.5°	1705.3	1686.1	1683.8	1681.5
15°	1556.2	1538.5	1535.5	1532.4
17.5°	1450.9	1440.2	1437.1	1434.0
20°	1371.0	1364.9	1359.5	1354.1
22.5°	1301.8	1294.2	1289.5	1284.9
25°	1235.0	1228.1	1226.5	1225.0
27.5°	1175.0	1166.6	1166.6	1166.6
30°	1118.2	1112.8	1110.5	1108.2
32.5°	1065.1	1060.5	1060.5	1060.5
35°	1015.2	1012.9	1009.8	1006.7
37.5°	969.8	969.8	968.3	966.8
40°	926.0	928.4	928.4	928.4
42.5°	886.1	888.4	888.4	888.4
45°	844.6	848.4	850.0	851.5
47.5°	803.9	810.0	811.5	813.1
50°	763.9	768.5	769.3	770.0
52.5°	723.2	728.5	732.4	736.2
55°	680.1	685.5	687.8	690.1
57.5°	634.0	639.4	640.2	640.9
60°	583.3	588.7	590.2	591.7
62.5°	534.9	538.0	539.5	541.0
65°	479.5	484.2	487.2	490.3
67.5°	426.5	430.4	430.4	430.4
70°	367.3	368.9	371.2	373.5
72.5°	312.8	313.5	313.5	313.5
75°	255.1	256.7	257.4	258.2
77.5°	200.6	201.3	201.3	201.3
80°	146.8	146.0	146.0	146.0
82.5°	100.7	98.4	98.4	98.4
85°	57.6	56.9	57.6	58.4
87.5°	26.1	26.1	26.1	26.1
90°	9.9	10.2	10.6	10.2
92.5°	20.5	19.1	19.4	18.7
95°	48.1	44.9	42.4	41.0
97.5°	109.9	96.5	88.0	84.1
100°	260.8	235.0	221.2	221.6
102.5°	391.2	372.1	361.2	350.9
105°	476.0	462.6	451.3	449.5
107.5°	528.7	522.3	517.7	513.8
110°	549.2	552.0	551.3	550.6



TEST NUMBER: P831239

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	543.9	554.1	557.6	558.0
115°	522.3	537.8	544.9	546.7
117.5°	491.6	508.9	519.5	521.9
120°	459.0	478.8	487.3	489.4
122.5°	429.4	446.7	456.2	459.0
125°	404.3	419.8	428.7	431.1
127.5°	383.4	396.8	405.0	407.1
130°	364.3	377.1	384.5	387.3
132.5°	347.0	359.7	366.1	367.9
135°	330.1	340.7	347.0	349.5
137.5°	311.7	322.6	327.9	330.1
140°	294.4	304.3	309.9	309.6
142.5°	277.4	285.9	290.8	290.5
145°	262.2	269.6	272.5	273.2
147.5°	249.8	255.1	258.0	258.3
150°	239.6	243.5	245.6	245.6
152.5°	230.4	233.9	235.0	235.0
155°	222.6	225.5	226.2	226.5
157.5°	215.6	217.7	218.4	218.4
160°	208.8	211.0	211.0	210.6
162.5°	202.1	203.9	203.9	203.5
165°	196.5	197.9	197.5	197.5
167.5°	190.8	191.9	191.5	191.5
170°	185.9	186.6	186.2	186.2
172.5°	181.6	182.3	181.6	181.3
175°	178.1	178.5	178.1	177.8
177.5°	175.6	176.0	175.3	175.3
180°	174.6	174.6	174.6	174.6



TEST NUMBER: P831239

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-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	18.46	19.61	19.11	20.27	21.03	20.69	21.84	21.35	22.50	23.27
	3H	20.12	21.15	20.79	21.83	22.63	22.14	23.17	22.81	23.84	24.64
	4H	20.71	21.68	21.40	22.37	23.18	22.60	23.57	23.29	24.26	25.07
	6H	21.10	21.99	21.80	22.69	23.52	22.89	23.79	23.59	24.48	25.31
	8H	21.20	22.05	21.91	22.77	23.60	22.96	23.81	23.67	24.53	25.36
	12H	21.26	22.07	21.97	22.78	23.63	22.99	23.80	23.71	24.51	25.37
4H	2H	19.07	20.03	19.75	20.72	21.53	20.89	21.86	21.58	22.54	23.36
	3H	20.92	21.72	21.62	22.45	23.28	22.53	23.34	23.23	24.06	24.89
	4H	21.63	22.36	22.34	23.08	23.95	23.13	23.86	23.85	24.58	25.45
	6H	22.12	22.75	22.85	23.50	24.37	23.55	24.18	24.29	24.93	25.80
	8H	22.26	22.85	23.00	23.60	24.48	23.66	24.26	24.41	25.00	25.88
	12H	22.34	22.87	23.10	23.64	24.53	23.72	24.25	24.48	25.02	25.91
8H	4H	21.91	22.50	22.66	23.25	24.13	23.25	23.84	24.00	24.59	25.47
	6H	22.51	23.00	23.28	23.79	24.68	23.77	24.25	24.54	25.04	25.93
	8H	22.72	23.16	23.51	23.95	24.85	23.95	24.38	24.73	25.17	26.07
	12H	22.86	23.24	23.64	24.02	24.98	24.06	24.44	24.85	25.22	26.19
12H	4H	21.93	22.46	22.69	23.23	24.12	23.24	23.77	24.00	24.54	25.43
	6H	22.56	23.00	23.35	23.79	24.69	23.78	24.22	24.57	25.01	25.91
	8H	22.81	23.19	23.60	23.97	24.94	24.00	24.38	24.78	25.16	26.12