

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: P831245

Luminaire Tested: S123DIP-S1165D365U850-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831245  
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-S1165D365U850-4F0-1E-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**

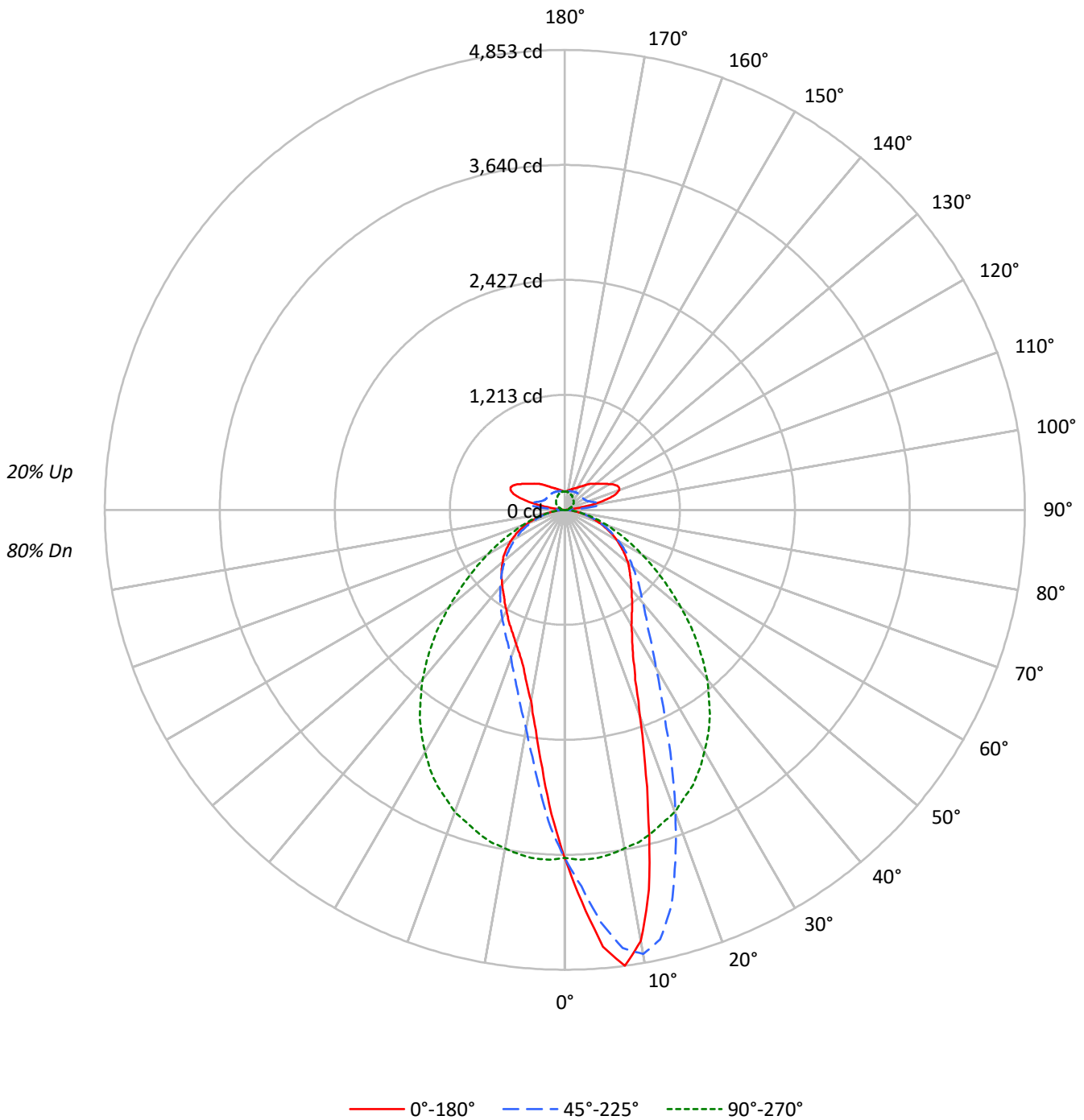
Lumens per Lamp: N/A  
Luminaire Lumens: 7362.2 lumens  
Efficiency: N/A  
Efficacy: 141.0 lumens/watt  
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89  
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')  
CIE Type: Semi-Direct

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°	39539	39539	39539	39539	39539
5°	50004	47195	39892	32148	29542
10°	50489	52017	39628	25626	22394
15°	38028	48294	39357	21701	18937
20°	26496	39079	38854	18978	17202
25°	20203	30053	37998	17461	16134
30°	17478	23876	36630	16388	15275
35°	16216	20159	35053	15612	14671
40°	15352	18083	32836	14873	14466
45°	14842	16736	30020	14297	14375
50°	14585	15671	26688	13772	14301
55°	14043	14891	23415	13275	14362
60°	13541	14053	20182	12807	14127
65°	12720	13262	17408	12307	13848
70°	11748	12258	14807	11481	13036
75°	10634	10988	12689	10667	11911
80°	8771	9614	10036	9298	10036
85°	6941	7793	7373	7892	8003

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 34276 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	347.3	4.7
10°-20°	863.9	11.7
20°-30°	1022.9	13.9
30°-40°	1028.5	14.0
40°-50°	943.7	12.8
50°-60°	778.9	10.6
60°-70°	551.0	7.5
70°-80°	294.1	4.0
80°-90°	75.7	1.0
90°-100°	105.1	1.4
100°-110°	307.6	4.2
110°-120°	300.4	4.1
120°-130°	239.2	3.2
130°-140°	188.7	2.6
140°-150°	140.8	1.9
150°-160°	98.2	1.3
160°-170°	57.7	0.8
170°-180°	18.8	0.3
0°-30°	2234.1	30.3
0°-40°	3262.7	44.3
0°-60°	4985.2	67.7
0°-90°	5906.0	80.2
90°-120°	713.0	9.7
90°-150°	1281.7	17.4
90°-180°	1456.0	19.8
0°-180°	7362.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	3673	3673	3673	3673	3673	
5°	4628	4368	3692	2975	2734	441
15°	3412	4334	3532	1947	1699	943
25°	1701	2530	3199	1470	1358	803
35°	1234	1534	2668	1188	1116	775
45°	975	1099	1972	939	944	755
55°	748	794	1248	707	765	670
65°	499	521	684	483	544	496
75°	256	264	305	256	286	269
85°	56	63	60	64	65	63
90°	11	10	1	10	11	10
95°	46	232	13	232	46	74
105°	498	315	46	315	498	497
115°	606	241	80	241	606	591
125°	478	225	112	225	478	433
135°	388	222	131	222	388	301
145°	303	219	149	219	303	192
155°	251	212	170	212	251	117
165°	219	203	185	203	219	63
175°	197	195	193	195	197	19
180°	194	194	194	194	194	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3
2.5°	4140.3	4136.1	4131.8	4110.5	4089.2	4079.0	4068.7	4038.0	4007.4	3973.3	3939.2
5°	4627.8	4639.7	4651.7	4638.0	4624.4	4582.6	4540.9	4485.5	4430.1	4367.9	4305.7
7.5°	4852.8	4859.6	4866.5	4857.9	4849.4	4838.3	4827.2	4777.8	4728.4	4664.5	4600.5
10°	4619.3	4634.6	4650.0	4683.2	4716.5	4754.0	4791.5	4784.6	4777.8	4759.1	4740.3
12.5°	4106.2	4125.0	4143.7	4210.2	4276.7	4361.9	4447.1	4520.4	4593.7	4644.9	4696.0
15°	3412.5	3464.5	3516.5	3577.0	3637.5	3762.8	3888.0	4042.3	4196.6	4333.8	4471.0
17.5°	2810.8	2830.4	2850.0	2914.8	2979.5	3137.2	3294.9	3473.0	3651.1	3878.7	4106.2
20°	2313.1	2331.0	2348.9	2434.1	2519.3	2642.9	2766.5	2966.7	3167.0	3411.6	3656.2
22.5°	1943.2	1971.3	1999.4	2047.1	2094.9	2213.3	2331.8	2509.9	2688.1	2958.2	3228.4
25°	1701.1	1721.6	1742.0	1771.0	1800.0	1894.6	1989.2	2135.8	2282.4	2530.4	2778.4
27.5°	1535.8	1544.3	1552.8	1581.8	1610.8	1672.2	1733.5	1859.6	1985.8	2196.3	2406.8
30°	1406.2	1412.2	1418.2	1443.7	1469.3	1511.1	1552.8	1644.0	1735.2	1921.0	2106.8
32.5°	1315.9	1320.2	1324.4	1344.0	1363.6	1393.5	1423.3	1489.8	1556.2	1709.7	1863.1
35°	1234.1	1236.6	1239.2	1253.7	1268.2	1290.3	1312.5	1362.8	1413.1	1534.1	1655.1
37.5°	1162.5	1165.9	1169.3	1177.8	1186.4	1206.0	1225.6	1265.6	1305.7	1398.6	1491.5
40°	1092.6	1098.6	1104.5	1110.5	1116.5	1132.7	1148.9	1179.5	1210.2	1286.9	1363.6
42.5°	1032.9	1038.9	1044.9	1047.4	1050.0	1059.4	1068.7	1096.9	1125.0	1182.1	1239.2
45°	975.0	977.6	980.1	982.7	985.2	992.9	1000.6	1025.3	1050.0	1099.4	1148.9
47.5°	922.2	922.2	922.2	923.9	925.6	932.4	939.2	957.1	975.0	1013.3	1051.7
50°	871.0	871.0	871.0	868.5	865.9	870.2	874.4	888.1	901.7	935.8	969.9
52.5°	809.7	809.7	809.7	810.5	811.4	811.4	811.4	823.3	835.2	865.9	896.6
55°	748.3	751.7	755.1	752.6	750.0	751.7	753.4	761.1	768.7	793.5	818.2
57.5°	686.9	688.6	690.3	689.5	688.6	689.5	690.3	697.2	704.0	722.7	741.5
60°	629.0	629.0	629.0	627.3	625.6	627.3	629.0	632.4	635.8	652.8	669.9
62.5°	564.2	565.1	565.9	566.8	567.6	565.9	564.2	568.5	572.7	585.5	598.3
65°	499.4	500.3	501.1	503.7	506.2	504.5	502.8	507.1	511.4	520.7	530.1
67.5°	441.5	439.8	438.1	438.9	439.8	442.3	444.9	445.7	446.6	456.8	467.0
70°	373.3	375.0	376.7	375.9	375.0	375.9	376.7	379.3	381.8	389.5	397.2
72.5°	311.9	312.8	313.6	313.6	313.6	315.3	317.0	319.6	322.2	326.4	330.7
75°	255.7	255.7	255.7	257.4	259.1	259.9	260.8	260.8	260.8	264.2	267.6
77.5°	194.3	198.6	202.8	202.0	201.1	202.8	204.5	207.1	209.7	211.4	213.1
80°	141.5	141.5	141.5	142.3	143.2	145.7	148.3	150.0	151.7	155.1	158.5
82.5°	90.3	91.2	92.0	94.6	97.2	98.9	100.6	103.1	105.7	105.7	105.7
85°	56.2	54.5	52.8	54.5	56.2	58.0	59.7	60.5	61.4	63.1	64.8
87.5°	27.3	27.3	27.3	27.3	27.3	28.1	29.0	29.0	29.0	29.0	29.0
90°	11.4	11.8	11.4	11.0	11.4	10.6	10.2	9.8	9.4	9.8	8.6
92.5°	20.8	21.6	21.2	22.7	23.5	26.3	30.2	38.8	54.5	72.9	80.7
95°	45.5	47.0	49.8	53.3	60.7	74.9	95.6	141.1	188.5	232.4	206.9
97.5°	93.3	97.6	107.0	121.9	148.1	192.8	244.5	324.1	369.6	357.4	266.9
100°	245.7	245.3	260.6	289.2	328.8	384.5	430.3	462.0	448.3	371.1	250.8
102.5°	389.2	400.5	412.7	433.8	462.4	492.6	514.6	507.9	452.3	345.7	227.3
105°	498.5	500.5	513.0	527.9	545.9	556.1	548.7	509.5	427.6	315.1	208.9
107.5°	569.8	574.1	579.2	586.3	588.6	578.1	547.5	486.0	392.3	288.0	195.6
110°	610.6	611.4	612.1	609.0	598.0	570.6	521.2	449.1	359.4	265.7	188.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	618.8	618.4	614.5	603.1	580.8	543.6	486.7	412.7	330.8	250.8	184.6
115°	606.3	604.3	596.5	579.2	549.8	507.1	449.5	381.3	308.8	241.0	184.2
117.5°	578.8	576.1	564.3	545.1	514.6	470.3	417.4	357.0	294.3	234.4	184.6
120°	542.8	540.4	531.0	509.1	478.1	438.5	391.5	338.6	283.3	230.0	186.2
122.5°	509.1	505.9	495.4	476.2	449.5	413.5	370.7	324.1	274.3	227.3	188.9
125°	478.1	475.4	465.6	448.3	423.3	391.9	354.3	311.6	266.9	225.0	191.6
127.5°	451.5	449.1	440.1	425.2	402.5	373.5	339.0	300.2	259.8	223.8	194.8
130°	429.5	426.4	418.2	404.0	383.3	356.6	324.9	289.6	254.3	222.6	197.9
132.5°	408.0	406.0	399.0	384.8	365.6	340.6	311.6	279.8	249.2	222.2	200.3
135°	387.6	384.8	377.8	366.0	346.8	324.5	299.0	271.2	244.9	221.8	202.6
137.5°	366.0	363.7	357.8	345.7	329.2	309.2	286.5	263.0	241.0	221.0	204.2
140°	343.3	343.7	337.4	326.5	311.6	294.7	275.9	255.9	237.5	220.6	205.7
142.5°	322.1	322.5	317.0	307.6	295.5	281.4	265.7	249.2	234.4	219.9	206.9
145°	302.9	302.2	299.0	290.8	281.0	269.6	257.1	244.2	231.6	219.1	207.3
147.5°	286.5	286.1	283.0	277.1	269.2	261.0	250.4	239.8	228.9	217.9	207.3
150°	272.4	272.4	270.0	265.7	259.8	252.4	244.2	235.1	226.1	216.3	207.3
152.5°	260.6	260.6	259.4	255.5	251.2	245.3	238.3	230.8	223.0	214.4	206.1
155°	251.2	250.8	250.0	246.9	243.4	238.7	232.8	226.5	219.9	212.0	205.4
157.5°	242.2	242.2	241.4	239.1	235.9	232.0	227.3	221.8	216.3	210.1	204.2
160°	233.6	234.0	234.0	231.6	228.9	226.1	222.2	217.9	212.8	207.7	203.4
162.5°	225.7	226.1	226.1	224.2	222.6	220.2	216.7	213.2	209.3	205.4	201.8
165°	219.1	219.1	219.5	217.9	216.3	214.4	211.6	209.3	206.1	203.0	200.3
167.5°	212.4	212.4	212.8	211.6	210.8	209.3	207.7	205.7	203.0	200.7	198.7
170°	206.5	206.5	206.9	206.1	205.7	205.0	203.4	202.2	200.3	198.3	197.1
172.5°	201.0	201.4	202.2	201.4	201.4	201.0	199.9	199.1	197.5	196.3	195.9
175°	197.1	197.5	197.9	197.5	197.5	197.5	196.7	196.3	195.6	194.8	194.8
177.5°	194.4	194.4	195.2	194.8	195.2	195.2	194.8	194.4	194.0	193.6	194.0
180°	193.6	193.6	193.6	193.6	193.6	193.6	193.6	193.6	193.6	193.6	193.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3
2.5°	3929.0	3918.7	3881.2	3843.7	3801.1	3758.5	3727.0	3695.4	3648.6	3601.7	3563.3
5°	4257.9	4210.2	4130.9	4051.7	3944.3	3836.9	3764.5	3692.0	3594.9	3497.7	3420.2
7.5°	4518.7	4436.9	4326.1	4215.3	4074.7	3934.1	3801.1	3668.2	3519.9	3371.6	3250.6
10°	4684.9	4629.5	4501.7	4373.8	4185.5	3997.1	3811.3	3625.6	3434.6	3243.7	3083.5
12.5°	4701.1	4706.2	4588.6	4471.0	4257.9	4044.9	3819.0	3593.2	3352.8	3112.5	2925.8
15°	4558.8	4646.6	4581.8	4517.0	4302.3	4087.5	3809.6	3531.8	3254.8	2977.8	2762.2
17.5°	4294.6	4482.9	4492.3	4501.7	4286.9	4072.1	3764.5	3456.8	3143.2	2829.5	2602.8
20°	3934.1	4211.9	4307.4	4402.8	4228.1	4053.4	3722.7	3392.0	3040.9	2689.8	2452.0
22.5°	3565.9	3903.4	4078.1	4252.8	4123.3	3993.7	3641.7	3289.8	2919.0	2548.3	2307.1
25°	3146.6	3514.8	3783.2	4051.7	3972.4	3893.2	3546.3	3199.4	2804.8	2410.2	2163.9
27.5°	2781.0	3155.1	3479.0	3802.8	3785.8	3768.7	3424.4	3080.1	2676.1	2272.1	2034.4
30°	2455.4	2804.0	3166.2	3528.4	3570.2	3611.9	3279.5	2947.1	2542.3	2137.5	1908.2
32.5°	2167.3	2471.6	2860.2	3248.8	3330.7	3412.5	3112.5	2812.5	2411.9	2011.4	1790.6
35°	1931.2	2207.4	2596.0	2984.6	3086.9	3189.2	2928.4	2667.6	2277.3	1886.9	1676.4
37.5°	1722.4	1953.4	2332.7	2711.9	2837.2	2962.5	2729.0	2495.4	2129.8	1764.2	1570.7
40°	1549.4	1735.2	2083.8	2432.4	2577.3	2722.1	2529.5	2336.9	1990.0	1643.2	1465.0
42.5°	1404.5	1569.9	1886.1	2202.3	2341.2	2480.1	2317.3	2154.5	1846.0	1537.5	1374.7
45°	1281.0	1413.1	1700.3	1987.5	2119.6	2251.7	2111.9	1972.1	1700.3	1428.4	1276.7
47.5°	1165.1	1278.4	1523.9	1769.3	1886.9	2004.5	1895.4	1786.4	1556.2	1326.1	1188.9
50°	1061.1	1152.3	1367.0	1581.8	1684.1	1786.4	1690.0	1593.7	1404.5	1215.3	1096.0
52.5°	970.7	1044.9	1224.7	1404.5	1492.3	1580.1	1497.4	1414.8	1264.8	1114.8	1010.8
55°	881.2	944.3	1100.3	1256.2	1315.9	1375.6	1311.6	1247.7	1126.7	1005.7	917.9
57.5°	797.7	854.0	981.8	1109.7	1155.7	1201.7	1143.7	1085.8	994.6	903.4	830.1
60°	715.9	761.9	868.5	975.0	1003.1	1031.2	984.4	937.5	873.6	809.7	744.0
62.5°	640.1	681.8	761.1	840.3	859.1	877.8	842.0	806.2	757.7	709.1	658.0
65°	561.6	593.2	658.0	722.7	734.7	746.6	715.1	683.5	646.9	610.2	572.7
67.5°	489.2	511.4	564.2	617.0	617.9	618.7	593.2	567.6	547.2	526.7	496.9
70°	418.5	439.8	474.7	509.7	510.5	511.4	490.9	470.5	455.1	439.8	417.6
72.5°	346.0	361.4	387.8	414.2	412.5	410.8	398.0	385.2	373.3	361.4	345.2
75°	280.4	293.2	311.1	329.0	323.9	318.7	311.9	305.1	294.9	284.7	274.4
77.5°	220.7	228.4	238.6	248.9	245.5	242.0	236.1	230.1	222.4	214.8	210.5
80°	161.9	165.3	172.2	179.0	177.3	175.6	168.7	161.9	160.2	158.5	152.6
82.5°	109.9	114.2	115.9	117.6	116.8	115.9	110.8	105.7	104.0	102.3	101.4
85°	65.6	66.5	67.3	68.2	65.6	63.1	61.4	59.7	59.7	59.7	58.8
87.5°	29.8	30.7	30.7	30.7	29.8	29.0	27.3	25.6	26.4	27.3	27.3
90°	7.4	6.3	5.1	4.3	3.5	2.4	1.6	0.8	1.6	2.4	3.5
92.5°	60.4	39.6	27.0	20.0	16.1	12.5	8.6	5.9	8.6	12.5	16.1
95°	142.7	84.3	50.9	35.7	25.5	18.8	14.5	13.3	14.5	18.8	25.5
97.5°	158.7	90.9	58.0	41.1	31.0	25.1	21.6	21.2	21.6	25.1	31.0
100°	147.7	89.7	62.3	47.0	37.6	32.1	29.4	29.0	29.4	32.1	37.6
102.5°	138.3	91.3	67.4	53.7	45.5	40.4	38.0	37.2	38.0	40.4	45.5
105°	134.8	94.4	73.3	61.1	53.7	49.0	46.6	45.5	46.6	49.0	53.7
107.5°	134.0	99.5	80.7	69.4	62.3	57.6	55.3	54.1	55.3	57.6	62.3
110°	136.0	106.2	88.6	77.6	70.9	66.6	64.7	63.5	64.7	66.6	70.9





TEST NUMBER: P831245

CATALOG NUMBER: S123DIP-S1165D365U850-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	139.9	112.9	96.8	86.2	79.6	75.2	73.3	72.1	73.3	75.2	79.6
115°	144.2	120.3	105.4	94.8	88.2	84.3	81.9	80.3	81.9	84.3	88.2
117.5°	149.7	128.2	113.3	103.5	96.0	92.5	90.5	88.6	90.5	92.5	96.0
120°	156.0	135.6	121.5	111.7	104.2	100.3	98.4	97.2	98.4	100.3	104.2
122.5°	161.9	143.4	129.7	119.1	112.1	107.8	105.8	104.6	105.8	107.8	112.1
125°	168.1	150.9	137.2	126.6	119.1	114.8	112.5	111.7	112.5	114.8	119.1
127.5°	173.2	157.5	144.2	133.6	125.4	121.1	118.4	117.2	118.4	121.1	125.4
130°	178.3	163.4	150.5	139.9	131.7	127.0	123.4	122.3	123.4	127.0	131.7
132.5°	183.0	168.5	156.0	145.8	137.6	131.7	127.8	126.2	127.8	131.7	137.6
135°	186.9	173.6	161.5	150.9	142.7	136.8	132.5	130.9	132.5	136.8	142.7
137.5°	190.1	177.1	165.4	155.6	147.4	141.1	136.8	135.2	136.8	141.1	147.4
140°	192.4	180.7	169.3	159.5	151.7	145.4	141.5	139.5	141.5	145.4	151.7
142.5°	194.8	183.4	172.4	163.4	155.6	150.1	145.8	144.2	145.8	150.1	155.6
145°	196.3	185.8	175.6	166.6	159.9	154.0	150.5	149.3	150.5	154.0	159.9
147.5°	197.5	187.7	178.3	170.5	163.8	158.7	155.2	154.4	155.2	158.7	163.8
150°	197.9	189.7	180.7	173.6	168.1	163.0	159.9	159.5	159.9	163.0	168.1
152.5°	198.7	190.9	183.4	176.7	172.0	167.7	164.6	164.6	164.6	167.7	172.0
155°	198.7	192.4	185.8	180.3	176.0	172.0	169.7	169.7	169.7	172.0	176.0
157.5°	199.1	193.2	187.7	183.4	179.5	176.0	174.0	173.6	174.0	176.0	179.5
160°	199.1	194.4	189.7	185.8	183.0	179.9	178.3	178.3	178.3	179.9	183.0
162.5°	198.7	194.8	190.9	187.7	185.4	183.0	181.8	181.8	181.8	183.0	185.4
165°	197.9	195.2	192.0	189.3	187.7	185.8	185.0	185.4	185.0	185.8	187.7
167.5°	197.5	195.2	192.8	190.9	189.7	188.1	187.7	188.1	187.7	188.1	189.7
170°	196.3	194.8	192.8	192.0	191.2	190.1	189.7	190.5	189.7	190.1	191.2
172.5°	195.9	194.8	193.2	192.8	192.4	191.6	191.6	192.0	191.6	191.6	192.4
175°	195.2	194.4	193.6	193.2	193.2	192.4	192.8	193.2	192.8	192.4	193.2
177.5°	194.8	194.0	193.6	193.6	193.6	193.2	193.6	194.0	193.6	193.2	193.6
180°	193.6	193.6	193.6	193.6	193.6	193.6	193.6	193.6	193.6	193.6	193.6



TEST NUMBER: P831245

CATALOG NUMBER: S123DIP-S1165D365U850-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3
2.5°	3525.0	3491.7	3458.5	3432.9	3407.4	3363.9	3320.4	3310.2	3300.0	3285.5	3271.0
5°	3342.6	3260.8	3179.0	3105.7	3032.4	2975.3	2918.2	2880.7	2843.2	2815.9	2788.6
7.5°	3129.5	3006.8	2884.1	2797.1	2710.2	2627.5	2544.9	2518.5	2492.0	2456.2	2420.4
10°	2923.3	2787.8	2652.3	2538.9	2425.6	2344.6	2263.6	2231.2	2198.9	2153.7	2108.5
12.5°	2739.2	2590.9	2442.6	2328.4	2214.2	2135.8	2057.4	2010.5	1963.6	1938.1	1912.5
15°	2546.6	2388.1	2229.5	2123.9	2018.2	1947.4	1876.7	1835.8	1794.9	1770.2	1745.4
17.5°	2376.1	2219.3	2062.5	1961.1	1859.6	1794.9	1730.1	1694.3	1658.5	1639.8	1621.0
20°	2214.2	2060.8	1907.4	1808.5	1709.7	1656.8	1604.0	1581.0	1557.9	1542.6	1527.3
22.5°	2065.9	1915.0	1764.2	1679.8	1595.4	1552.8	1510.2	1494.0	1477.8	1465.0	1452.3
25°	1917.6	1782.9	1648.3	1576.7	1505.1	1470.2	1435.2	1419.0	1402.8	1390.0	1377.3
27.5°	1796.6	1667.9	1539.2	1477.8	1416.5	1389.2	1361.9	1349.1	1336.4	1324.4	1312.5
30°	1679.0	1563.9	1448.9	1396.0	1343.2	1318.5	1293.7	1281.0	1268.2	1257.1	1246.0
32.5°	1569.9	1471.0	1372.2	1323.6	1275.0	1254.5	1234.1	1218.7	1203.4	1194.9	1186.4
35°	1465.9	1377.3	1288.6	1248.6	1208.5	1188.1	1167.6	1154.8	1142.0	1135.2	1128.4
37.5°	1377.3	1298.0	1218.7	1180.4	1142.0	1122.4	1102.8	1091.8	1080.7	1078.1	1075.6
40°	1286.9	1218.7	1150.6	1113.1	1075.6	1058.5	1041.5	1034.7	1027.8	1026.1	1024.4
42.5°	1211.9	1145.4	1079.0	1044.9	1010.8	996.3	981.8	978.4	975.0	977.6	980.1
45°	1125.0	1069.6	1014.2	982.7	951.1	939.2	927.3	924.7	922.2	927.3	932.4
47.5°	1051.7	1000.6	949.4	919.6	889.8	881.2	872.7	871.9	871.0	877.8	884.7
50°	976.7	927.3	877.8	854.0	830.1	822.4	814.8	817.3	819.9	831.0	842.0
52.5°	906.8	860.8	814.8	792.6	770.5	765.3	760.2	766.2	772.2	784.1	796.0
55°	830.1	788.3	746.6	729.5	712.5	707.4	702.3	714.2	726.1	737.2	748.3
57.5°	756.8	720.2	683.5	668.2	652.8	652.0	651.1	662.2	673.3	685.2	697.2
60°	678.4	647.7	617.0	605.1	593.2	594.9	596.6	609.4	622.2	631.5	640.9
62.5°	606.8	581.2	555.7	544.6	533.5	537.8	542.0	554.8	567.6	578.7	589.8
65°	535.2	513.9	492.6	484.9	477.3	483.2	489.2	500.3	511.4	519.0	526.7
67.5°	467.0	449.1	431.2	425.3	419.3	425.3	431.2	442.3	453.4	461.1	468.7
70°	395.5	381.0	366.5	362.2	358.0	364.8	371.6	381.0	390.3	398.0	405.7
72.5°	329.0	317.9	306.8	306.0	305.1	311.1	317.0	326.4	335.8	340.9	346.0
75°	264.2	258.2	252.3	251.4	250.6	256.5	262.5	267.6	272.7	277.0	281.2
77.5°	206.2	201.1	196.0	196.9	197.7	202.0	206.2	211.4	216.5	219.0	221.6
80°	146.6	144.9	143.2	144.9	146.6	150.0	153.4	156.8	160.2	161.9	163.6
82.5°	100.6	98.9	97.2	99.7	102.3	104.8	107.4	109.9	112.5	113.4	114.2
85°	58.0	60.5	63.1	63.1	63.1	63.9	64.8	65.6	66.5	65.6	64.8
87.5°	27.3	28.1	29.0	29.0	29.0	29.8	30.7	30.7	30.7	29.8	29.0
90°	4.3	5.1	6.3	7.4	8.6	9.8	9.4	9.8	10.2	10.6	11.4
92.5°	20.0	27.0	39.6	60.4	80.7	72.9	54.5	38.8	30.2	26.3	23.5
95°	35.7	50.9	84.3	142.7	206.9	232.4	188.5	141.1	95.6	74.9	60.7
97.5°	41.1	58.0	90.9	158.7	266.9	357.4	369.6	324.1	244.5	192.8	148.1
100°	47.0	62.3	89.7	147.7	250.8	371.1	448.3	462.0	430.3	384.5	328.8
102.5°	53.7	67.4	91.3	138.3	227.3	345.7	452.3	507.9	514.6	492.6	462.4
105°	61.1	73.3	94.4	134.8	208.9	315.1	427.6	509.5	548.7	556.1	545.9
107.5°	69.4	80.7	99.5	134.0	195.6	288.0	392.3	486.0	547.5	578.1	588.6
110°	77.6	88.6	106.2	136.0	188.5	265.7	359.4	449.1	521.2	570.6	598.0



TEST NUMBER: P831245

CATALOG NUMBER: S123DIP-S1165D365U850-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	86.2	96.8	112.9	139.9	184.6	250.8	330.8	412.7	486.7	543.6	580.8
115°	94.8	105.4	120.3	144.2	184.2	241.0	308.8	381.3	449.5	507.1	549.8
117.5°	103.5	113.3	128.2	149.7	184.6	234.4	294.3	357.0	417.4	470.3	514.6
120°	111.7	121.5	135.6	156.0	186.2	230.0	283.3	338.6	391.5	438.5	478.1
122.5°	119.1	129.7	143.4	161.9	188.9	227.3	274.3	324.1	370.7	413.5	449.5
125°	126.6	137.2	150.9	168.1	191.6	225.0	266.9	311.6	354.3	391.9	423.3
127.5°	133.6	144.2	157.5	173.2	194.8	223.8	259.8	300.2	339.0	373.5	402.5
130°	139.9	150.5	163.4	178.3	197.9	222.6	254.3	289.6	324.9	356.6	383.3
132.5°	145.8	156.0	168.5	183.0	200.3	222.2	249.2	279.8	311.6	340.6	365.6
135°	150.9	161.5	173.6	186.9	202.6	221.8	244.9	271.2	299.0	324.5	346.8
137.5°	155.6	165.4	177.1	190.1	204.2	221.0	241.0	263.0	286.5	309.2	329.2
140°	159.5	169.3	180.7	192.4	205.7	220.6	237.5	255.9	275.9	294.7	311.6
142.5°	163.4	172.4	183.4	194.8	206.9	219.9	234.4	249.2	265.7	281.4	295.5
145°	166.6	175.6	185.8	196.3	207.3	219.1	231.6	244.2	257.1	269.6	281.0
147.5°	170.5	178.3	187.7	197.5	207.3	217.9	228.9	239.8	250.4	261.0	269.2
150°	173.6	180.7	189.7	197.9	207.3	216.3	226.1	235.1	244.2	252.4	259.8
152.5°	176.7	183.4	190.9	198.7	206.1	214.4	223.0	230.8	238.3	245.3	251.2
155°	180.3	185.8	192.4	198.7	205.4	212.0	219.9	226.5	232.8	238.7	243.4
157.5°	183.4	187.7	193.2	199.1	204.2	210.1	216.3	221.8	227.3	232.0	235.9
160°	185.8	189.7	194.4	199.1	203.4	207.7	212.8	217.9	222.2	226.1	228.9
162.5°	187.7	190.9	194.8	198.7	201.8	205.4	209.3	213.2	216.7	220.2	222.6
165°	189.3	192.0	195.2	197.9	200.3	203.0	206.1	209.3	211.6	214.4	216.3
167.5°	190.9	192.8	195.2	197.5	198.7	200.7	203.0	205.7	207.7	209.3	210.8
170°	192.0	192.8	194.8	196.3	197.1	198.3	200.3	202.2	203.4	205.0	205.7
172.5°	192.8	193.2	194.8	195.9	195.9	196.3	197.5	199.1	199.9	201.0	201.4
175°	193.2	193.6	194.4	195.2	194.8	194.8	195.6	196.3	196.7	197.5	197.5
177.5°	193.6	193.6	194.0	194.8	194.0	193.6	194.0	194.4	194.8	195.2	195.2
180°	193.6	193.6	193.6	193.6	193.6	193.6	193.6	193.6	193.6	193.6	193.6



TEST NUMBER: P831245

CATALOG NUMBER: S123DIP-S1165D365U850-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	3673.3	3673.3	3673.3	3673.3
2.5°	3265.0	3259.1	3235.2	3211.3
5°	2768.2	2747.7	2740.9	2734.1
7.5°	2418.7	2417.0	2381.2	2345.4
10°	2111.1	2113.6	2081.2	2048.9
12.5°	1891.2	1869.9	1867.3	1864.8
15°	1725.8	1706.2	1702.8	1699.4
17.5°	1609.1	1597.2	1593.7	1590.3
20°	1520.4	1513.6	1507.7	1501.7
22.5°	1443.7	1435.2	1430.1	1425.0
25°	1369.6	1361.9	1360.2	1358.5
27.5°	1303.1	1293.7	1293.7	1293.7
30°	1240.1	1234.1	1231.5	1229.0
32.5°	1181.2	1176.1	1176.1	1176.1
35°	1125.8	1123.3	1119.9	1116.5
37.5°	1075.6	1075.6	1073.9	1072.2
40°	1027.0	1029.5	1029.5	1029.5
42.5°	982.7	985.2	985.2	985.2
45°	936.6	940.9	942.6	944.3
47.5°	891.5	898.3	900.0	901.7
50°	847.2	852.3	853.1	854.0
52.5°	802.0	808.0	812.2	816.5
55°	754.3	760.2	762.8	765.3
57.5°	703.1	709.1	709.9	710.8
60°	646.9	652.8	654.5	656.2
62.5°	593.2	596.6	598.3	600.0
65°	531.8	536.9	540.3	543.7
67.5°	473.0	477.3	477.3	477.3
70°	407.4	409.1	411.6	414.2
72.5°	346.9	347.7	347.7	347.7
75°	283.0	284.7	285.5	286.4
77.5°	222.4	223.3	223.3	223.3
80°	162.8	161.9	161.9	161.9
82.5°	111.6	109.1	109.1	109.1
85°	63.9	63.1	63.9	64.8
87.5°	29.0	29.0	29.0	29.0
90°	11.0	11.4	11.8	11.4
92.5°	22.7	21.2	21.6	20.8
95°	53.3	49.8	47.0	45.5
97.5°	121.9	107.0	97.6	93.3
100°	289.2	260.6	245.3	245.7
102.5°	433.8	412.7	400.5	389.2
105°	527.9	513.0	500.5	498.5
107.5°	586.3	579.2	574.1	569.8
110°	609.0	612.1	611.4	610.6



TEST NUMBER: P831245

CATALOG NUMBER: S123DIP-S1165D365U850-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	603.1	614.5	618.4	618.8
115°	579.2	596.5	604.3	606.3
117.5°	545.1	564.3	576.1	578.8
120°	509.1	531.0	540.4	542.8
122.5°	476.2	495.4	505.9	509.1
125°	448.3	465.6	475.4	478.1
127.5°	425.2	440.1	449.1	451.5
130°	404.0	418.2	426.4	429.5
132.5°	384.8	399.0	406.0	408.0
135°	366.0	377.8	384.8	387.6
137.5°	345.7	357.8	363.7	366.0
140°	326.5	337.4	343.7	343.3
142.5°	307.6	317.0	322.5	322.1
145°	290.8	299.0	302.2	302.9
147.5°	277.1	283.0	286.1	286.5
150°	265.7	270.0	272.4	272.4
152.5°	255.5	259.4	260.6	260.6
155°	246.9	250.0	250.8	251.2
157.5°	239.1	241.4	242.2	242.2
160°	231.6	234.0	234.0	233.6
162.5°	224.2	226.1	226.1	225.7
165°	217.9	219.5	219.1	219.1
167.5°	211.6	212.8	212.4	212.4
170°	206.1	206.9	206.5	206.5
172.5°	201.4	202.2	201.4	201.0
175°	197.5	197.9	197.5	197.1
177.5°	194.8	195.2	194.4	194.4
180°	193.6	193.6	193.6	193.6



TEST NUMBER: P831245

CATALOG NUMBER: S123DIP-S1165D365U850-4F0-1E-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	18.82	19.97	19.47	20.63	21.39	21.05	22.20	21.71	22.86	23.63
	3H	20.48	21.51	21.15	22.19	22.99	22.50	23.53	23.17	24.20	25.00
	4H	21.07	22.04	21.76	22.73	23.54	22.96	23.93	23.65	24.61	25.43
	6H	21.46	22.35	22.16	23.05	23.88	23.25	24.14	23.95	24.84	25.67
	8H	21.56	22.41	22.27	23.13	23.96	23.32	24.17	24.03	24.89	25.72
	12H	21.62	22.43	22.33	23.14	23.99	23.35	24.16	24.06	24.87	25.73
4H	2H	19.42	20.39	20.11	21.08	21.89	21.25	22.22	21.94	22.90	23.72
	3H	21.28	22.08	21.98	22.81	23.64	22.89	23.70	23.59	24.42	25.25
	4H	21.99	22.72	22.70	23.44	24.30	23.49	24.22	24.20	24.94	25.81
	6H	22.48	23.11	23.21	23.86	24.73	23.91	24.54	24.64	25.29	26.16
	8H	22.62	23.21	23.36	23.96	24.84	24.02	24.61	24.77	25.36	26.24
	12H	22.70	23.23	23.46	24.00	24.89	24.08	24.61	24.84	25.38	26.27
8H	4H	22.27	22.86	23.01	23.61	24.49	23.61	24.20	24.36	24.95	25.83
	6H	22.87	23.36	23.64	24.15	25.04	24.13	24.61	24.90	25.40	26.29
	8H	23.08	23.52	23.87	24.31	25.21	24.31	24.74	25.09	25.53	26.43
	12H	23.22	23.60	24.00	24.38	25.34	24.42	24.80	25.21	25.58	26.55
12H	4H	22.29	22.82	23.05	23.59	24.48	23.60	24.13	24.36	24.90	25.79
	6H	22.92	23.36	23.71	24.15	25.05	24.14	24.58	24.93	25.37	26.27
	8H	23.17	23.55	23.96	24.33	25.29	24.35	24.74	25.14	25.52	26.48