

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: P831106

Luminaire Tested: S123DIP-S1000D365U840-4F0-1E-UDD-G1

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831106  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1000D365U840-4F0-1E-UDD-G1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: -

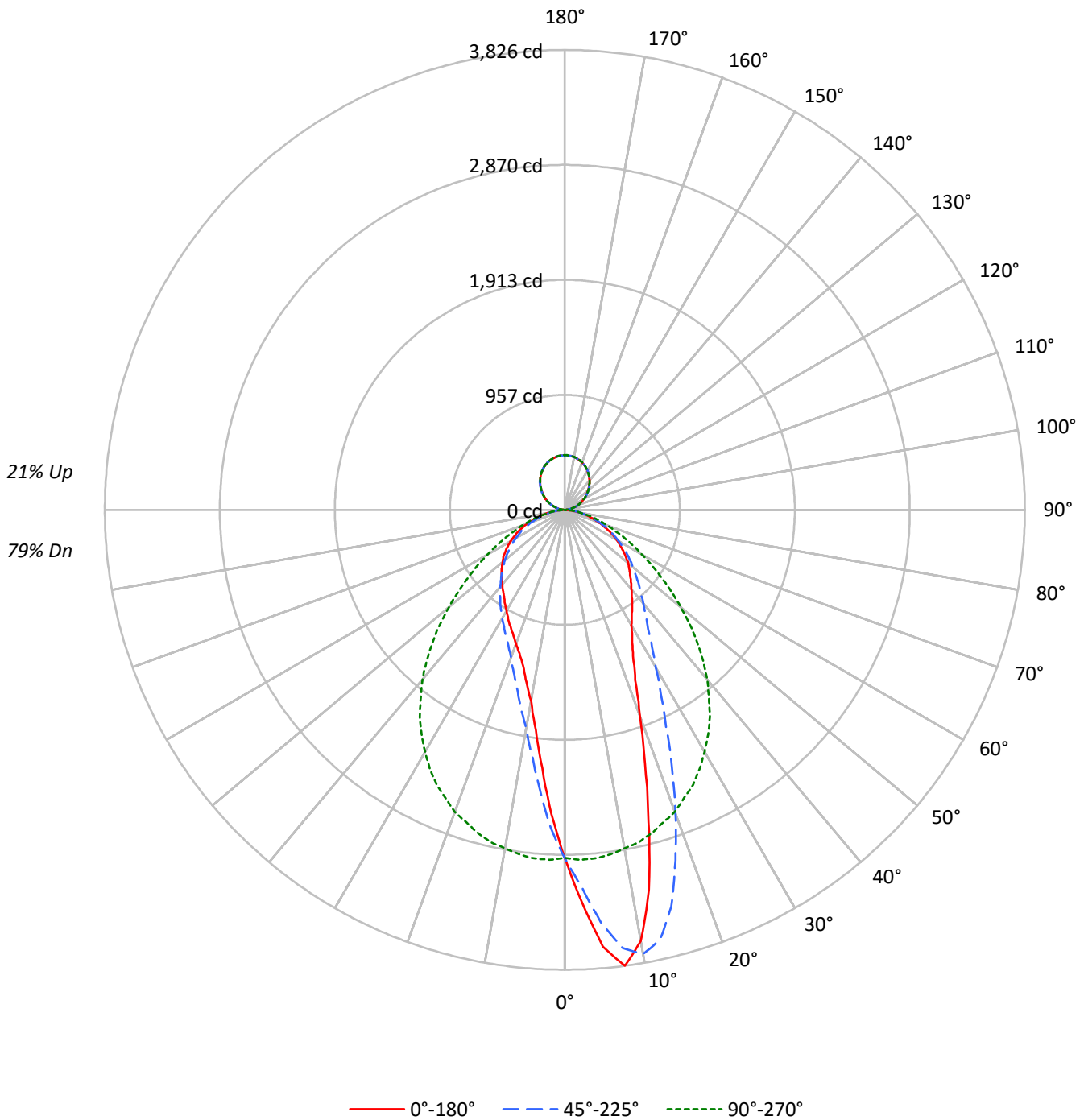
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5915.4 lumens  
Efficiency: N/A  
Efficacy: 131.2 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): 45.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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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	99	99	99	91	91	91	82	82	82	79				
1	105	101	97	94	100	96	93	90	88	86	83	81	79	77	74	73	71	68				
2	96	89	83	78	92	85	80	75	79	74	71	72	69	66	66	64	61	58				
3	89	79	72	66	84	76	70	64	70	65	61	65	61	57	60	56	53	51				
4	82	71	63	57	78	68	61	56	63	57	53	59	54	50	54	50	47	44				
5	76	64	56	50	72	62	54	49	57	51	46	53	48	44	49	45	42	39				
6	70	58	50	44	67	56	49	43	52	46	41	49	43	39	45	41	38	35				
7	65	53	45	40	63	51	44	39	48	42	37	45	40	36	42	37	34	32				
8	61	49	41	36	59	47	40	35	44	38	34	42	36	32	39	34	31	29				
9	57	45	38	33	55	44	37	32	41	35	31	39	33	30	36	32	28	27				
10	54	42	35	30	52	41	34	29	38	32	28	36	31	27	34	29	26	24				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	31174	31174	31174	31174	31174
5°	39425	37211	31453	25348	23292
10°	39808	41013	31244	20205	17656
15°	29983	38078	31032	17111	14931
20°	20890	30812	30636	14963	13562
25°	15930	23695	29960	13767	12721
30°	13781	18825	28881	12920	12044
35°	12786	15895	27638	12309	11567
40°	12105	14258	25891	11727	11405
45°	11702	13195	23669	11272	11333
50°	11501	12355	21043	10860	11275
55°	11072	11740	18462	10466	11324
60°	10676	11080	15913	10097	11138
65°	10030	10458	13726	9704	10919
70°	9262	9665	11673	9051	10279
75°	8384	8663	10006	8413	9391
80°	6912	7581	7916	7333	7916
85°	5483	6138	5805	6225	6311

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 27026 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	273.8	4.6
10°-20°	681.2	11.5
20°-30°	806.5	13.6
30°-40°	811.0	13.7
40°-50°	744.0	12.6
50°-60°	614.1	10.4
60°-70°	434.4	7.3
70°-80°	231.9	3.9
80°-90°	59.8	1.0
90°-100°	29.2	0.5
100°-110°	88.5	1.5
110°-120°	150.7	2.5
120°-130°	198.2	3.4
130°-140°	222.8	3.8
140°-150°	219.1	3.7
150°-160°	184.4	3.1
160°-170°	122.8	2.1
170°-180°	43.0	0.7
0°-30°	1761.5	29.8
0°-40°	2572.5	43.5
0°-60°	3930.6	66.4
0°-90°	4656.7	78.7
90°-120°	268.4	4.5
90°-150°	908.6	15.4
90°-180°	1259.0	21.3
0°-180°	5915.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2896	2896	2896	2896	2896	
5°	3649	3444	2911	2346	2156	348
15°	2691	3417	2785	1536	1340	743
25°	1341	1995	2523	1159	1071	633
35°	973	1210	2103	937	880	611
45°	769	867	1555	740	744	595
55°	590	626	984	558	603	528
65°	394	411	539	381	429	391
75°	202	208	241	202	226	212
85°	44	50	47	50	51	50
90°	11	9	0	9	11	8
95°	28	26	21	26	28	28
105°	85	84	80	84	85	90
115°	152	152	152	152	152	151
125°	220	222	222	222	220	196
135°	288	290	288	290	288	221
145°	349	351	349	351	349	218
155°	399	400	400	400	399	184
165°	434	435	436	435	434	123
175°	452	452	453	452	452	43
180°	454	454	454	454	454	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2
2.5°	3264.4	3261.1	3257.7	3240.9	3224.1	3216.1	3208.0	3183.8	3159.6	3132.7	3105.9
5°	3648.8	3658.2	3667.6	3656.9	3646.1	3613.2	3580.3	3536.6	3492.9	3443.9	3394.8
7.5°	3826.2	3831.6	3837.0	3830.2	3823.5	3814.8	3806.1	3767.1	3728.1	3677.7	3627.3
10°	3642.1	3654.2	3666.3	3692.5	3718.7	3748.3	3777.8	3772.5	3767.1	3752.3	3737.5
12.5°	3237.6	3252.4	3267.1	3319.5	3372.0	3439.2	3506.4	3564.1	3621.9	3662.3	3702.6
15°	2690.6	2731.6	2772.6	2820.3	2868.0	2966.8	3065.5	3187.2	3308.8	3417.0	3525.2
17.5°	2216.2	2231.6	2247.1	2298.1	2349.2	2473.5	2597.8	2738.3	2878.7	3058.2	3237.6
20°	1823.7	1837.8	1852.0	1919.2	1986.4	2083.8	2181.2	2339.1	2497.1	2689.9	2882.8
22.5°	1532.1	1554.3	1576.4	1614.1	1651.7	1745.1	1838.5	1979.0	2119.4	2332.4	2545.4
25°	1341.3	1357.4	1373.5	1396.4	1419.2	1493.8	1568.4	1684.0	1799.5	1995.1	2190.6
27.5°	1210.9	1217.6	1224.3	1247.2	1270.0	1318.4	1366.8	1466.2	1565.7	1731.7	1897.7
30°	1108.8	1113.5	1118.2	1138.3	1158.5	1191.4	1224.3	1296.2	1368.1	1514.6	1661.1
32.5°	1037.5	1040.9	1044.2	1059.7	1075.2	1098.7	1122.2	1174.6	1227.0	1348.0	1468.9
35°	973.0	975.0	977.0	988.5	999.9	1017.4	1034.8	1074.5	1114.1	1209.6	1305.0
37.5°	916.6	919.3	921.9	928.7	935.4	950.8	966.3	997.9	1029.5	1102.7	1176.0
40°	861.5	866.2	870.9	875.6	880.3	893.1	905.8	930.0	954.2	1014.7	1075.2
42.5°	814.4	819.1	823.8	825.9	827.9	835.3	842.7	864.8	887.0	932.0	977.0
45°	768.7	770.8	772.8	774.8	776.8	782.8	788.9	808.4	827.9	866.8	905.8
47.5°	727.1	727.1	727.1	728.4	729.8	735.1	740.5	754.6	768.7	799.0	829.2
50°	686.8	686.8	686.8	684.7	682.7	686.1	689.4	700.2	710.9	737.8	764.7
52.5°	638.4	638.4	638.4	639.0	639.7	639.7	639.7	649.1	658.5	682.7	706.9
55°	590.0	592.7	595.4	593.4	591.3	592.7	594.0	600.1	606.1	625.6	645.1
57.5°	541.6	543.0	544.3	543.6	543.0	543.6	544.3	549.7	555.0	569.8	584.6
60°	495.9	495.9	495.9	494.6	493.2	494.6	495.9	498.6	501.3	514.7	528.2
62.5°	444.8	445.5	446.2	446.9	447.5	446.2	444.8	448.2	451.6	461.6	471.7
65°	393.8	394.4	395.1	397.1	399.2	397.8	396.5	399.8	403.2	410.6	418.0
67.5°	348.1	346.7	345.4	346.1	346.7	348.8	350.8	351.4	352.1	360.2	368.2
70°	294.3	295.7	297.0	296.3	295.7	296.3	297.0	299.0	301.0	307.1	313.1
72.5°	245.9	246.6	247.3	247.3	247.3	248.6	250.0	252.0	254.0	257.4	260.7
75°	201.6	201.6	201.6	202.9	204.3	205.0	205.6	205.6	205.6	208.3	211.0
77.5°	153.2	156.6	159.9	159.3	158.6	159.9	161.3	163.3	165.3	166.6	168.0
80°	111.5	111.5	111.5	112.2	112.9	114.9	116.9	118.3	119.6	122.3	125.0
82.5°	71.2	71.9	72.6	74.6	76.6	77.9	79.3	81.3	83.3	83.3	83.3
85°	44.4	43.0	41.7	43.0	44.4	45.7	47.0	47.7	48.4	49.7	51.1
87.5°	21.5	21.5	21.5	21.5	21.5	22.2	22.8	22.8	22.8	22.8	22.8
90°	10.7	10.5	10.4	10.2	10.1	9.8	9.5	9.2	8.9	8.6	7.5
92.5°	15.3	15.5	15.7	15.8	16.0	15.9	15.7	15.5	15.2	15.0	14.5
95°	27.8	27.8	27.8	27.8	27.8	27.7	27.4	27.0	26.7	26.4	25.8
97.5°	40.0	40.0	40.1	40.2	40.3	40.1	39.7	39.3	38.9	38.5	38.1
100°	54.2	54.1	53.9	53.8	53.6	53.4	53.2	52.9	52.7	52.5	52.1
102.5°	68.9	69.0	69.0	69.1	69.2	69.1	68.9	68.6	68.4	68.2	67.6
105°	84.9	84.8	84.6	84.5	84.3	84.2	84.2	84.2	84.2	84.2	83.5
107.5°	101.4	101.4	101.5	101.6	101.7	101.6	101.4	101.1	100.9	100.6	100.3
110°	118.1	118.3	118.4	118.6	118.8	118.7	118.4	118.0	117.7	117.4	117.3

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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	136.0	136.0	136.0	136.0	136.0	135.8	135.4	135.0	134.6	134.2	134.2
115°	152.0	152.1	152.2	152.3	152.3	152.3	152.3	152.2	152.1	152.0	152.2
117.5°	168.4	168.7	168.9	169.2	169.4	169.5	169.5	169.5	169.5	169.5	169.7
120°	185.9	186.1	186.3	186.4	186.6	186.7	186.8	186.8	186.9	187.0	187.4
122.5°	202.7	202.9	203.2	203.4	203.7	203.9	204.1	204.4	204.6	204.8	205.0
125°	219.5	219.8	220.1	220.4	220.7	221.1	221.4	221.7	222.0	222.3	222.5
127.5°	236.3	236.6	236.9	237.2	237.5	237.9	238.4	238.9	239.3	239.8	240.0
130°	252.7	253.2	253.8	254.3	254.9	255.3	255.6	256.0	256.3	256.6	256.8
132.5°	269.8	270.2	270.6	271.0	271.4	271.8	272.2	272.6	273.0	273.4	273.5
135°	287.6	287.8	288.0	288.1	288.3	288.5	288.8	289.2	289.5	289.8	289.9
137.5°	303.3	303.6	303.8	304.1	304.3	304.6	305.0	305.4	305.8	306.2	306.0
140°	318.7	319.2	319.8	320.4	320.9	321.2	321.3	321.4	321.5	321.5	321.5
142.5°	334.4	334.8	335.2	335.6	336.0	336.2	336.3	336.4	336.5	336.5	336.4
145°	349.4	349.7	350.0	350.3	350.7	350.9	350.9	351.0	351.1	351.2	350.9
147.5°	362.9	363.4	363.9	364.4	364.8	365.1	365.1	365.1	365.1	365.1	364.8
150°	375.8	376.3	376.7	377.2	377.7	377.9	377.9	377.9	377.9	377.9	377.8
152.5°	388.3	388.7	389.1	389.5	389.9	390.0	389.8	389.7	389.5	389.4	389.3
155°	399.3	399.9	400.5	401.0	401.6	401.7	401.4	401.1	400.7	400.4	400.3
157.5°	409.7	410.2	410.6	411.1	411.6	411.7	411.4	411.0	410.7	410.4	410.3
160°	419.7	420.0	420.3	420.6	421.0	420.9	420.5	420.1	419.7	419.3	419.3
162.5°	427.2	427.7	428.3	428.8	429.4	429.5	429.1	428.7	428.3	427.9	427.8
165°	434.3	434.9	435.4	436.0	436.5	436.6	436.1	435.6	435.2	434.7	434.7
167.5°	440.7	441.2	441.7	442.2	442.6	442.6	442.2	441.7	441.2	440.7	440.7
170°	445.4	445.9	446.5	447.0	447.6	447.6	447.0	446.5	445.9	445.4	445.4
172.5°	449.0	449.5	450.1	450.6	451.2	451.2	450.7	450.3	449.8	449.3	449.3
175°	451.5	452.0	452.6	453.1	453.7	453.7	453.2	452.8	452.3	451.8	451.8
177.5°	452.9	453.4	454.0	454.5	455.1	455.1	454.7	454.2	453.7	453.2	453.2
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2
2.5°	3097.8	3089.7	3060.2	3030.6	2997.0	2963.4	2938.5	2913.7	2876.7	2839.8	2809.5
5°	3357.2	3319.5	3257.1	3194.6	3109.9	3025.2	2968.1	2911.0	2834.4	2757.8	2696.6
7.5°	3562.8	3498.3	3410.9	3323.6	3212.7	3101.8	2997.0	2892.2	2775.2	2658.3	2562.9
10°	3693.8	3650.2	3549.4	3448.6	3300.1	3151.6	3005.1	2858.6	2708.1	2557.5	2431.2
12.5°	3706.6	3710.6	3617.9	3525.2	3357.2	3189.2	3011.1	2833.0	2643.5	2454.0	2306.9
15°	3594.4	3663.6	3612.5	3561.5	3392.1	3222.8	3003.7	2784.7	2566.3	2347.9	2177.9
17.5°	3386.1	3534.6	3542.0	3549.4	3380.0	3210.7	2968.1	2725.5	2478.2	2231.0	2052.2
20°	3101.8	3320.9	3396.2	3471.4	3333.7	3195.9	2935.2	2674.5	2397.6	2120.7	1933.3
22.5°	2811.5	3077.6	3215.4	3353.1	3251.0	3148.9	2871.3	2593.8	2301.5	2009.2	1819.0
25°	2480.9	2771.2	2982.9	3194.6	3132.1	3069.6	2796.1	2522.6	2211.5	1900.3	1706.1
27.5°	2192.6	2487.6	2743.0	2998.3	2984.9	2971.5	2700.0	2428.5	2110.0	1791.5	1604.0
30°	1936.0	2210.8	2496.4	2782.0	2814.9	2847.8	2585.8	2323.7	2004.5	1685.3	1504.5
32.5°	1708.8	1948.7	2255.1	2561.6	2626.1	2690.6	2454.0	2217.5	1901.7	1585.9	1411.8
35°	1522.7	1740.4	2046.8	2353.3	2433.9	2514.5	2308.9	2103.3	1795.5	1487.7	1321.8
37.5°	1358.1	1540.2	1839.2	2138.2	2237.0	2335.8	2151.7	1967.5	1679.3	1391.0	1238.4
40°	1221.6	1368.1	1643.0	1917.8	2032.0	2146.3	1994.4	1842.6	1569.1	1295.6	1155.1
42.5°	1107.4	1237.8	1487.1	1736.4	1845.9	1955.4	1827.1	1698.7	1455.5	1212.2	1083.9
45°	1010.0	1114.1	1340.6	1567.0	1671.2	1775.4	1665.1	1554.9	1340.6	1126.2	1006.6
47.5°	918.6	1008.0	1201.5	1395.0	1487.7	1580.5	1494.5	1408.5	1227.0	1045.6	937.4
50°	836.6	908.5	1077.8	1247.2	1327.8	1408.5	1332.5	1256.6	1107.4	958.2	864.2
52.5°	765.4	823.8	965.6	1107.4	1176.6	1245.8	1180.7	1115.5	997.2	878.9	797.0
55°	694.8	744.5	867.5	990.5	1037.5	1084.6	1034.2	983.8	888.3	792.9	723.7
57.5°	629.0	673.3	774.1	874.9	911.2	947.5	901.8	856.1	784.2	712.3	654.5
60°	564.5	600.7	684.7	768.7	790.9	813.1	776.1	739.2	688.8	638.4	586.6
62.5°	504.7	537.6	600.1	662.6	677.3	692.1	663.9	635.7	597.4	559.1	518.8
65°	442.8	467.7	518.8	569.8	579.2	588.6	563.8	538.9	510.0	481.1	451.6
67.5°	385.7	403.2	444.8	486.5	487.2	487.9	467.7	447.5	431.4	415.3	391.8
70°	329.9	346.7	374.3	401.8	402.5	403.2	387.1	370.9	358.8	346.7	329.3
72.5°	272.8	284.9	305.7	326.6	325.2	323.9	313.8	303.7	294.3	284.9	272.1
75°	221.1	231.2	245.3	259.4	255.3	251.3	245.9	240.6	232.5	224.4	216.4
77.5°	174.0	180.1	188.2	196.2	193.5	190.8	186.1	181.4	175.4	169.3	166.0
80°	127.7	130.4	135.7	141.1	139.8	138.4	133.1	127.7	126.3	125.0	120.3
82.5°	86.7	90.0	91.4	92.7	92.1	91.4	87.4	83.3	82.0	80.6	80.0
85°	51.7	52.4	53.1	53.8	51.7	49.7	48.4	47.0	47.0	47.0	46.4
87.5°	23.5	24.2	24.2	24.2	23.5	22.8	21.5	20.2	20.8	21.5	21.5
90°	6.5	5.5	4.4	3.5	2.7	1.9	1.1	0.4	1.1	1.9	2.7
92.5°	14.0	13.6	13.1	12.6	12.1	11.7	11.2	10.7	11.2	11.7	12.1
95°	25.1	24.5	23.9	23.3	22.7	22.2	21.6	21.1	21.6	22.2	22.7
97.5°	37.6	37.1	36.6	36.2	35.8	35.4	35.0	34.6	35.0	35.4	35.8
100°	51.7	51.3	50.9	50.4	50.0	49.5	49.0	48.5	49.0	49.5	50.0
102.5°	67.1	66.5	65.9	65.5	65.3	65.1	64.8	64.6	64.8	65.1	65.3
105°	82.8	82.1	81.4	80.9	80.8	80.6	80.5	80.3	80.5	80.6	80.8
107.5°	100.0	99.7	99.4	99.2	99.1	99.0	98.9	98.9	98.9	99.0	99.1
110°	117.1	116.9	116.8	116.6	116.5	116.3	116.1	116.0	116.1	116.3	116.5





TEST NUMBER: P831106

CATALOG NUMBER: S123DIP-S1000D365U840-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	134.2	134.2	134.2	134.1	134.1	134.0	133.9	133.8	133.9	134.0	134.1
115°	152.3	152.5	152.7	152.6	152.4	152.1	151.9	151.7	151.9	152.1	152.4
117.5°	169.8	170.0	170.2	170.2	170.1	170.0	170.0	169.9	170.0	170.0	170.1
120°	187.8	188.2	188.6	188.6	188.1	187.6	187.1	186.6	187.1	187.6	188.1
122.5°	205.2	205.3	205.5	205.4	205.1	204.8	204.5	204.1	204.5	204.8	205.1
125°	222.7	222.8	223.0	222.9	222.7	222.5	222.2	222.0	222.2	222.5	222.7
127.5°	240.1	240.3	240.5	240.3	239.8	239.3	238.9	238.4	238.9	239.3	239.8
130°	257.1	257.3	257.5	257.3	256.7	256.1	255.4	254.8	255.4	256.1	256.7
132.5°	273.7	273.8	274.0	273.8	273.1	272.5	271.9	271.2	271.9	272.5	273.1
135°	289.9	290.0	290.1	289.9	289.4	289.0	288.5	288.0	288.5	289.0	289.4
137.5°	305.7	305.5	305.2	304.9	304.5	304.1	303.7	303.3	303.7	304.1	304.5
140°	321.4	321.3	321.2	321.0	320.6	320.2	319.8	319.4	319.8	320.2	320.6
142.5°	336.2	336.1	335.9	335.6	335.2	334.8	334.4	334.0	334.4	334.8	335.2
145°	350.7	350.5	350.2	350.0	349.9	349.7	349.5	349.4	349.5	349.7	349.9
147.5°	364.6	364.4	364.1	363.9	363.5	363.2	362.9	362.6	362.9	363.2	363.5
150°	377.6	377.5	377.3	377.1	377.0	376.8	376.7	376.5	376.7	376.8	377.0
152.5°	389.2	389.1	389.0	388.9	388.6	388.4	388.2	387.9	388.2	388.4	388.6
155°	400.3	400.2	400.1	400.1	400.1	400.1	400.1	400.1	400.1	400.1	400.1
157.5°	410.3	410.2	410.1	410.1	410.2	410.3	410.3	410.4	410.3	410.3	410.2
160°	419.3	419.3	419.3	419.4	419.6	419.7	419.9	420.0	419.9	419.7	419.6
162.5°	427.7	427.7	427.6	427.7	427.9	428.1	428.4	428.6	428.4	428.1	427.9
165°	434.7	434.7	434.7	434.8	435.0	435.3	435.5	435.7	435.5	435.3	435.0
167.5°	440.6	440.5	440.4	440.5	440.9	441.2	441.5	441.8	441.5	441.2	440.9
170°	445.4	445.4	445.4	445.5	445.9	446.2	446.5	446.8	446.5	446.2	445.9
172.5°	449.3	449.3	449.3	449.5	449.8	450.1	450.4	450.7	450.4	450.1	449.8
175°	451.8	451.8	451.8	452.0	452.3	452.6	452.9	453.2	452.9	452.6	452.3
177.5°	453.2	453.2	453.2	453.4	453.7	454.0	454.3	454.7	454.3	454.0	453.7
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3



TEST NUMBER: P831106

CATALOG NUMBER: S123DIP-S1000D365U840-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2
2.5°	2779.3	2753.1	2726.9	2706.7	2686.5	2652.3	2618.0	2609.9	2601.9	2590.5	2579.0
5°	2635.5	2571.0	2506.5	2448.7	2390.9	2345.9	2300.8	2271.3	2241.7	2220.2	2198.7
7.5°	2467.5	2370.7	2274.0	2205.4	2136.9	2071.7	2006.5	1985.7	1964.8	1936.6	1908.4
10°	2304.9	2198.0	2091.2	2001.8	1912.4	1848.6	1784.8	1759.2	1733.7	1698.1	1662.5
12.5°	2159.7	2042.8	1925.9	1835.8	1745.8	1684.0	1622.1	1585.2	1548.2	1528.1	1507.9
15°	2007.9	1882.9	1757.9	1674.6	1591.2	1535.5	1479.7	1447.4	1415.2	1395.7	1376.2
17.5°	1873.5	1749.8	1626.2	1546.2	1466.2	1415.2	1364.1	1335.9	1307.7	1292.9	1278.1
20°	1745.8	1624.8	1503.9	1425.9	1348.0	1306.3	1264.7	1246.5	1228.4	1216.3	1204.2
22.5°	1628.9	1509.9	1391.0	1324.5	1257.9	1224.3	1190.7	1178.0	1165.2	1155.1	1145.0
25°	1511.9	1405.8	1299.6	1243.2	1186.7	1159.2	1131.6	1118.8	1106.1	1096.0	1085.9
27.5°	1416.5	1315.1	1213.6	1165.2	1116.8	1095.3	1073.8	1063.7	1053.7	1044.2	1034.8
30°	1323.8	1233.1	1142.4	1100.7	1059.0	1039.5	1020.1	1010.0	999.9	991.2	982.4
32.5°	1237.8	1159.8	1081.9	1043.6	1005.3	989.1	973.0	960.9	948.8	942.1	935.4
35°	1155.8	1085.9	1016.0	984.4	952.9	936.7	920.6	910.5	900.4	895.1	889.7
37.5°	1085.9	1023.4	960.9	930.7	900.4	885.0	869.5	860.8	852.1	850.0	848.0
40°	1014.7	960.9	907.2	877.6	848.0	834.6	821.2	815.8	810.4	809.1	807.7
42.5°	955.5	903.1	850.7	823.8	797.0	785.5	774.1	771.4	768.7	770.8	772.8
45°	887.0	843.3	799.6	774.8	749.9	740.5	731.1	729.1	727.1	731.1	735.1
47.5°	829.2	788.9	748.6	725.1	701.5	694.8	688.1	687.4	686.8	692.1	697.5
50°	770.1	731.1	692.1	673.3	654.5	648.5	642.4	644.4	646.4	655.2	663.9
52.5°	715.0	678.7	642.4	624.9	607.5	603.4	599.4	604.1	608.8	618.2	627.6
55°	654.5	621.6	588.6	575.2	561.8	557.7	553.7	563.1	572.5	581.3	590.0
57.5°	596.7	567.8	538.9	526.8	514.7	514.1	513.4	522.1	530.9	540.3	549.7
60°	534.9	510.7	486.5	477.1	467.7	469.0	470.4	480.5	490.5	497.9	505.3
62.5°	478.4	458.3	438.1	429.4	420.7	424.0	427.4	437.5	447.5	456.3	465.0
65°	422.0	405.2	388.4	382.4	376.3	381.0	385.7	394.4	403.2	409.2	415.3
67.5°	368.2	354.1	340.0	335.3	330.6	335.3	340.0	348.8	357.5	363.5	369.6
70°	311.8	300.4	288.9	285.6	282.2	287.6	293.0	300.4	307.8	313.8	319.9
72.5°	259.4	250.6	241.9	241.2	240.6	245.3	250.0	257.4	264.8	268.8	272.8
75°	208.3	203.6	198.9	198.2	197.6	202.3	207.0	211.0	215.0	218.4	221.8
77.5°	162.6	158.6	154.6	155.2	155.9	159.3	162.6	166.6	170.7	172.7	174.7
80°	115.6	114.2	112.9	114.2	115.6	118.3	121.0	123.6	126.3	127.7	129.0
82.5°	79.3	77.9	76.6	78.6	80.6	82.7	84.7	86.7	88.7	89.4	90.0
85°	45.7	47.7	49.7	49.7	49.7	50.4	51.1	51.7	52.4	51.7	51.1
87.5°	21.5	22.2	22.8	22.8	22.8	23.5	24.2	24.2	24.2	23.5	22.8
90°	3.5	4.4	5.5	6.5	7.5	8.6	8.9	9.2	9.5	9.8	10.1
92.5°	12.6	13.1	13.6	14.0	14.5	15.0	15.2	15.5	15.7	15.9	16.0
95°	23.3	23.9	24.5	25.1	25.8	26.4	26.7	27.0	27.4	27.7	27.8
97.5°	36.2	36.6	37.1	37.6	38.1	38.5	38.9	39.3	39.7	40.1	40.3
100°	50.4	50.9	51.3	51.7	52.1	52.5	52.7	52.9	53.2	53.4	53.6
102.5°	65.5	65.9	66.5	67.1	67.6	68.2	68.4	68.6	68.9	69.1	69.2
105°	80.9	81.4	82.1	82.8	83.5	84.2	84.2	84.2	84.2	84.2	84.3
107.5°	99.2	99.4	99.7	100.0	100.3	100.6	100.9	101.1	101.4	101.6	101.7
110°	116.6	116.8	116.9	117.1	117.3	117.4	117.7	118.0	118.4	118.7	118.8



TEST NUMBER: P831106

CATALOG NUMBER: S123DIP-S1000D365U840-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	134.1	134.2	134.2	134.2	134.2	134.2	134.6	135.0	135.4	135.8	136.0
115°	152.6	152.7	152.5	152.3	152.2	152.0	152.1	152.2	152.3	152.3	152.3
117.5°	170.2	170.2	170.0	169.8	169.7	169.5	169.5	169.5	169.5	169.5	169.4
120°	188.6	188.6	188.2	187.8	187.4	187.0	186.9	186.8	186.8	186.7	186.6
122.5°	205.4	205.5	205.3	205.2	205.0	204.8	204.6	204.4	204.1	203.9	203.7
125°	222.9	223.0	222.8	222.7	222.5	222.3	222.0	221.7	221.4	221.1	220.7
127.5°	240.3	240.5	240.3	240.1	240.0	239.8	239.3	238.9	238.4	237.9	237.5
130°	257.3	257.5	257.3	257.1	256.8	256.6	256.3	256.0	255.6	255.3	254.9
132.5°	273.8	274.0	273.8	273.7	273.5	273.4	273.0	272.6	272.2	271.8	271.4
135°	289.9	290.1	290.0	289.9	289.9	289.8	289.5	289.2	288.8	288.5	288.3
137.5°	304.9	305.2	305.5	305.7	306.0	306.2	305.8	305.4	305.0	304.6	304.3
140°	321.0	321.2	321.3	321.4	321.5	321.5	321.5	321.4	321.3	321.2	320.9
142.5°	335.6	335.9	336.1	336.2	336.4	336.5	336.5	336.4	336.3	336.2	336.0
145°	350.0	350.2	350.5	350.7	350.9	351.2	351.1	351.0	350.9	350.9	350.7
147.5°	363.9	364.1	364.4	364.6	364.8	365.1	365.1	365.1	365.1	365.1	364.8
150°	377.1	377.3	377.5	377.6	377.8	377.9	377.9	377.9	377.9	377.9	377.7
152.5°	388.9	389.0	389.1	389.2	389.3	389.4	389.5	389.7	389.8	390.0	389.9
155°	400.1	400.1	400.2	400.3	400.3	400.4	400.7	401.1	401.4	401.7	401.6
157.5°	410.1	410.1	410.2	410.3	410.3	410.4	410.7	411.0	411.4	411.7	411.6
160°	419.4	419.3	419.3	419.3	419.3	419.3	419.7	420.1	420.5	420.9	421.0
162.5°	427.7	427.6	427.7	427.7	427.8	427.9	428.3	428.7	429.1	429.5	429.4
165°	434.8	434.7	434.7	434.7	434.7	434.7	435.2	435.6	436.1	436.6	436.5
167.5°	440.5	440.4	440.5	440.6	440.7	440.7	441.2	441.7	442.2	442.6	442.6
170°	445.5	445.4	445.4	445.4	445.4	445.4	445.9	446.5	447.0	447.6	447.6
172.5°	449.5	449.3	449.3	449.3	449.3	449.3	449.8	450.3	450.7	451.2	451.2
175°	452.0	451.8	451.8	451.8	451.8	451.8	452.3	452.8	453.2	453.7	453.7
177.5°	453.4	453.2	453.2	453.2	453.2	453.2	453.7	454.2	454.7	455.1	455.1
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3



TEST NUMBER: P831106

CATALOG NUMBER: S123DIP-S1000D365U840-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	2896.2	2896.2	2896.2	2896.2
2.5°	2574.3	2569.6	2550.8	2532.0
5°	2182.6	2166.4	2161.1	2155.7
7.5°	1907.1	1905.7	1877.5	1849.3
10°	1664.5	1666.5	1641.0	1615.4
12.5°	1491.1	1474.3	1472.3	1470.3
15°	1360.7	1345.3	1342.6	1339.9
17.5°	1268.7	1259.3	1256.6	1253.9
20°	1198.8	1193.4	1188.7	1184.0
22.5°	1138.3	1131.6	1127.6	1123.5
25°	1079.9	1073.8	1072.5	1071.1
27.5°	1027.4	1020.1	1020.1	1020.1
30°	977.7	973.0	971.0	969.0
32.5°	931.4	927.3	927.3	927.3
35°	887.7	885.7	883.0	880.3
37.5°	848.0	848.0	846.7	845.3
40°	809.7	811.7	811.7	811.7
42.5°	774.8	776.8	776.8	776.8
45°	738.5	741.9	743.2	744.5
47.5°	702.9	708.3	709.6	710.9
50°	667.9	672.0	672.6	673.3
52.5°	632.3	637.0	640.4	643.8
55°	594.7	599.4	601.4	603.4
57.5°	554.4	559.1	559.8	560.4
60°	510.0	514.7	516.1	517.4
62.5°	467.7	470.4	471.7	473.1
65°	419.3	423.3	426.0	428.7
67.5°	372.9	376.3	376.3	376.3
70°	321.2	322.5	324.6	326.6
72.5°	273.5	274.2	274.2	274.2
75°	223.1	224.4	225.1	225.8
77.5°	175.4	176.1	176.1	176.1
80°	128.3	127.7	127.7	127.7
82.5°	88.0	86.0	86.0	86.0
85°	50.4	49.7	50.4	51.1
87.5°	22.8	22.8	22.8	22.8
90°	10.2	10.4	10.5	10.7
92.5°	15.8	15.7	15.5	15.3
95°	27.8	27.8	27.8	27.8
97.5°	40.2	40.1	40.0	40.0
100°	53.8	53.9	54.1	54.2
102.5°	69.1	69.0	69.0	68.9
105°	84.5	84.6	84.8	84.9
107.5°	101.6	101.5	101.4	101.4
110°	118.6	118.4	118.3	118.1



TEST NUMBER: P831106

CATALOG NUMBER: S123DIP-S1000D365U840-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	136.0	136.0	136.0	136.0
115°	152.3	152.2	152.1	152.0
117.5°	169.2	168.9	168.7	168.4
120°	186.4	186.3	186.1	185.9
122.5°	203.4	203.2	202.9	202.7
125°	220.4	220.1	219.8	219.5
127.5°	237.2	236.9	236.6	236.3
130°	254.3	253.8	253.2	252.7
132.5°	271.0	270.6	270.2	269.8
135°	288.1	288.0	287.8	287.6
137.5°	304.1	303.8	303.6	303.3
140°	320.4	319.8	319.2	318.7
142.5°	335.6	335.2	334.8	334.4
145°	350.3	350.0	349.7	349.4
147.5°	364.4	363.9	363.4	362.9
150°	377.2	376.7	376.3	375.8
152.5°	389.5	389.1	388.7	388.3
155°	401.0	400.5	399.9	399.3
157.5°	411.1	410.6	410.2	409.7
160°	420.6	420.3	420.0	419.7
162.5°	428.8	428.3	427.7	427.2
165°	436.0	435.4	434.9	434.3
167.5°	442.2	441.7	441.2	440.7
170°	447.0	446.5	445.9	445.4
172.5°	450.6	450.1	449.5	449.0
175°	453.1	452.6	452.0	451.5
177.5°	454.5	454.0	453.4	452.9
180°	454.3	454.3	454.3	454.3



TEST NUMBER: P831106

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**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	17.88	19.01	18.55	19.69	20.48	20.12	21.24	20.79	21.93	22.72
	3H	19.55	20.56	20.23	21.25	22.08	21.56	22.57	22.24	23.26	24.09
	4H	20.13	21.09	20.84	21.79	22.63	22.02	22.97	22.73	23.68	24.52
	6H	20.52	21.40	21.24	22.11	22.97	22.31	23.19	23.03	23.90	24.76
	8H	20.62	21.46	21.35	22.19	23.05	22.38	23.21	23.11	23.95	24.81
	12H	20.67	21.47	21.41	22.20	23.08	22.41	23.20	23.14	23.93	24.82
4H	2H	18.48	19.44	19.19	20.14	20.98	20.31	21.26	21.02	21.97	22.81
	3H	20.34	21.13	21.06	21.87	22.73	21.95	22.74	22.67	23.48	24.34
	4H	21.04	21.76	21.78	22.51	23.40	22.54	23.26	23.28	24.01	24.90
	6H	21.53	22.15	22.29	22.92	23.82	22.96	23.58	23.72	24.35	25.25
	8H	21.67	22.25	22.43	23.02	23.93	23.08	23.66	23.84	24.43	25.33
	12H	21.75	22.27	22.53	23.06	23.98	23.14	23.66	23.92	24.45	25.36
8H	4H	21.33	21.91	22.09	22.67	23.58	22.67	23.25	23.43	24.01	24.92
	6H	21.93	22.41	22.72	23.21	24.13	23.18	23.66	23.97	24.47	25.38
	8H	22.14	22.56	22.94	23.37	24.30	23.36	23.79	24.16	24.60	25.52
	12H	22.27	22.65	23.07	23.44	24.43	23.48	23.85	24.28	24.65	25.64
12H	4H	21.34	21.86	22.12	22.65	23.57	22.66	23.18	23.44	23.97	24.88
	6H	21.98	22.41	22.78	23.21	24.14	23.20	23.62	24.00	24.43	25.36
	8H	22.23	22.60	23.03	23.40	24.38	23.41	23.78	24.21	24.58	25.57