

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: P832089

Luminaire Tested: S123RDIP-S340D365U830-4F0-1E-UDD-G

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P832089  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDIP-S340D365U830-4F0-1E-UDD-G  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: -

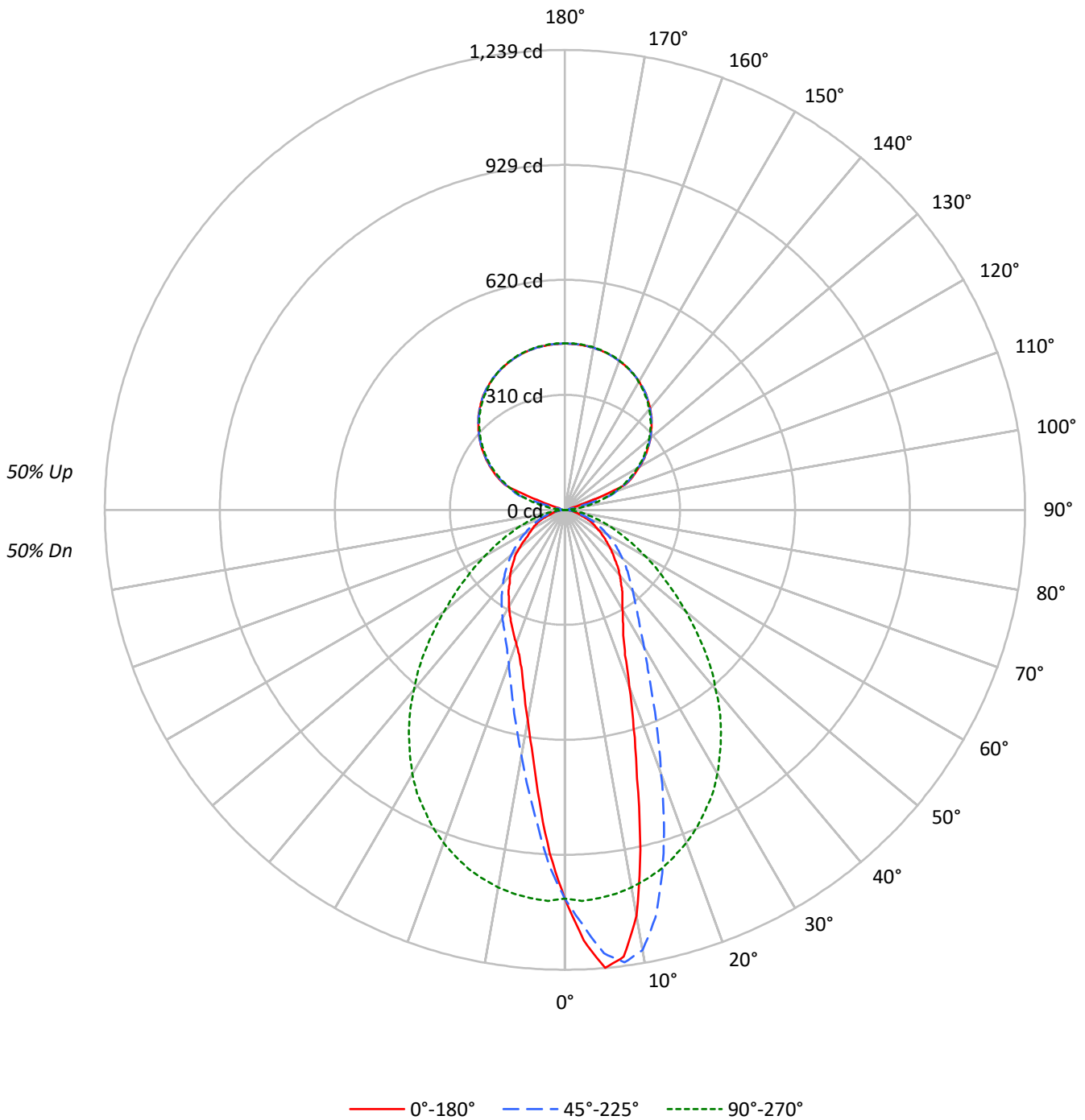
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2755.8 lumens  
Efficiency: N/A  
Efficacy: 123.0 lumens/watt  
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8  
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 22.4  
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	107	107	107	107	99	99	99	99	84	84	84	69	69	69	56	56	56	50				
1	99	95	91	88	91	88	85	82	74	72	70	62	61	59	51	50	49	44				
2	91	84	78	73	83	78	73	68	66	63	60	56	53	51	46	44	43	38				
3	83	74	67	62	77	69	63	58	59	55	51	50	47	44	42	39	37	34				
4	77	66	59	53	71	62	55	50	53	48	44	45	42	39	38	35	33	30				
5	71	60	52	46	65	56	49	44	48	43	39	41	37	34	35	32	30	26				
6	66	54	46	41	61	51	44	39	44	39	35	38	34	31	32	29	27	24				
7	61	49	42	36	56	46	39	35	40	35	31	35	31	28	30	26	24	22				
8	57	45	38	33	53	42	36	31	37	32	28	32	28	25	27	24	22	20				
9	53	41	34	29	49	39	33	28	34	29	25	30	26	23	26	23	20	18				
10	50	38	31	27	46	36	30	26	32	27	23	28	24	21	24	21	19	17				

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

	0°	45°	90°	135°	180°
0°	11271	11271	11271	11271	11271
5°	13383	12956	11342	9168	8512
10°	12125	13160	11285	7346	6302
15°	8349	11283	11166	6004	4985
20°	5808	8687	10942	5063	4381
25°	4425	6621	10615	4500	4038
30°	3853	5294	10208	4179	3740
35°	3537	4465	9629	3907	3469
40°	3228	3988	8873	3641	3222
45°	2915	3647	8057	3389	2973
50°	2646	3364	7095	3141	2668
55°	2393	3089	6172	2901	2288
60°	2144	2809	5360	2635	2164
65°	1979	2493	4615	2366	2045
70°	1608	2156	4025	2140	1662
75°	1410	1713	3410	1776	1464
80°	1277	1450	2796	1488	1382
85°	1161	1272	2124	1346	1272

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 8502 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.4	3.5
10°-20°	220.8	8.0
20°-30°	253.4	9.2
30°-40°	249.8	9.1
40°-50°	220.3	8.0
50°-60°	169.5	6.1
60°-70°	111.4	4.0
70°-80°	54.1	2.0
80°-90°	14.5	0.5
90°-100°	15.8	0.6
100°-110°	76.4	2.8
110°-120°	187.3	6.8
120°-130°	237.8	8.6
130°-140°	254.0	9.2
140°-150°	237.5	8.6
150°-160°	191.6	7.0
160°-170°	123.6	4.5
170°-180°	42.6	1.5
0°-30°	569.7	20.7
0°-40°	819.4	29.7
0°-60°	1209.1	43.9
0°-90°	1389.2	50.4
90°-120°	279.5	10.1
90°-150°	1008.8	36.6
90°-180°	1367.0	49.6
0°-180°	2755.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1047	1047	1047	1047	1047	
5°	1239	1199	1050	848	788	113
15°	749	1012	1002	539	447	211
25°	373	558	894	379	340	176
35°	269	340	733	297	264	168
45°	192	240	529	223	195	149
55°	128	165	329	155	122	114
65°	78	98	181	93	80	76
75°	34	41	82	43	35	36
85°	9	10	17	11	10	10
90°	10	8	0	8	10	5
95°	13	10	20	10	13	11
105°	15	73	99	73	15	31
115°	196	191	186	191	196	184
125°	268	266	262	266	268	239
135°	330	330	327	330	330	255
145°	381	380	377	380	381	238
155°	415	415	415	415	415	191
165°	437	437	438	437	437	123
175°	447	447	448	447	447	43
180°	448	448	448	448	448	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1
2.5°	1160.4	1156.8	1153.1	1152.1	1151.0	1147.6	1144.1	1136.4	1128.7	1120.7	1112.8
5°	1238.6	1239.0	1239.4	1238.4	1237.3	1232.8	1228.3	1218.8	1209.4	1199.1	1188.8
7.5°	1214.5	1221.4	1228.3	1229.6	1230.8	1234.3	1237.7	1235.6	1233.4	1229.6	1225.7
10°	1109.3	1108.9	1108.5	1116.2	1123.9	1146.9	1169.9	1181.7	1193.5	1204.0	1214.5
12.5°	937.6	938.3	938.9	964.2	989.6	1011.2	1032.9	1063.0	1093.0	1125.4	1157.9
15°	749.2	759.7	770.2	792.7	815.3	847.9	880.5	920.9	961.2	1012.5	1063.8
17.5°	615.2	619.7	624.2	645.9	667.6	698.5	729.4	775.1	820.8	887.0	953.1
20°	507.0	511.1	515.2	530.8	546.5	576.1	605.8	649.3	692.9	758.4	823.9
22.5°	423.3	431.2	439.2	449.7	460.2	481.7	503.2	547.6	592.0	651.7	711.4
25°	372.6	376.3	379.9	389.0	398.0	418.6	439.2	468.6	498.0	557.5	616.9
27.5°	338.3	339.4	340.4	347.1	353.8	367.1	380.4	407.6	434.9	483.8	532.8
30°	310.0	311.9	313.8	319.0	324.1	333.8	343.5	362.8	382.1	425.9	469.7
32.5°	288.1	289.1	290.2	294.5	298.8	305.9	313.0	328.2	343.5	376.9	410.4
35°	269.2	269.4	269.6	272.8	276.0	282.9	289.8	302.5	315.1	339.8	364.5
37.5°	247.7	249.2	250.7	253.1	255.4	261.5	267.5	277.8	288.1	308.5	328.9
40°	229.7	231.0	232.3	235.0	237.8	242.6	247.3	256.7	266.2	283.8	301.4
42.5°	211.7	212.5	213.4	216.2	219.0	224.7	230.5	238.1	245.6	260.2	274.8
45°	191.5	193.6	195.8	198.8	201.8	206.7	211.7	219.4	227.1	239.6	252.0
47.5°	174.7	175.8	176.9	179.5	182.0	188.0	194.0	200.9	207.8	219.4	231.0
50°	158.0	158.4	158.8	161.2	163.6	168.9	174.3	182.2	190.2	200.9	211.7
52.5°	142.1	143.2	144.2	146.6	149.0	152.6	156.3	164.4	172.6	183.1	193.6
55°	127.5	128.2	128.8	130.5	132.2	136.5	140.8	147.9	155.0	164.6	174.3
57.5°	113.8	114.6	115.5	116.8	118.1	121.9	125.8	132.0	138.2	147.9	157.6
60°	99.6	100.7	101.7	103.2	104.8	107.8	110.8	116.3	121.9	130.5	139.1
62.5°	89.3	89.5	89.7	91.0	92.3	94.4	96.6	101.1	105.6	114.2	122.8
65°	77.7	78.3	79.0	79.6	80.3	82.0	83.7	87.6	91.4	97.9	104.3
67.5°	65.7	66.3	67.0	68.0	69.1	70.6	72.1	74.7	77.3	83.3	89.3
70°	51.1	51.1	51.1	52.8	54.5	57.1	59.7	61.6	63.5	68.5	73.4
72.5°	41.6	41.9	42.1	42.3	42.5	44.0	45.5	48.7	51.9	55.0	58.0
75°	33.9	34.1	34.3	34.6	34.8	35.2	35.6	36.7	37.8	41.2	44.6
77.5°	27.0	27.3	27.5	27.7	27.9	28.3	28.8	29.2	29.6	30.9	32.2
80°	20.6	20.8	21.0	21.3	21.5	21.7	21.9	22.3	22.8	23.4	24.0
82.5°	15.0	15.0	15.0	15.0	15.0	15.5	15.9	15.9	15.9	16.3	16.7
85°	9.4	9.4	9.4	9.7	9.9	9.9	9.9	10.1	10.3	10.3	10.3
87.5°	4.3	4.1	3.9	4.1	4.3	4.3	4.3	4.5	4.7	4.7	4.7
90°	10.0	9.8	9.7	9.5	9.4	9.2	8.9	8.6	8.3	8.0	7.0
92.5°	11.3	11.3	11.2	11.1	11.0	10.7	10.2	9.7	9.2	8.7	8.0
95°	12.7	12.7	12.7	12.7	12.7	12.4	11.9	11.4	10.8	10.3	9.5
97.5°	13.7	13.6	13.5	13.4	13.4	13.0	12.4	11.8	11.3	10.7	14.4
100°	14.0	13.9	13.8	13.8	13.7	13.4	12.8	12.2	11.6	11.0	22.5
102.5°	14.3	14.2	14.0	13.9	13.7	14.9	17.3	19.8	22.2	24.6	37.5
105°	14.7	14.5	14.4	14.2	14.1	20.5	33.6	46.7	59.8	72.9	79.6
107.5°	34.6	44.3	54.0	63.7	73.4	84.0	95.4	106.8	118.2	129.6	128.5
110°	91.6	102.2	112.8	123.3	133.9	140.4	142.9	145.3	147.8	150.2	149.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	173.5	173.7	173.8	174.0	174.1	173.9	173.2	172.5	171.9	171.2	170.4
115°	195.8	195.5	195.3	195.0	194.7	194.1	193.4	192.7	191.9	191.2	190.5
117.5°	213.8	213.8	213.7	213.6	213.5	213.2	212.6	212.0	211.4	210.8	210.5
120°	232.5	232.5	232.5	232.5	232.5	232.2	231.6	231.0	230.4	229.8	229.6
122.5°	250.8	250.7	250.7	250.6	250.5	250.3	249.9	249.5	249.2	248.8	248.5
125°	267.8	267.6	267.5	267.3	267.2	267.0	266.9	266.7	266.6	266.5	266.2
127.5°	284.4	284.6	284.7	284.9	285.0	285.0	284.8	284.5	284.3	284.1	283.7
130°	300.4	300.6	300.7	300.9	301.0	300.9	300.6	300.4	300.1	299.8	299.5
132.5°	315.1	315.3	315.5	315.7	316.0	315.9	315.6	315.3	315.0	314.7	314.5
135°	330.1	330.3	330.5	330.7	331.0	331.0	330.7	330.5	330.3	330.1	329.8
137.5°	344.4	344.5	344.7	344.8	345.0	344.9	344.5	344.1	343.8	343.4	343.2
140°	357.0	357.2	357.3	357.5	357.6	357.6	357.3	357.0	356.7	356.4	356.2
142.5°	368.7	368.9	369.1	369.4	369.6	369.6	369.4	369.1	368.9	368.7	368.5
145°	380.7	380.7	380.7	380.7	380.7	380.6	380.5	380.3	380.2	380.0	379.9
147.5°	389.4	389.7	390.1	390.5	390.8	390.9	390.8	390.6	390.5	390.4	390.2
150°	399.3	399.6	399.8	400.0	400.2	400.3	400.1	400.0	399.8	399.7	399.5
152.5°	407.3	407.7	408.1	408.4	408.8	408.9	408.6	408.3	408.0	407.7	407.6
155°	414.7	415.1	415.6	416.0	416.4	416.5	416.1	415.7	415.4	415.0	414.9
157.5°	421.0	421.6	422.2	422.8	423.4	423.4	423.0	422.5	422.1	421.7	421.7
160°	427.0	427.5	428.0	428.5	429.1	429.1	428.7	428.2	427.8	427.3	427.4
162.5°	432.7	433.1	433.5	434.0	434.4	434.4	433.9	433.4	432.8	432.3	432.4
165°	437.0	437.5	438.0	438.5	439.1	439.0	438.4	437.8	437.2	436.6	436.7
167.5°	440.3	440.9	441.5	442.1	442.7	442.7	442.1	441.5	440.9	440.3	440.3
170°	443.3	443.9	444.5	445.1	445.7	445.7	445.1	444.5	443.9	443.3	443.3
172.5°	445.0	445.6	446.3	447.0	447.6	447.7	447.1	446.5	445.9	445.3	445.2
175°	446.6	447.2	447.8	448.4	449.0	449.0	448.5	448.0	447.5	447.0	446.9
177.5°	447.0	447.7	448.5	449.2	449.9	450.0	449.4	448.8	448.2	447.6	447.6
180°	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1
2.5°	1111.7	1110.6	1100.3	1090.0	1079.9	1069.9	1062.3	1054.8	1042.2	1029.5	1021.6
5°	1180.6	1172.5	1156.1	1139.8	1115.4	1090.9	1070.3	1049.7	1023.5	997.3	975.4
7.5°	1219.0	1212.4	1192.6	1172.9	1140.5	1108.1	1075.9	1043.7	1005.0	966.4	933.3
10°	1220.1	1225.7	1209.4	1193.1	1156.6	1120.1	1076.3	1032.5	980.6	928.6	885.9
12.5°	1181.9	1205.9	1202.5	1199.1	1161.9	1124.8	1071.6	1018.3	954.6	890.8	837.4
15°	1110.4	1157.0	1170.7	1184.5	1153.8	1123.1	1062.6	1002.0	927.1	852.2	790.8
17.5°	1018.3	1083.6	1119.9	1156.1	1133.8	1111.5	1045.2	978.8	894.5	810.1	743.4
20°	909.3	994.7	1051.6	1108.5	1100.3	1092.2	1023.7	955.2	864.2	773.2	700.9
22.5°	801.5	891.7	970.2	1048.8	1057.2	1065.6	996.4	927.3	827.7	728.1	654.5
25°	708.6	800.2	893.8	987.4	1006.3	1025.2	959.5	893.8	790.6	687.3	614.1
27.5°	619.9	707.1	810.1	913.2	947.5	981.8	921.7	861.6	754.1	646.5	573.6
30°	547.6	625.5	730.7	835.9	883.7	931.6	876.4	821.3	714.6	607.9	536.4
32.5°	480.2	550.0	655.6	761.2	816.8	872.4	824.7	777.1	674.5	571.8	501.2
35°	427.0	489.4	587.9	686.5	748.7	811.0	771.9	732.8	632.6	532.3	465.6
37.5°	381.2	433.6	526.1	618.6	684.8	750.9	718.2	685.6	591.4	497.1	434.0
40°	343.5	385.5	471.6	557.7	622.5	687.3	659.4	631.5	547.2	462.8	403.8
42.5°	311.0	347.3	424.6	501.9	561.3	620.8	602.3	583.9	507.4	431.0	376.3
45°	282.5	313.0	381.0	449.1	503.8	558.5	543.9	529.3	463.4	397.5	347.3
47.5°	257.2	283.3	344.1	404.8	454.0	503.2	489.6	476.1	421.6	367.1	321.3
50°	234.0	256.3	307.0	357.6	401.8	446.1	434.9	423.7	378.7	333.6	294.1
52.5°	212.1	230.5	276.0	321.6	357.2	392.8	384.2	375.6	340.9	306.1	270.3
55°	191.3	208.2	246.6	285.1	315.5	346.0	337.4	328.9	301.8	274.8	243.2
57.5°	172.4	187.2	218.3	249.4	273.7	297.9	293.9	289.8	267.2	244.7	218.7
60°	152.4	165.7	192.5	219.4	238.9	258.4	253.7	249.0	232.9	216.8	194.5
62.5°	134.6	146.4	167.9	189.3	205.2	221.1	217.7	214.2	202.0	189.8	171.3
65°	115.9	127.5	144.9	162.3	174.7	187.2	184.2	181.2	171.9	162.7	147.9
67.5°	99.0	108.6	123.6	138.7	147.0	155.4	153.7	152.0	144.9	137.8	126.2
70°	81.8	90.2	102.6	115.1	120.9	126.6	127.3	127.9	121.5	115.1	106.5
72.5°	64.6	71.3	82.9	94.4	99.0	103.5	103.2	103.0	99.2	95.3	87.6
75°	49.6	54.5	63.5	72.6	76.4	80.3	81.1	82.0	78.3	74.7	70.4
77.5°	35.6	39.1	45.9	52.8	57.1	61.4	61.8	62.3	60.5	58.8	54.7
80°	25.1	26.2	30.5	34.8	39.3	43.8	44.4	45.1	43.4	41.6	39.1
82.5°	17.4	18.0	19.5	21.0	24.7	28.3	29.2	30.1	29.2	28.3	25.5
85°	10.5	10.7	11.4	12.0	13.7	15.5	16.3	17.2	16.7	16.3	14.8
87.5°	4.7	4.7	4.9	5.2	5.6	6.0	7.1	8.2	7.5	6.9	6.2
90°	6.1	5.1	4.1	3.3	2.6	1.8	1.1	0.3	1.1	1.8	2.6
92.5°	7.3	6.7	6.0	5.9	6.3	6.8	7.2	7.7	7.2	6.8	6.3
95°	8.7	7.9	7.1	8.2	11.2	14.2	17.3	20.3	17.3	14.2	11.2
97.5°	18.2	22.0	25.8	28.7	30.8	32.8	34.9	37.0	34.9	32.8	30.8
100°	34.1	45.6	57.2	62.2	60.7	59.2	57.8	56.3	57.8	59.2	60.7
102.5°	50.4	63.3	76.2	82.1	81.2	80.2	79.2	78.3	79.2	80.2	81.2
105°	86.3	92.9	99.6	102.5	101.7	100.9	100.1	99.3	100.1	100.9	101.7
107.5°	127.3	126.2	125.1	124.2	123.6	122.9	122.2	121.6	122.2	122.9	123.6
110°	148.6	147.8	147.0	146.3	145.7	145.1	144.5	143.9	144.5	145.1	145.7





TEST NUMBER: P832089

CATALOG NUMBER: S123RDIP-S340D365U830-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	169.6	168.8	167.9	167.3	166.8	166.2	165.7	165.2	165.7	166.2	166.8
115°	189.8	189.2	188.5	188.0	187.5	187.1	186.6	186.2	186.6	187.1	187.5
117.5°	210.1	209.7	209.4	208.9	208.4	207.9	207.4	206.8	207.4	207.9	208.4
120°	229.4	229.1	228.9	228.5	227.8	227.2	226.5	225.8	226.5	227.2	227.8
122.5°	248.2	247.9	247.6	247.2	246.7	246.2	245.7	245.1	245.7	246.2	246.7
125°	265.9	265.6	265.3	264.8	264.2	263.6	263.0	262.5	263.0	263.6	264.2
127.5°	283.4	283.0	282.6	282.1	281.6	281.0	280.4	279.8	280.4	281.0	281.6
130°	299.2	298.9	298.6	298.1	297.5	296.9	296.4	295.8	296.4	296.9	297.5
132.5°	314.3	314.1	313.9	313.5	312.9	312.3	311.7	311.1	311.7	312.3	312.9
135°	329.5	329.2	328.9	328.5	328.1	327.6	327.2	326.7	327.2	327.6	328.1
137.5°	343.1	342.9	342.8	342.4	341.8	341.2	340.7	340.1	340.7	341.2	341.8
140°	355.9	355.7	355.5	355.2	354.7	354.3	353.8	353.4	353.8	354.3	354.7
142.5°	368.3	368.0	367.8	367.5	367.0	366.6	366.2	365.7	366.2	366.6	367.0
145°	379.7	379.6	379.4	379.1	378.6	378.1	377.5	377.0	377.5	378.1	378.6
147.5°	390.1	389.9	389.8	389.5	389.1	388.8	388.4	388.0	388.4	388.8	389.1
150°	399.4	399.2	399.1	398.9	398.7	398.5	398.2	398.0	398.2	398.5	398.7
152.5°	407.5	407.5	407.4	407.3	407.2	407.2	407.1	407.0	407.1	407.2	407.2
155°	414.9	414.8	414.7	414.7	414.9	415.0	415.2	415.3	415.2	415.0	414.9
157.5°	421.8	421.9	422.0	422.0	422.0	422.0	422.0	422.0	422.0	422.0	422.0
160°	427.5	427.5	427.6	427.7	427.8	427.8	427.9	428.0	427.9	427.8	427.8
162.5°	432.5	432.5	432.6	432.8	433.0	433.2	433.4	433.7	433.4	433.2	433.0
165°	436.8	436.9	436.9	437.1	437.3	437.5	437.8	438.0	437.8	437.5	437.3
167.5°	440.3	440.3	440.3	440.5	440.8	441.1	441.3	441.6	441.3	441.1	440.8
170°	443.3	443.3	443.3	443.5	443.8	444.1	444.3	444.6	444.3	444.1	443.8
172.5°	445.2	445.1	445.0	445.2	445.5	445.9	446.3	446.6	446.3	445.9	445.5
175°	446.8	446.8	446.7	446.8	447.2	447.6	447.9	448.3	447.9	447.6	447.2
177.5°	447.5	447.4	447.3	447.5	447.9	448.2	448.6	449.0	448.6	448.2	447.9
180°	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3

TEST NUMBER: P832089

CATALOG NUMBER: S123RDIP-S340D365U830-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1
2.5°	1013.6	1001.4	989.1	980.3	971.5	960.6	949.6	949.2	948.8	940.6	932.5
5°	953.5	932.3	911.0	890.2	869.4	848.5	827.7	823.0	818.3	811.2	804.1
7.5°	900.3	866.4	832.4	805.8	779.2	758.4	737.6	723.4	709.2	698.3	687.3
10°	843.2	801.1	759.0	726.8	694.6	672.1	649.6	633.2	616.9	609.2	601.5
12.5°	783.9	738.2	692.5	660.9	629.4	602.3	575.3	560.5	545.7	534.9	524.2
15°	729.4	680.2	631.1	597.6	564.1	538.8	513.5	498.6	483.8	473.1	462.4
17.5°	676.6	627.0	577.4	543.5	509.6	486.6	463.7	449.3	434.9	428.2	421.6
20°	628.5	578.5	528.5	496.5	464.5	442.0	419.4	411.7	404.0	397.8	391.5
22.5°	580.9	532.8	484.7	454.0	423.3	407.0	390.7	384.5	378.2	373.5	368.8
25°	540.9	493.1	445.2	418.4	391.5	378.9	366.2	362.1	358.0	353.3	348.6
27.5°	500.6	455.1	409.6	388.1	366.6	356.3	346.0	340.9	335.7	331.9	328.0
30°	464.9	422.9	380.8	363.0	345.2	336.2	327.1	321.6	316.0	312.3	308.7
32.5°	430.6	393.3	355.9	340.7	325.4	316.6	307.8	302.5	297.1	292.8	288.5
35°	398.8	366.4	334.0	320.1	306.1	297.3	288.5	283.1	277.8	273.5	269.2
37.5°	370.9	341.5	312.1	299.0	285.9	278.2	270.5	264.9	259.3	254.8	250.3
40°	344.7	318.8	292.8	280.1	267.5	259.1	250.7	245.8	240.8	236.8	232.7
42.5°	321.6	297.7	273.9	261.5	249.0	241.1	233.1	227.3	221.5	219.2	216.8
45°	297.1	276.0	255.0	243.0	231.0	222.6	214.2	209.3	204.4	202.2	200.1
47.5°	275.6	256.1	236.6	224.7	212.9	205.4	197.9	194.0	190.2	187.2	184.2
50°	254.6	235.7	216.8	205.4	194.0	187.6	181.2	176.4	171.7	169.6	167.4
52.5°	234.4	217.2	200.1	188.5	176.9	170.7	164.4	160.3	156.3	151.8	147.3
55°	211.7	196.6	181.6	171.3	161.0	154.6	148.1	143.4	138.7	133.9	129.2
57.5°	192.8	178.0	163.1	153.9	144.7	138.5	132.2	127.1	121.9	118.1	114.2
60°	172.2	159.3	146.4	137.4	128.4	122.4	116.3	111.4	106.5	104.5	102.6
62.5°	152.8	140.8	128.8	120.9	112.9	107.1	101.3	98.1	94.9	93.6	92.3
65°	133.1	122.8	112.5	105.2	97.9	92.9	88.0	86.5	85.0	83.9	82.9
67.5°	114.6	105.8	97.0	90.6	84.1	80.7	77.3	75.6	73.8	72.6	71.3
70°	97.9	90.2	82.4	76.8	71.3	68.0	64.8	63.3	61.8	59.5	57.1
72.5°	79.9	73.8	67.8	63.5	59.2	56.5	53.7	50.7	47.7	45.5	43.4
75°	66.1	60.1	54.1	50.0	45.9	42.7	39.5	38.4	37.4	36.7	36.1
77.5°	50.7	45.5	40.4	37.1	33.9	32.4	30.9	30.3	29.6	29.4	29.2
80°	36.5	32.2	27.9	26.2	24.5	24.0	23.6	23.2	22.8	22.5	22.3
82.5°	22.8	20.6	18.5	18.0	17.6	17.4	17.2	17.0	16.7	16.5	16.3
85°	13.3	12.5	11.6	11.4	11.2	10.9	10.7	10.7	10.7	10.7	10.7
87.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.4	5.2
90°	3.3	4.1	5.1	6.1	7.0	8.0	8.3	8.6	8.9	9.2	9.4
92.5°	5.9	6.0	6.7	7.3	8.0	8.7	9.2	9.7	10.2	10.7	11.0
95°	8.2	7.1	7.9	8.7	9.5	10.3	10.8	11.4	11.9	12.4	12.7
97.5°	28.7	25.8	22.0	18.2	14.4	10.7	11.3	11.8	12.4	13.0	13.4
100°	62.2	57.2	45.6	34.1	22.5	11.0	11.6	12.2	12.8	13.4	13.7
102.5°	82.1	76.2	63.3	50.4	37.5	24.6	22.2	19.8	17.3	14.9	13.7
105°	102.5	99.6	92.9	86.3	79.6	72.9	59.8	46.7	33.6	20.5	14.1
107.5°	124.2	125.1	126.2	127.3	128.5	129.6	118.2	106.8	95.4	84.0	73.4
110°	146.3	147.0	147.8	148.6	149.4	150.2	147.8	145.3	142.9	140.4	133.9



TEST NUMBER: P832089

CATALOG NUMBER: S123RDIP-S340D365U830-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	167.3	167.9	168.8	169.6	170.4	171.2	171.9	172.5	173.2	173.9	174.1
115°	188.0	188.5	189.2	189.8	190.5	191.2	191.9	192.7	193.4	194.1	194.7
117.5°	208.9	209.4	209.7	210.1	210.5	210.8	211.4	212.0	212.6	213.2	213.5
120°	228.5	228.9	229.1	229.4	229.6	229.8	230.4	231.0	231.6	232.2	232.5
122.5°	247.2	247.6	247.9	248.2	248.5	248.8	249.2	249.5	249.9	250.3	250.5
125°	264.8	265.3	265.6	265.9	266.2	266.5	266.6	266.7	266.9	267.0	267.2
127.5°	282.1	282.6	283.0	283.4	283.7	284.1	284.3	284.5	284.8	285.0	285.0
130°	298.1	298.6	298.9	299.2	299.5	299.8	300.1	300.4	300.6	300.9	301.0
132.5°	313.5	313.9	314.1	314.3	314.5	314.7	315.0	315.3	315.6	315.9	316.0
135°	328.5	328.9	329.2	329.5	329.8	330.1	330.3	330.5	330.7	331.0	331.0
137.5°	342.4	342.8	342.9	343.1	343.2	343.4	343.8	344.1	344.5	344.9	345.0
140°	355.2	355.5	355.7	355.9	356.2	356.4	356.7	357.0	357.3	357.6	357.6
142.5°	367.5	367.8	368.0	368.3	368.5	368.7	368.9	369.1	369.4	369.6	369.6
145°	379.1	379.4	379.6	379.7	379.9	380.0	380.2	380.3	380.5	380.6	380.7
147.5°	389.5	389.8	389.9	390.1	390.2	390.4	390.5	390.6	390.8	390.9	390.8
150°	398.9	399.1	399.2	399.4	399.5	399.7	399.8	400.0	400.1	400.3	400.2
152.5°	407.3	407.4	407.5	407.5	407.6	407.7	408.0	408.3	408.6	408.9	408.8
155°	414.7	414.7	414.8	414.9	414.9	415.0	415.4	415.7	416.1	416.5	416.4
157.5°	422.0	422.0	421.9	421.8	421.7	421.7	422.1	422.5	423.0	423.4	423.4
160°	427.7	427.6	427.5	427.5	427.4	427.3	427.8	428.2	428.7	429.1	429.1
162.5°	432.8	432.6	432.5	432.5	432.4	432.3	432.8	433.4	433.9	434.4	434.4
165°	437.1	436.9	436.9	436.8	436.7	436.6	437.2	437.8	438.4	439.0	439.1
167.5°	440.5	440.3	440.3	440.3	440.3	440.3	440.9	441.5	442.1	442.7	442.7
170°	443.5	443.3	443.3	443.3	443.3	443.3	443.9	444.5	445.1	445.7	445.7
172.5°	445.2	445.0	445.1	445.2	445.2	445.3	445.9	446.5	447.1	447.7	447.6
175°	446.8	446.7	446.8	446.8	446.9	447.0	447.5	448.0	448.5	449.0	449.0
177.5°	447.5	447.3	447.4	447.5	447.6	447.6	448.2	448.8	449.4	450.0	449.9
180°	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3



TEST NUMBER: P832089

CATALOG NUMBER: S123RDIP-S340D365U830-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1047.1	1047.1	1047.1	1047.1
2.5°	930.3	928.2	927.3	926.5
5°	797.5	790.8	789.3	787.8
7.5°	684.5	681.8	672.5	663.3
10°	592.9	584.3	580.4	576.6
12.5°	516.2	508.3	507.0	505.7
15°	456.8	451.2	449.3	447.3
17.5°	417.7	413.9	411.5	409.1
20°	388.7	386.0	384.2	382.5
22.5°	366.6	364.5	363.2	361.9
25°	345.4	342.2	341.1	340.0
27.5°	325.2	322.4	321.3	320.3
30°	306.3	304.0	302.5	300.9
32.5°	285.7	282.9	282.1	281.2
35°	267.5	265.7	264.9	264.0
37.5°	248.1	246.0	244.7	243.4
40°	231.6	230.5	229.9	229.3
42.5°	214.9	212.9	212.7	212.5
45°	198.1	196.2	195.8	195.3
47.5°	182.5	180.7	180.5	180.3
50°	165.1	162.7	161.0	159.3
52.5°	145.1	143.0	141.5	140.0
55°	126.9	124.5	123.2	121.9
57.5°	113.1	112.1	111.4	110.8
60°	102.0	101.3	100.9	100.5
62.5°	91.7	91.0	91.0	91.0
65°	82.2	81.6	80.9	80.3
67.5°	70.0	68.7	68.5	68.3
70°	55.2	53.2	53.0	52.8
72.5°	43.1	42.9	42.5	42.1
75°	35.6	35.2	35.2	35.2
77.5°	28.8	28.3	28.3	28.3
80°	22.1	21.9	22.1	22.3
82.5°	16.3	16.3	16.1	15.9
85°	10.5	10.3	10.3	10.3
87.5°	5.2	5.2	5.2	5.2
90°	9.5	9.7	9.8	10.0
92.5°	11.1	11.2	11.3	11.3
95°	12.7	12.7	12.7	12.7
97.5°	13.4	13.5	13.6	13.7
100°	13.8	13.8	13.9	14.0
102.5°	13.9	14.0	14.2	14.3
105°	14.2	14.4	14.5	14.7
107.5°	63.7	54.0	44.3	34.6
110°	123.3	112.8	102.2	91.6



TEST NUMBER: P832089

CATALOG NUMBER: S123RDIP-S340D365U830-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	174.0	173.8	173.7	173.5
115°	195.0	195.3	195.5	195.8
117.5°	213.6	213.7	213.8	213.8
120°	232.5	232.5	232.5	232.5
122.5°	250.6	250.7	250.7	250.8
125°	267.3	267.5	267.6	267.8
127.5°	284.9	284.7	284.6	284.4
130°	300.9	300.7	300.6	300.4
132.5°	315.7	315.5	315.3	315.1
135°	330.7	330.5	330.3	330.1
137.5°	344.8	344.7	344.5	344.4
140°	357.5	357.3	357.2	357.0
142.5°	369.4	369.1	368.9	368.7
145°	380.7	380.7	380.7	380.7
147.5°	390.5	390.1	389.7	389.4
150°	400.0	399.8	399.6	399.3
152.5°	408.4	408.1	407.7	407.3
155°	416.0	415.6	415.1	414.7
157.5°	422.8	422.2	421.6	421.0
160°	428.5	428.0	427.5	427.0
162.5°	434.0	433.5	433.1	432.7
165°	438.5	438.0	437.5	437.0
167.5°	442.1	441.5	440.9	440.3
170°	445.1	444.5	443.9	443.3
172.5°	447.0	446.3	445.6	445.0
175°	448.4	447.8	447.2	446.6
177.5°	449.2	448.5	447.7	447.0
180°	448.3	448.3	448.3	448.3



TEST NUMBER: P832089

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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	9.20	10.01	10.16	10.98	12.25	13.86	14.67	14.83	15.65	16.92
	3H	10.42	11.14	11.40	12.12	13.42	15.36	16.09	16.34	17.07	18.36
	4H	10.80	11.48	11.79	12.47	13.77	15.85	16.54	16.84	17.52	18.82
	6H	11.08	11.71	12.08	12.70	14.01	16.16	16.79	17.16	17.78	19.09
	8H	11.17	11.77	12.17	12.77	14.08	16.24	16.84	17.25	17.84	19.15
	12H	11.22	11.79	12.23	12.79	14.12	16.27	16.84	17.28	17.84	19.17
4H	2H	9.92	10.60	10.92	11.59	12.89	13.86	14.54	14.85	15.53	16.83
	3H	11.29	11.86	12.29	12.87	14.18	15.51	16.08	16.52	17.10	18.41
	4H	11.74	12.26	12.75	13.27	14.61	16.12	16.64	17.13	17.65	18.98
	6H	12.11	12.56	13.13	13.59	14.92	16.56	17.00	17.58	18.03	19.37
	8H	12.24	12.65	13.26	13.67	15.02	16.69	17.10	17.71	18.13	19.48
	12H	12.31	12.69	13.35	13.72	15.08	16.75	17.12	17.79	18.16	19.52
8H	4H	12.06	12.47	13.08	13.49	14.84	16.08	16.50	17.11	17.52	18.87
	6H	12.52	12.86	13.57	13.93	15.27	16.58	16.92	17.63	17.99	19.34
	8H	12.71	13.01	13.77	14.07	15.43	16.77	17.07	17.82	18.12	19.48
	12H	12.85	13.12	13.91	14.16	15.57	16.88	17.15	17.94	18.19	19.60
12H	4H	12.07	12.44	13.11	13.48	14.83	16.03	16.41	17.08	17.45	18.80
	6H	12.58	12.88	13.63	13.93	15.30	16.56	16.86	17.61	17.91	19.27
	8H	12.80	13.06	13.85	14.11	15.52	16.75	17.01	17.81	18.06	19.47