

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: P831248

Luminaire Tested: S123DIP-S1165D365U927-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831248  
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-S1165D365U927-4F0-1E-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: -

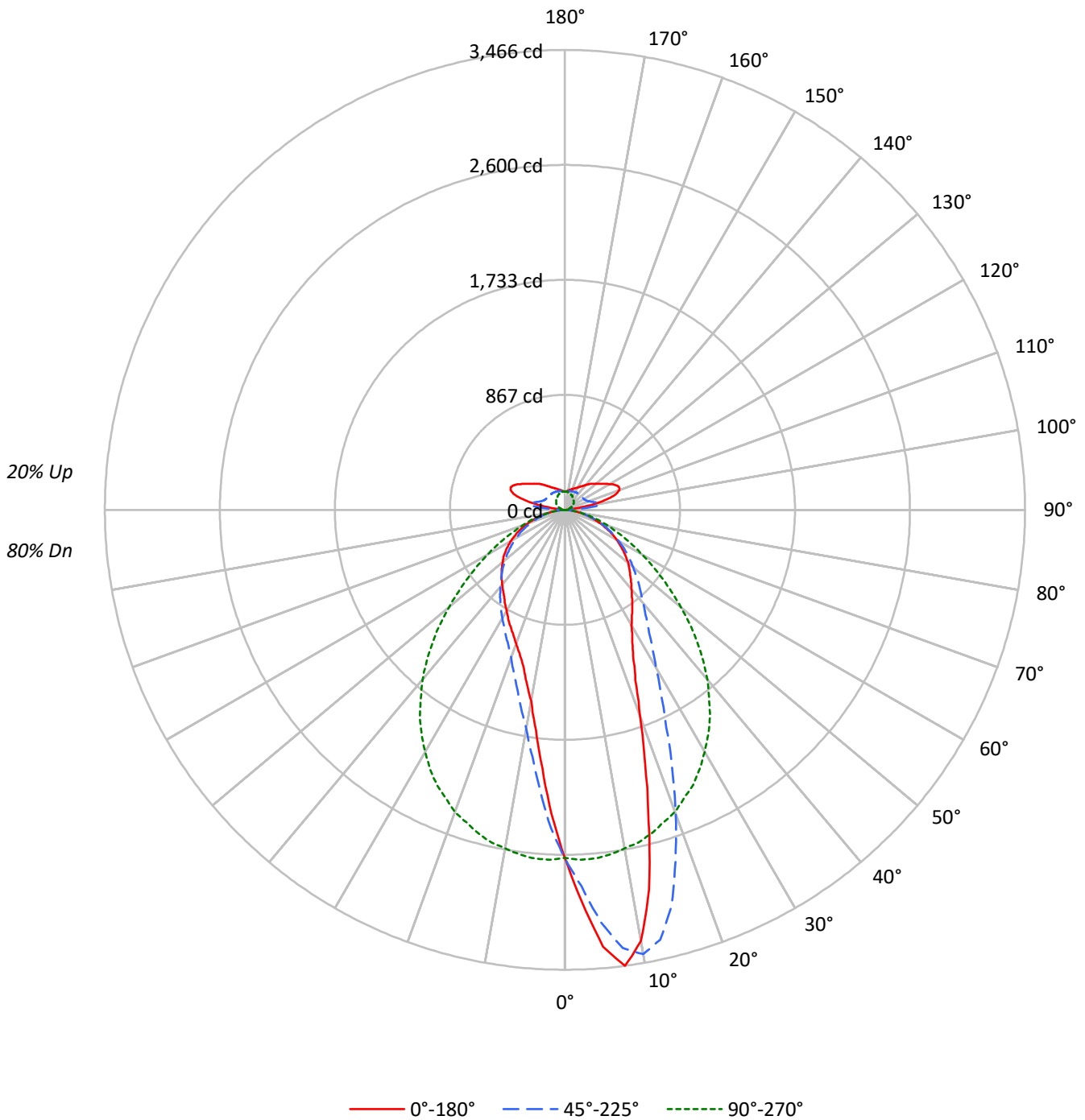
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5259.0 lumens  
Efficiency: N/A  
Efficacy: 100.7 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°	28243	28243	28243	28243	28243
5°	35718	33713	28496	22964	21102
10°	36066	37156	28306	18306	15996
15°	27164	34497	28113	15502	13527
20°	18927	27915	27755	13557	12287
25°	14433	21467	27143	12473	11525
30°	12485	17055	26166	11706	10912
35°	11583	14399	25039	11152	10479
40°	10967	12917	23456	10624	10333
45°	10602	11954	21444	10213	10268
50°	10419	11194	19063	9838	10215
55°	10031	10637	16726	9483	10260
60°	9672	10038	14417	9147	10092
65°	9088	9475	12437	8792	9892
70°	8393	8755	10578	8201	9312
75°	7594	7848	9062	7619	8509
80°	6267	6868	7172	6639	7172
85°	4965	5570	5261	5644	5718

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 24484 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	248.1	4.7
10°-20°	617.1	11.7
20°-30°	730.7	13.9
30°-40°	734.7	14.0
40°-50°	674.1	12.8
50°-60°	556.4	10.6
60°-70°	393.6	7.5
70°-80°	210.1	4.0
80°-90°	54.1	1.0
90°-100°	75.1	1.4
100°-110°	219.7	4.2
110°-120°	214.5	4.1
120°-130°	170.9	3.2
130°-140°	134.8	2.6
140°-150°	100.6	1.9
150°-160°	70.1	1.3
160°-170°	41.2	0.8
170°-180°	13.4	0.3
0°-30°	1595.9	30.3
0°-40°	2330.6	44.3
0°-60°	3561.0	67.7
0°-90°	4218.8	80.2
90°-120°	509.3	9.7
90°-150°	915.5	17.4
90°-180°	1040.0	19.8
0°-180°	5259.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2624	2624	2624	2624	2624	
5°	3306	3120	2637	2125	1953	315
15°	2438	3096	2523	1391	1214	673
25°	1215	1808	2285	1050	970	573
35°	882	1096	1906	849	798	554
45°	696	785	1409	671	674	539
55°	534	567	891	505	547	478
65°	357	372	488	345	388	355
75°	183	189	218	183	205	192
85°	40	45	43	46	46	45
90°	8	7	1	7	8	7
95°	32	166	10	166	32	53
105°	356	225	32	225	356	355
115°	433	172	57	172	433	422
125°	342	161	80	161	342	309
135°	277	158	94	158	277	215
145°	216	156	107	156	216	137
155°	179	151	121	151	179	84
165°	156	145	132	145	156	45
175°	141	139	138	139	141	14
180°	138	138	138	138	138	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9
2.5°	2957.5	2954.5	2951.4	2936.2	2921.0	2913.7	2906.4	2884.5	2862.5	2838.2	2813.8
5°	3305.7	3314.3	3322.8	3313.0	3303.3	3273.5	3243.6	3204.1	3164.5	3120.1	3075.6
7.5°	3466.5	3471.3	3476.2	3470.1	3464.0	3456.1	3448.2	3412.9	3377.6	3331.9	3286.3
10°	3299.7	3310.6	3321.6	3345.3	3369.1	3395.8	3422.6	3417.8	3412.9	3399.5	3386.1
12.5°	2933.2	2946.6	2959.9	3007.4	3054.9	3115.8	3176.7	3229.0	3281.4	3317.9	3354.4
15°	2437.6	2474.7	2511.9	2555.1	2598.3	2687.8	2777.3	2887.5	2997.7	3095.7	3193.7
17.5°	2007.8	2021.8	2035.8	2082.1	2128.3	2241.0	2353.6	2480.8	2608.1	2770.6	2933.2
20°	1652.3	1665.0	1677.8	1738.7	1799.6	1887.9	1976.1	2119.2	2262.3	2437.0	2611.7
22.5°	1388.0	1408.1	1428.2	1462.3	1496.4	1581.0	1665.7	1792.9	1920.1	2113.1	2306.1
25°	1215.2	1229.8	1244.4	1265.1	1285.8	1353.3	1420.9	1525.6	1630.3	1807.5	1984.7
27.5°	1097.0	1103.1	1109.2	1129.9	1150.6	1194.5	1238.3	1328.4	1418.5	1568.9	1719.2
30°	1004.5	1008.8	1013.0	1031.3	1049.6	1079.4	1109.2	1174.4	1239.5	1372.2	1504.9
32.5°	940.0	943.0	946.1	960.1	974.1	995.4	1016.7	1064.2	1111.7	1221.2	1330.8
35°	881.5	883.4	885.2	895.5	905.9	921.7	937.5	973.5	1009.4	1095.8	1182.3
37.5°	830.4	832.8	835.3	841.4	847.4	861.4	875.4	904.1	932.7	999.0	1065.4
40°	780.5	784.7	789.0	793.3	797.5	809.1	820.7	842.6	864.5	919.3	974.1
42.5°	737.9	742.1	746.4	748.2	750.0	756.7	763.4	783.5	803.6	844.4	885.2
45°	696.5	698.3	700.1	701.9	703.8	709.2	714.7	732.4	750.0	785.3	820.7
47.5°	658.7	658.7	658.7	659.9	661.1	666.0	670.9	683.7	696.5	723.9	751.3
50°	622.2	622.2	622.2	620.4	618.5	621.6	624.6	634.4	644.1	668.5	692.8
52.5°	578.4	578.4	578.4	579.0	579.6	579.6	579.6	588.1	596.6	618.5	640.4
55°	534.5	537.0	539.4	537.6	535.7	537.0	538.2	543.7	549.1	566.8	584.4
57.5°	490.7	491.9	493.1	492.5	491.9	492.5	493.1	498.0	502.9	516.3	529.6
60°	449.3	449.3	449.3	448.1	446.9	448.1	449.3	451.7	454.2	466.3	478.5
62.5°	403.0	403.6	404.2	404.8	405.5	404.2	403.0	406.1	409.1	418.2	427.4
65°	356.8	357.4	358.0	359.8	361.6	360.4	359.2	362.2	365.3	372.0	378.7
67.5°	315.4	314.1	312.9	313.5	314.1	316.0	317.8	318.4	319.0	326.3	333.6
70°	266.7	267.9	269.1	268.5	267.9	268.5	269.1	270.9	272.7	278.2	283.7
72.5°	222.8	223.4	224.0	224.0	224.0	225.3	226.5	228.3	230.1	233.2	236.2
75°	182.6	182.6	182.6	183.9	185.1	185.7	186.3	186.3	186.3	188.7	191.2
77.5°	138.8	141.8	144.9	144.3	143.7	144.9	146.1	147.9	149.8	151.0	152.2
80°	101.1	101.1	101.1	101.7	102.3	104.1	105.9	107.1	108.4	110.8	113.2
82.5°	64.5	65.1	65.7	67.6	69.4	70.6	71.8	73.7	75.5	75.5	75.5
85°	40.2	39.0	37.7	39.0	40.2	41.4	42.6	43.2	43.8	45.1	46.3
87.5°	19.5	19.5	19.5	19.5	19.5	20.1	20.7	20.7	20.7	20.7	20.7
90°	8.1	8.4	8.1	7.8	8.1	7.6	7.3	7.0	6.7	7.0	6.2
92.5°	14.8	15.4	15.1	16.2	16.8	18.8	21.6	27.7	38.9	52.1	57.7
95°	32.5	33.6	35.6	38.1	43.4	53.5	68.3	100.8	134.7	166.0	147.8
97.5°	66.6	69.7	76.4	87.1	105.8	137.7	174.7	231.5	264.0	255.3	190.6
100°	175.5	175.2	186.2	206.6	234.9	274.6	307.4	330.1	320.3	265.1	179.2
102.5°	278.0	286.1	294.8	309.9	330.3	351.9	367.6	362.8	323.1	246.9	162.4
105°	356.1	357.5	366.4	377.1	390.0	397.2	391.9	363.9	305.4	225.1	149.2
107.5°	407.0	410.1	413.8	418.8	420.5	412.9	391.1	347.1	280.2	205.8	139.7
110°	436.1	436.7	437.3	435.0	427.2	407.6	372.3	320.8	256.7	189.8	134.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	442.0	441.7	438.9	430.8	414.9	388.3	347.7	294.8	236.3	179.2	131.9
115°	433.1	431.7	426.1	413.8	392.8	362.2	321.1	272.4	220.6	172.2	131.6
117.5°	413.5	411.5	403.1	389.4	367.6	335.9	298.1	255.0	210.2	167.4	131.9
120°	387.7	386.0	379.3	363.6	341.5	313.3	279.7	241.9	202.4	164.3	133.0
122.5°	363.6	361.4	353.8	340.1	321.1	295.3	264.8	231.5	196.0	162.4	134.9
125°	341.5	339.6	332.6	320.3	302.3	279.9	253.1	222.6	190.6	160.7	136.9
127.5°	322.5	320.8	314.4	303.7	287.5	266.8	242.1	214.4	185.6	159.8	139.1
130°	306.8	304.6	298.7	288.6	273.8	254.7	232.1	206.9	181.7	159.0	141.4
132.5°	291.4	290.0	285.0	274.9	261.2	243.3	222.6	199.9	178.0	158.7	143.1
135°	276.9	274.9	269.9	261.5	247.7	231.8	213.6	193.7	175.0	158.4	144.7
137.5°	261.5	259.8	255.6	246.9	235.2	220.9	204.6	187.8	172.2	157.9	145.8
140°	245.2	245.5	241.0	233.2	222.6	210.5	197.1	182.8	169.6	157.6	147.0
142.5°	230.1	230.4	226.5	219.8	211.1	201.0	189.8	178.0	167.4	157.0	147.8
145°	216.4	215.8	213.6	207.7	200.7	192.6	183.6	174.4	165.4	156.5	148.1
147.5°	204.6	204.4	202.1	197.9	192.3	186.4	178.9	171.3	163.5	155.6	148.1
150°	194.6	194.6	192.9	189.8	185.6	180.3	174.4	168.0	161.5	154.5	148.1
152.5°	186.2	186.2	185.3	182.5	179.4	175.2	170.2	164.9	159.3	153.1	147.2
155°	179.4	179.2	178.6	176.4	173.8	170.5	166.3	161.8	157.0	151.4	146.7
157.5°	173.0	173.0	172.4	170.8	168.5	165.7	162.4	158.4	154.5	150.0	145.8
160°	166.8	167.1	167.1	165.4	163.5	161.5	158.7	155.6	152.0	148.4	145.3
162.5°	161.2	161.5	161.5	160.1	159.0	157.3	154.8	152.3	149.5	146.7	144.2
165°	156.5	156.5	156.8	155.6	154.5	153.1	151.2	149.5	147.2	145.0	143.1
167.5°	151.7	151.7	152.0	151.2	150.6	149.5	148.4	147.0	145.0	143.3	141.9
170°	147.5	147.5	147.8	147.2	147.0	146.4	145.3	144.4	143.1	141.7	140.8
172.5°	143.6	143.9	144.4	143.9	143.9	143.6	142.8	142.2	141.1	140.3	140.0
175°	140.8	141.1	141.4	141.1	141.1	141.1	140.5	140.3	139.7	139.1	139.1
177.5°	138.9	138.9	139.4	139.1	139.4	139.4	139.1	138.9	138.6	138.3	138.6
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9
2.5°	2806.5	2799.2	2772.4	2745.7	2715.2	2684.8	2662.3	2639.7	2606.2	2572.8	2545.4
5°	3041.5	3007.4	2950.8	2894.2	2817.5	2740.8	2689.0	2637.3	2567.9	2498.5	2443.1
7.5°	3227.8	3169.4	3090.2	3011.1	2910.6	2810.2	2715.2	2620.2	2514.3	2408.4	2321.9
10°	3346.5	3307.0	3215.6	3124.3	2989.8	2855.2	2722.5	2589.8	2453.4	2317.1	2202.6
12.5°	3358.1	3361.8	3277.7	3193.7	3041.5	2889.3	2728.0	2566.7	2395.0	2223.3	2090.0
15°	3256.4	3319.1	3272.9	3226.6	3073.2	2919.8	2721.3	2522.8	2325.0	2127.1	1973.1
17.5°	3067.7	3202.2	3208.9	3215.6	3062.2	2908.8	2689.0	2469.3	2245.2	2021.2	1859.3
20°	2810.2	3008.7	3076.8	3145.0	3020.2	2895.4	2659.2	2423.0	2172.2	1921.3	1751.5
22.5°	2547.2	2788.3	2913.1	3037.9	2945.3	2852.8	2601.4	2349.9	2085.1	1820.3	1648.0
25°	2247.7	2510.7	2702.4	2894.2	2837.6	2781.0	2533.2	2285.4	2003.5	1721.7	1545.7
27.5°	1986.5	2253.8	2485.1	2716.4	2704.3	2692.1	2446.1	2200.2	1911.6	1623.0	1453.2
30°	1753.9	2002.9	2261.7	2520.4	2550.2	2580.1	2342.6	2105.2	1816.0	1526.9	1363.1
32.5°	1548.2	1765.5	2043.1	2320.7	2379.2	2437.6	2223.3	2009.0	1722.9	1436.8	1279.1
35°	1379.5	1576.8	1854.4	2132.0	2205.0	2278.1	2091.8	1905.5	1626.7	1347.9	1197.5
37.5°	1230.4	1395.4	1666.3	1937.2	2026.7	2116.2	1949.4	1782.5	1521.4	1260.2	1122.0
40°	1106.8	1239.5	1488.5	1737.5	1841.0	1944.5	1806.9	1669.3	1421.5	1173.8	1046.5
42.5°	1003.3	1121.4	1347.3	1573.1	1672.4	1771.6	1655.3	1539.0	1318.6	1098.3	982.0
45°	915.0	1009.4	1214.5	1419.7	1514.1	1608.4	1508.6	1408.7	1214.5	1020.3	912.0
47.5°	832.2	913.2	1088.5	1263.9	1347.9	1431.9	1354.0	1276.0	1111.7	947.3	849.3
50°	757.9	823.1	976.5	1129.9	1203.0	1276.0	1207.2	1138.4	1003.3	868.1	782.9
52.5°	693.4	746.4	874.8	1003.3	1066.0	1128.7	1069.6	1010.6	903.4	796.3	722.0
55°	629.5	674.5	786.0	897.4	940.0	982.6	936.9	891.3	804.8	718.4	655.7
57.5°	569.8	610.0	701.3	792.6	825.5	858.4	817.0	775.6	710.5	645.3	593.0
60°	511.4	544.3	620.4	696.5	716.5	736.6	703.2	669.7	624.0	578.4	531.5
62.5°	457.2	487.0	543.7	600.3	613.7	627.1	601.5	575.9	541.2	506.5	470.0
65°	401.2	423.7	470.0	516.3	524.8	533.3	510.8	488.3	462.1	435.9	409.1
67.5°	349.4	365.3	403.0	440.8	441.4	442.0	423.7	405.5	390.8	376.2	354.9
70°	298.9	314.1	339.1	364.1	364.7	365.3	350.7	336.1	325.1	314.1	298.3
72.5°	247.2	258.1	277.0	295.9	294.7	293.4	284.3	275.2	266.7	258.1	246.6
75°	200.3	209.4	222.2	235.0	231.3	227.7	222.8	217.9	210.6	203.3	196.0
77.5°	157.7	163.2	170.5	177.8	175.3	172.9	168.6	164.4	158.9	153.4	150.4
80°	115.7	118.1	123.0	127.8	126.6	125.4	120.5	115.7	114.5	113.2	109.0
82.5°	78.5	81.6	82.8	84.0	83.4	82.8	79.1	75.5	74.3	73.1	72.4
85°	46.9	47.5	48.1	48.7	46.9	45.1	43.8	42.6	42.6	42.6	42.0
87.5°	21.3	21.9	21.9	21.9	21.3	20.7	19.5	18.3	18.9	19.5	19.5
90°	5.3	4.5	3.6	3.1	2.5	1.7	1.1	0.6	1.1	1.7	2.5
92.5°	43.1	28.3	19.3	14.3	11.5	9.0	6.2	4.2	6.2	9.0	11.5
95°	101.9	60.2	36.4	25.5	18.2	13.4	10.4	9.5	10.4	13.4	18.2
97.5°	113.4	64.9	41.4	29.4	22.1	17.9	15.4	15.1	15.4	17.9	22.1
100°	105.5	64.1	44.5	33.6	26.9	23.0	21.0	20.7	21.0	23.0	26.9
102.5°	98.8	65.2	48.1	38.4	32.5	28.8	27.2	26.6	27.2	28.8	32.5
105°	96.3	67.5	52.3	43.7	38.4	35.0	33.3	32.5	33.3	35.0	38.4
107.5°	95.7	71.1	57.7	49.5	44.5	41.2	39.5	38.6	39.5	41.2	44.5
110°	97.1	75.9	63.3	55.4	50.7	47.6	46.2	45.4	46.2	47.6	50.7





TEST NUMBER: P831248

CATALOG NUMBER: S123DIP-S1165D365U927-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	99.9	80.6	69.1	61.6	56.8	53.7	52.3	51.5	52.3	53.7	56.8
115°	103.0	85.9	75.3	67.7	63.0	60.2	58.5	57.4	58.5	60.2	63.0
117.5°	106.9	91.5	80.9	73.9	68.6	66.1	64.7	63.3	64.7	66.1	68.6
120°	111.4	96.9	86.8	79.8	74.5	71.7	70.3	69.4	70.3	71.7	74.5
122.5°	115.6	102.5	92.7	85.1	80.1	77.0	75.6	74.7	75.6	77.0	80.1
125°	120.1	107.8	98.0	90.4	85.1	82.0	80.3	79.8	80.3	82.0	85.1
127.5°	123.7	112.5	103.0	95.5	89.6	86.5	84.5	83.7	84.5	86.5	89.6
130°	127.4	116.7	107.5	99.9	94.1	90.7	88.2	87.3	88.2	90.7	94.1
132.5°	130.7	120.4	111.4	104.1	98.3	94.1	91.3	90.1	91.3	94.1	98.3
135°	133.5	124.0	115.3	107.8	101.9	97.7	94.6	93.5	94.6	97.7	101.9
137.5°	135.8	126.5	118.1	111.1	105.3	100.8	97.7	96.6	97.7	100.8	105.3
140°	137.5	129.1	120.9	113.9	108.3	103.9	101.1	99.7	101.1	103.9	108.3
142.5°	139.1	131.0	123.2	116.7	111.1	107.2	104.1	103.0	104.1	107.2	111.1
145°	140.3	132.7	125.4	119.0	114.2	110.0	107.5	106.7	107.5	110.0	114.2
147.5°	141.1	134.1	127.4	121.8	117.0	113.4	110.9	110.3	110.9	113.4	117.0
150°	141.4	135.5	129.1	124.0	120.1	116.5	114.2	113.9	114.2	116.5	120.1
152.5°	141.9	136.3	131.0	126.3	122.9	119.8	117.6	117.6	117.6	119.8	122.9
155°	141.9	137.5	132.7	128.8	125.7	122.9	121.2	121.2	121.2	122.9	125.7
157.5°	142.2	138.0	134.1	131.0	128.2	125.7	124.3	124.0	124.3	125.7	128.2
160°	142.2	138.9	135.5	132.7	130.7	128.5	127.4	127.4	127.4	128.5	130.7
162.5°	141.9	139.1	136.3	134.1	132.4	130.7	129.9	129.9	129.9	130.7	132.4
165°	141.4	139.4	137.2	135.2	134.1	132.7	132.1	132.4	132.1	132.7	134.1
167.5°	141.1	139.4	137.7	136.3	135.5	134.4	134.1	134.4	134.1	134.4	135.5
170°	140.3	139.1	137.7	137.2	136.6	135.8	135.5	136.1	135.5	135.8	136.6
172.5°	140.0	139.1	138.0	137.7	137.5	136.9	136.9	137.2	136.9	136.9	137.5
175°	139.4	138.9	138.3	138.0	138.0	137.5	137.7	138.0	137.7	137.5	138.0
177.5°	139.1	138.6	138.3	138.3	138.3	138.0	138.3	138.6	138.3	138.0	138.3
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3



TEST NUMBER: P831248

CATALOG NUMBER: S123DIP-S1165D365U927-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9
2.5°	2518.0	2494.2	2470.5	2452.2	2434.0	2402.9	2371.9	2364.6	2357.2	2346.9	2336.5
5°	2387.7	2329.2	2270.8	2218.4	2166.1	2125.3	2084.5	2057.7	2030.9	2011.5	1992.0
7.5°	2235.5	2147.8	2060.2	1998.1	1936.0	1876.9	1817.9	1799.0	1780.1	1754.5	1729.0
10°	2088.2	1991.4	1894.6	1813.6	1732.6	1674.8	1617.0	1593.8	1570.7	1538.4	1506.2
12.5°	1956.7	1850.7	1744.8	1663.2	1581.6	1525.6	1469.6	1436.1	1402.7	1384.4	1366.1
15°	1819.1	1705.8	1592.6	1517.1	1441.6	1391.1	1340.6	1311.3	1282.1	1264.5	1246.8
17.5°	1697.3	1585.3	1473.3	1400.8	1328.4	1282.1	1235.8	1210.3	1184.7	1171.3	1157.9
20°	1581.6	1472.1	1362.5	1291.9	1221.2	1183.5	1145.7	1129.3	1112.9	1101.9	1091.0
22.5°	1475.7	1368.0	1260.2	1199.9	1139.7	1109.2	1078.8	1067.2	1055.6	1046.5	1037.4
25°	1369.8	1273.6	1177.4	1126.3	1075.1	1050.2	1025.2	1013.6	1002.1	992.9	983.8
27.5°	1283.3	1191.4	1099.5	1055.6	1011.8	992.3	972.9	963.7	954.6	946.1	937.5
30°	1199.3	1117.1	1034.9	997.2	959.5	941.8	924.1	915.0	905.9	898.0	890.1
32.5°	1121.4	1050.8	980.2	945.5	910.8	896.1	881.5	870.6	859.6	853.5	847.4
35°	1047.1	983.8	920.5	891.9	863.3	848.7	834.0	824.9	815.8	810.9	806.0
37.5°	983.8	927.2	870.6	843.2	815.8	801.8	787.8	779.9	771.9	770.1	768.3
40°	919.3	870.6	821.9	795.1	768.3	756.1	743.9	739.1	734.2	733.0	731.8
42.5°	865.7	818.2	770.7	746.4	722.0	711.7	701.3	698.9	696.5	698.3	700.1
45°	803.6	764.0	724.5	701.9	679.4	670.9	662.4	660.5	658.7	662.4	666.0
47.5°	751.3	714.7	678.2	656.9	635.6	629.5	623.4	622.8	622.2	627.1	631.9
50°	697.7	662.4	627.1	610.0	593.0	587.5	582.0	583.8	585.7	593.6	601.5
52.5°	647.8	614.9	582.0	566.2	550.3	546.7	543.0	547.3	551.6	560.1	568.6
55°	593.0	563.1	533.3	521.1	509.0	505.3	501.6	510.2	518.7	526.6	534.5
57.5°	540.6	514.4	488.3	477.3	466.3	465.7	465.1	473.0	480.9	489.5	498.0
60°	484.6	462.7	440.8	432.2	423.7	424.9	426.2	435.3	444.4	451.1	457.8
62.5°	433.5	415.2	396.9	389.0	381.1	384.1	387.2	396.3	405.5	413.4	421.3
65°	382.3	367.1	351.9	346.4	340.9	345.2	349.4	357.4	365.3	370.8	376.2
67.5°	333.6	320.8	308.0	303.8	299.5	303.8	308.0	316.0	323.9	329.4	334.8
70°	282.5	272.1	261.8	258.7	255.7	260.6	265.4	272.1	278.8	284.3	289.8
72.5°	235.0	227.1	219.2	218.6	217.9	222.2	226.5	233.2	239.9	243.5	247.2
75°	188.7	184.5	180.2	179.6	179.0	183.2	187.5	191.2	194.8	197.9	200.9
77.5°	147.3	143.7	140.0	140.6	141.2	144.3	147.3	151.0	154.6	156.5	158.3
80°	104.7	103.5	102.3	103.5	104.7	107.1	109.6	112.0	114.5	115.7	116.9
82.5°	71.8	70.6	69.4	71.2	73.1	74.9	76.7	78.5	80.4	81.0	81.6
85°	41.4	43.2	45.1	45.1	45.1	45.7	46.3	46.9	47.5	46.9	46.3
87.5°	19.5	20.1	20.7	20.7	20.7	21.3	21.9	21.9	21.9	21.3	20.7
90°	3.1	3.6	4.5	5.3	6.2	7.0	6.7	7.0	7.3	7.6	8.1
92.5°	14.3	19.3	28.3	43.1	57.7	52.1	38.9	27.7	21.6	18.8	16.8
95°	25.5	36.4	60.2	101.9	147.8	166.0	134.7	100.8	68.3	53.5	43.4
97.5°	29.4	41.4	64.9	113.4	190.6	255.3	264.0	231.5	174.7	137.7	105.8
100°	33.6	44.5	64.1	105.5	179.2	265.1	320.3	330.1	307.4	274.6	234.9
102.5°	38.4	48.1	65.2	98.8	162.4	246.9	323.1	362.8	367.6	351.9	330.3
105°	43.7	52.3	67.5	96.3	149.2	225.1	305.4	363.9	391.9	397.2	390.0
107.5°	49.5	57.7	71.1	95.7	139.7	205.8	280.2	347.1	391.1	412.9	420.5
110°	55.4	63.3	75.9	97.1	134.7	189.8	256.7	320.8	372.3	407.6	427.2



TEST NUMBER: P831248

CATALOG NUMBER: S123DIP-S1165D365U927-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	61.6	69.1	80.6	99.9	131.9	179.2	236.3	294.8	347.7	388.3	414.9
115°	67.7	75.3	85.9	103.0	131.6	172.2	220.6	272.4	321.1	362.2	392.8
117.5°	73.9	80.9	91.5	106.9	131.9	167.4	210.2	255.0	298.1	335.9	367.6
120°	79.8	86.8	96.9	111.4	133.0	164.3	202.4	241.9	279.7	313.3	341.5
122.5°	85.1	92.7	102.5	115.6	134.9	162.4	196.0	231.5	264.8	295.3	321.1
125°	90.4	98.0	107.8	120.1	136.9	160.7	190.6	222.6	253.1	279.9	302.3
127.5°	95.5	103.0	112.5	123.7	139.1	159.8	185.6	214.4	242.1	266.8	287.5
130°	99.9	107.5	116.7	127.4	141.4	159.0	181.7	206.9	232.1	254.7	273.8
132.5°	104.1	111.4	120.4	130.7	143.1	158.7	178.0	199.9	222.6	243.3	261.2
135°	107.8	115.3	124.0	133.5	144.7	158.4	175.0	193.7	213.6	231.8	247.7
137.5°	111.1	118.1	126.5	135.8	145.8	157.9	172.2	187.8	204.6	220.9	235.2
140°	113.9	120.9	129.1	137.5	147.0	157.6	169.6	182.8	197.1	210.5	222.6
142.5°	116.7	123.2	131.0	139.1	147.8	157.0	167.4	178.0	189.8	201.0	211.1
145°	119.0	125.4	132.7	140.3	148.1	156.5	165.4	174.4	183.6	192.6	200.7
147.5°	121.8	127.4	134.1	141.1	148.1	155.6	163.5	171.3	178.9	186.4	192.3
150°	124.0	129.1	135.5	141.4	148.1	154.5	161.5	168.0	174.4	180.3	185.6
152.5°	126.3	131.0	136.3	141.9	147.2	153.1	159.3	164.9	170.2	175.2	179.4
155°	128.8	132.7	137.5	141.9	146.7	151.4	157.0	161.8	166.3	170.5	173.8
157.5°	131.0	134.1	138.0	142.2	145.8	150.0	154.5	158.4	162.4	165.7	168.5
160°	132.7	135.5	138.9	142.2	145.3	148.4	152.0	155.6	158.7	161.5	163.5
162.5°	134.1	136.3	139.1	141.9	144.2	146.7	149.5	152.3	154.8	157.3	159.0
165°	135.2	137.2	139.4	141.4	143.1	145.0	147.2	149.5	151.2	153.1	154.5
167.5°	136.3	137.7	139.4	141.1	141.9	143.3	145.0	147.0	148.4	149.5	150.6
170°	137.2	137.7	139.1	140.3	140.8	141.7	143.1	144.4	145.3	146.4	147.0
172.5°	137.7	138.0	139.1	140.0	140.0	140.3	141.1	142.2	142.8	143.6	143.9
175°	138.0	138.3	138.9	139.4	139.1	139.1	139.7	140.3	140.5	141.1	141.1
177.5°	138.3	138.3	138.6	139.1	138.6	138.3	138.6	138.9	139.1	139.4	139.4
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3



TEST NUMBER: P831248

CATALOG NUMBER: S123DIP-S1165D365U927-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	2623.9	2623.9	2623.9	2623.9
2.5°	2332.3	2328.0	2311.0	2293.9
5°	1977.4	1962.7	1957.9	1953.0
7.5°	1727.8	1726.5	1701.0	1675.4
10°	1508.0	1509.8	1486.7	1463.5
12.5°	1350.9	1335.7	1333.9	1332.0
15°	1232.8	1218.8	1216.4	1213.9
17.5°	1149.4	1140.9	1138.4	1136.0
20°	1086.1	1081.2	1077.0	1072.7
22.5°	1031.3	1025.2	1021.6	1017.9
25°	978.3	972.9	971.6	970.4
27.5°	930.8	924.1	924.1	924.1
30°	885.8	881.5	879.7	877.9
32.5°	843.8	840.1	840.1	840.1
35°	804.2	802.4	800.0	797.5
37.5°	768.3	768.3	767.1	765.9
40°	733.6	735.4	735.4	735.4
42.5°	701.9	703.8	703.8	703.8
45°	669.1	672.1	673.3	674.5
47.5°	636.8	641.7	642.9	644.1
50°	605.1	608.8	609.4	610.0
52.5°	572.9	577.1	580.2	583.2
55°	538.8	543.0	544.9	546.7
57.5°	502.3	506.5	507.1	507.7
60°	462.1	466.3	467.6	468.8
62.5°	423.7	426.2	427.4	428.6
65°	379.9	383.5	386.0	388.4
67.5°	337.9	340.9	340.9	340.9
70°	291.0	292.2	294.0	295.9
72.5°	247.8	248.4	248.4	248.4
75°	202.1	203.3	203.9	204.6
77.5°	158.9	159.5	159.5	159.5
80°	116.3	115.7	115.7	115.7
82.5°	79.8	77.9	77.9	77.9
85°	45.7	45.1	45.7	46.3
87.5°	20.7	20.7	20.7	20.7
90°	7.8	8.1	8.4	8.1
92.5°	16.2	15.1	15.4	14.8
95°	38.1	35.6	33.6	32.5
97.5°	87.1	76.4	69.7	66.6
100°	206.6	186.2	175.2	175.5
102.5°	309.9	294.8	286.1	278.0
105°	377.1	366.4	357.5	356.1
107.5°	418.8	413.8	410.1	407.0
110°	435.0	437.3	436.7	436.1



TEST NUMBER: P831248

CATALOG NUMBER: S123DIP-S1165D365U927-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	430.8	438.9	441.7	442.0
115°	413.8	426.1	431.7	433.1
117.5°	389.4	403.1	411.5	413.5
120°	363.6	379.3	386.0	387.7
122.5°	340.1	353.8	361.4	363.6
125°	320.3	332.6	339.6	341.5
127.5°	303.7	314.4	320.8	322.5
130°	288.6	298.7	304.6	306.8
132.5°	274.9	285.0	290.0	291.4
135°	261.5	269.9	274.9	276.9
137.5°	246.9	255.6	259.8	261.5
140°	233.2	241.0	245.5	245.2
142.5°	219.8	226.5	230.4	230.1
145°	207.7	213.6	215.8	216.4
147.5°	197.9	202.1	204.4	204.6
150°	189.8	192.9	194.6	194.6
152.5°	182.5	185.3	186.2	186.2
155°	176.4	178.6	179.2	179.4
157.5°	170.8	172.4	173.0	173.0
160°	165.4	167.1	167.1	166.8
162.5°	160.1	161.5	161.5	161.2
165°	155.6	156.8	156.5	156.5
167.5°	151.2	152.0	151.7	151.7
170°	147.2	147.8	147.5	147.5
172.5°	143.9	144.4	143.9	143.6
175°	141.1	141.4	141.1	140.8
177.5°	139.1	139.4	138.9	138.9
180°	138.3	138.3	138.3	138.3

TEST NUMBER: P831248

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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	17.65	18.80	18.30	19.46	20.22	19.88	21.03	20.54	21.70	22.46
	3H	19.32	20.35	19.98	21.02	21.82	21.33	22.36	22.00	23.03	23.83
	4H	19.91	20.88	20.59	21.56	22.37	21.79	22.76	22.48	23.45	24.26
	6H	20.29	21.18	20.99	21.88	22.71	22.08	22.98	22.78	23.67	24.50
	8H	20.39	21.25	21.11	21.96	22.79	22.15	23.00	22.86	23.72	24.55
	12H	20.45	21.26	21.16	21.97	22.83	22.18	22.99	22.90	23.70	24.56
4H	2H	18.26	19.23	18.95	19.91	20.72	20.08	21.05	20.77	21.73	22.55
	3H	20.11	20.92	20.81	21.64	22.47	21.72	22.53	22.43	23.25	24.08
	4H	20.82	21.55	21.54	22.27	23.14	22.32	23.05	23.04	23.77	24.64
	6H	21.31	21.94	22.05	22.69	23.56	22.74	23.37	23.48	24.12	24.99
	8H	21.45	22.04	22.19	22.79	23.67	22.86	23.45	23.60	24.19	25.08
	12H	21.53	22.06	22.29	22.83	23.72	22.91	23.44	23.67	24.21	25.10
8H	4H	21.10	21.70	21.85	22.44	23.32	22.44	23.04	23.19	23.78	24.66
	6H	21.70	22.19	22.48	22.98	23.87	22.96	23.45	23.73	24.24	25.12
	8H	21.91	22.35	22.70	23.14	24.04	23.14	23.57	23.92	24.36	25.26
	12H	22.05	22.43	22.83	23.21	24.17	23.25	23.64	24.04	24.42	25.38
12H	4H	21.12	21.65	21.88	22.42	23.31	22.43	22.96	23.19	23.73	24.62
	6H	21.76	22.19	22.54	22.98	23.88	22.97	23.41	23.76	24.20	25.10
	8H	22.00	22.39	22.79	23.16	24.13	23.19	23.57	23.97	24.35	25.31