

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: P831357

Luminaire Tested: S123DIP-S340D1195U930-4F0-1E-UDD-G

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831357  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D1195U930-4F0-1E-UDD-G  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 1195 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: -

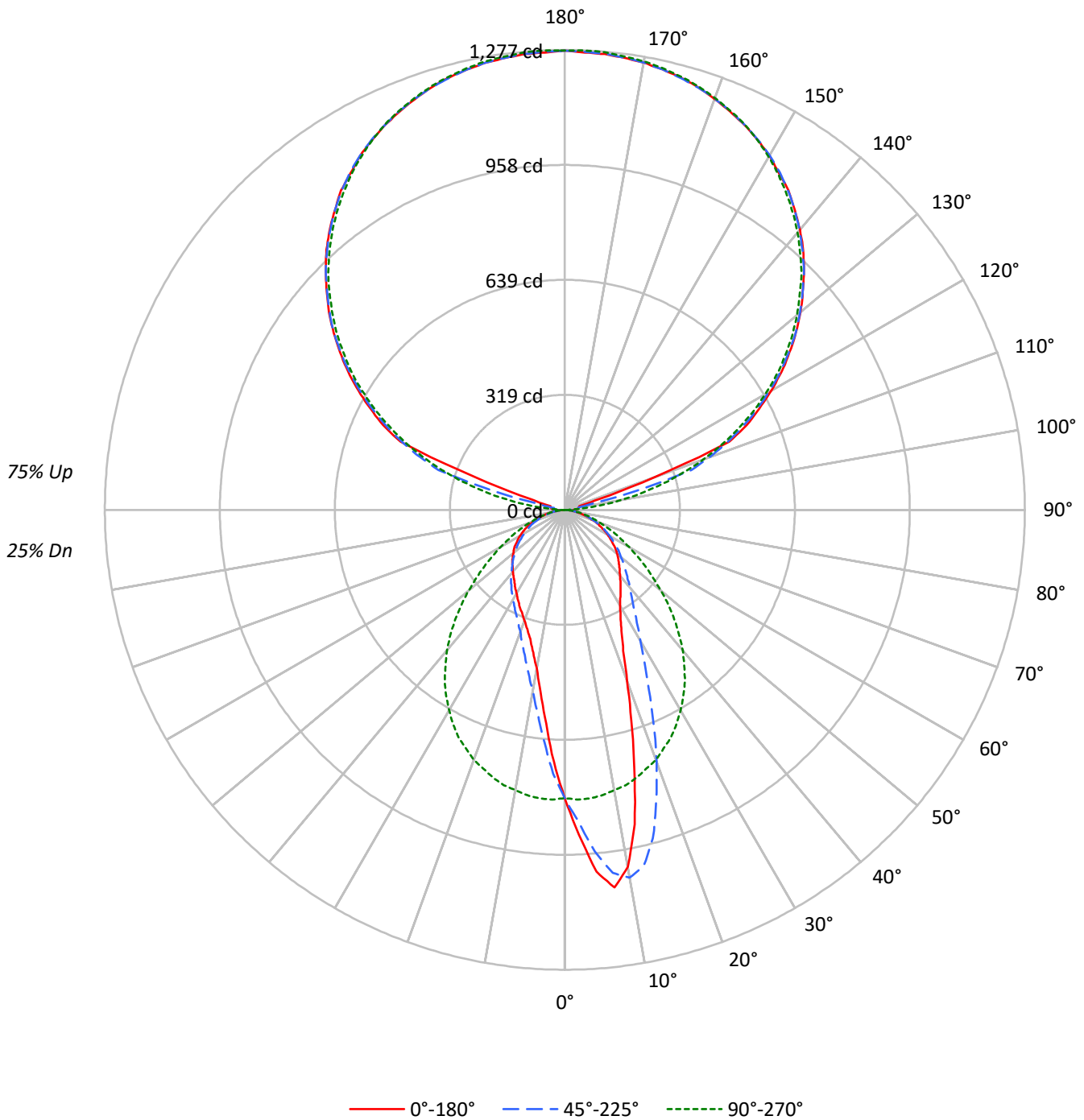
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5176.0 lumens  
Efficiency: N/A  
Efficacy: 119.3 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-Indirect  
  
Input Watts (W): 43.4  
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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	33	33	33	25				
1	92	88	85	81	82	79	76	73	61	59	57	45	43	42	30	29	28	21				
2	84	77	72	67	75	69	64	60	54	51	48	40	37	36	26	25	24	18				
3	77	68	61	56	68	61	55	51	48	44	40	35	33	31	24	22	21	16				
4	71	60	53	47	63	54	48	43	42	38	35	31	29	26	21	20	18	14				
5	65	54	46	41	58	48	42	37	38	33	30	28	25	23	19	18	16	12				
6	60	48	41	35	53	44	37	32	34	30	26	26	23	20	18	16	14	11				
7	55	44	36	31	49	39	33	28	31	26	23	23	20	18	16	14	13	10				
8	51	40	32	27	46	36	29	25	28	24	21	21	18	16	15	13	12	9				
9	48	36	29	24	42	33	27	22	26	22	18	20	17	15	14	12	11	8				
10	44	33	26	22	40	30	24	20	24	20	17	18	15	13	13	11	10	8				

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

	0°	45°	90°	135°	180°
0°	8617	8617	8617	8617	8617
5°	10897	10284	8694	7006	6438
10°	11002	11335	8636	5584	4880
15°	8286	10524	8576	4729	4126
20°	5774	8517	8467	4136	3748
25°	4403	6549	8280	3805	3515
30°	3808	5203	7982	3571	3329
35°	3533	4393	7638	3402	3197
40°	3346	3940	7156	3242	3153
45°	3235	3647	6543	3116	3133
50°	3178	3414	5816	3001	3116
55°	3061	3245	5103	2894	3130
60°	2951	3063	4398	2790	3078
65°	2771	2891	3795	2682	3018
70°	2559	2672	3226	2502	2842
75°	2316	2396	2766	2325	2595
80°	1909	2095	2188	2027	2188
85°	1519	1692	1606	1717	1741

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 7470 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.7	1.5
10°-20°	188.3	3.6
20°-30°	222.9	4.3
30°-40°	224.1	4.3
40°-50°	205.6	4.0
50°-60°	169.7	3.3
60°-70°	120.1	2.3
70°-80°	64.1	1.2
80°-90°	18.8	0.4
90°-100°	44.9	0.9
100°-110°	217.3	4.2
110°-120°	532.6	10.3
120°-130°	676.2	13.1
130°-140°	722.4	14.0
140°-150°	675.5	13.1
150°-160°	544.9	10.5
160°-170°	351.6	6.8
170°-180°	121.2	2.3
0°-30°	486.9	9.4
0°-40°	711.0	13.7
0°-60°	1086.4	21.0
0°-90°	1289.3	24.9
90°-120°	794.9	15.4
90°-150°	2869.0	55.4
90°-180°	3887.0	75.1
0°-180°	5176.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	800	800	800	800	800	
5°	1008	952	805	648	596	96
15°	744	944	770	424	370	205
25°	371	551	697	320	296	175
35°	269	334	581	259	243	169
45°	212	240	430	205	206	165
55°	163	173	272	154	167	146
65°	109	114	149	105	118	108
75°	56	58	66	56	62	59
85°	12	14	13	14	14	14
90°	28	23	1	23	28	13
95°	36	29	58	29	36	30
105°	42	207	282	207	42	87
115°	557	544	530	544	557	524
125°	762	758	746	758	762	681
135°	939	939	929	939	939	724
145°	1083	1081	1072	1081	1083	676
155°	1179	1180	1181	1180	1179	544
165°	1243	1242	1246	1242	1243	351
175°	1270	1271	1275	1271	1270	121
180°	1275	1275	1275	1275	1275	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5
2.5°	902.3	901.3	900.4	895.8	891.1	888.9	886.7	880.0	873.3	865.9	858.4
5°	1008.5	1011.1	1013.7	1010.7	1007.8	998.7	989.5	977.5	965.4	951.8	938.3
7.5°	1057.5	1059.0	1060.5	1058.6	1056.8	1054.4	1052.0	1041.2	1030.4	1016.5	1002.6
10°	1006.6	1010.0	1013.3	1020.6	1027.8	1036.0	1044.2	1042.7	1041.2	1037.1	1033.0
12.5°	894.8	898.9	903.0	917.5	932.0	950.5	969.1	985.1	1001.1	1012.2	1023.4
15°	743.6	755.0	766.3	779.5	792.7	820.0	847.3	880.9	914.5	944.4	974.3
17.5°	612.5	616.8	621.1	635.2	649.3	683.7	718.0	756.8	795.7	845.2	894.8
20°	504.1	508.0	511.9	530.4	549.0	575.9	602.9	646.5	690.2	743.5	796.8
22.5°	423.5	429.6	435.7	446.1	456.5	482.3	508.1	547.0	585.8	644.7	703.5
25°	370.7	375.2	379.6	385.9	392.3	412.9	433.5	465.4	497.4	551.4	605.5
27.5°	334.7	336.5	338.4	344.7	351.0	364.4	377.8	405.3	432.7	478.6	524.5
30°	306.4	307.7	309.0	314.6	320.2	329.3	338.4	358.3	378.1	418.6	459.1
32.5°	286.8	287.7	288.6	292.9	297.2	303.7	310.2	324.6	339.1	372.6	406.0
35°	268.9	269.5	270.0	273.2	276.4	281.2	286.0	297.0	307.9	334.3	360.7
37.5°	253.3	254.1	254.8	256.7	258.5	262.8	267.1	275.8	284.5	304.8	325.0
40°	238.1	239.4	240.7	242.0	243.3	246.8	250.4	257.0	263.7	280.4	297.2
42.5°	225.1	226.4	227.7	228.3	228.8	230.9	232.9	239.0	245.2	257.6	270.0
45°	212.5	213.0	213.6	214.1	214.7	216.4	218.0	223.4	228.8	239.6	250.4
47.5°	201.0	201.0	201.0	201.3	201.7	203.2	204.7	208.6	212.5	220.8	229.2
50°	189.8	189.8	189.8	189.3	188.7	189.6	190.6	193.5	196.5	203.9	211.4
52.5°	176.4	176.4	176.4	176.6	176.8	176.8	176.8	179.4	182.0	188.7	195.4
55°	163.1	163.8	164.6	164.0	163.4	163.8	164.2	165.9	167.5	172.9	178.3
57.5°	149.7	150.1	150.4	150.3	150.1	150.3	150.4	151.9	153.4	157.5	161.6
60°	137.1	137.1	137.1	136.7	136.3	136.7	137.1	137.8	138.6	142.3	146.0
62.5°	123.0	123.1	123.3	123.5	123.7	123.3	123.0	123.9	124.8	127.6	130.4
65°	108.8	109.0	109.2	109.8	110.3	109.9	109.6	110.5	111.4	113.5	115.5
67.5°	96.2	95.8	95.5	95.6	95.8	96.4	96.9	97.1	97.3	99.5	101.8
70°	81.3	81.7	82.1	81.9	81.7	81.9	82.1	82.6	83.2	84.9	86.5
72.5°	68.0	68.2	68.3	68.3	68.3	68.7	69.1	69.6	70.2	71.1	72.1
75°	55.7	55.7	55.7	56.1	56.5	56.6	56.8	56.8	56.8	57.6	58.3
77.5°	42.3	43.3	44.2	44.0	43.8	44.2	44.6	45.1	45.7	46.1	46.4
80°	30.8	30.8	30.8	31.0	31.2	31.8	32.3	32.7	33.1	33.8	34.5
82.5°	19.7	19.9	20.1	20.6	21.2	21.5	21.9	22.5	23.0	23.0	23.0
85°	12.3	11.9	11.5	11.9	12.3	12.6	13.0	13.2	13.4	13.7	14.1
87.5°	5.9	5.9	5.9	5.9	5.9	6.1	6.3	6.3	6.3	6.3	6.3
90°	28.4	28.0	27.6	27.2	26.7	26.1	25.3	24.4	23.6	22.7	20.0
92.5°	32.2	32.0	31.8	31.6	31.4	30.5	29.0	27.6	26.1	24.6	22.7
95°	36.0	36.0	36.0	36.0	36.0	35.3	33.8	32.3	30.8	29.4	27.0
97.5°	38.8	38.6	38.4	38.2	38.0	37.0	35.4	33.7	32.0	30.3	41.0
100°	39.8	39.6	39.4	39.2	38.9	38.0	36.3	34.6	32.9	31.3	64.1
102.5°	40.7	40.3	39.9	39.5	39.0	42.3	49.3	56.2	63.1	70.1	106.7
105°	41.7	41.3	40.8	40.4	40.0	58.4	95.7	132.9	170.2	207.4	226.4
107.5°	98.5	126.1	153.7	181.2	208.8	238.8	271.2	303.6	336.1	368.5	365.3
110°	260.5	290.6	320.7	350.8	380.9	399.4	406.4	413.3	420.3	427.2	424.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	493.5	493.9	494.3	494.8	495.2	494.4	492.6	490.7	488.8	486.9	484.6
115°	557.0	556.1	555.3	554.4	553.6	552.1	550.0	547.9	545.8	543.7	541.8
117.5°	608.1	607.9	607.7	607.5	607.3	606.3	604.6	603.0	601.3	599.6	598.5
120°	661.2	661.2	661.2	661.2	661.2	660.3	658.6	657.0	655.3	653.6	653.0
122.5°	713.3	713.0	712.8	712.6	712.4	711.8	710.7	709.7	708.6	707.6	706.7
125°	761.6	761.1	760.7	760.3	759.9	759.5	759.0	758.6	758.2	757.8	756.9
127.5°	808.9	809.3	809.8	810.2	810.6	810.5	809.9	809.2	808.6	808.0	806.9
130°	854.4	854.8	855.2	855.7	856.1	855.9	855.0	854.2	853.3	852.5	851.7
132.5°	896.1	896.7	897.3	898.0	898.6	898.5	897.7	896.8	896.0	895.1	894.5
135°	938.7	939.3	940.0	940.6	941.2	941.2	940.6	940.0	939.3	938.7	937.9
137.5°	979.4	979.8	980.3	980.7	981.1	980.8	979.7	978.7	977.6	976.6	976.2
140°	1015.4	1015.8	1016.3	1016.7	1017.1	1016.9	1016.1	1015.2	1014.4	1013.5	1012.9
142.5°	1048.6	1049.2	1049.8	1050.5	1051.1	1051.1	1050.5	1049.8	1049.2	1048.6	1047.9
145°	1082.7	1082.7	1082.7	1082.7	1082.7	1082.5	1082.0	1081.6	1081.2	1080.8	1080.4
147.5°	1107.3	1108.4	1109.4	1110.5	1111.5	1111.8	1111.4	1111.0	1110.6	1110.1	1109.7
150°	1135.7	1136.4	1137.0	1137.6	1138.2	1138.3	1137.9	1137.5	1137.1	1136.7	1136.2
152.5°	1158.5	1159.5	1160.6	1161.6	1162.7	1162.8	1161.9	1161.1	1160.2	1159.4	1159.2
155°	1179.3	1180.6	1181.8	1183.1	1184.3	1184.4	1183.4	1182.3	1181.3	1180.2	1180.0
157.5°	1197.3	1199.0	1200.7	1202.3	1204.0	1204.2	1203.0	1201.7	1200.4	1199.2	1199.4
160°	1214.3	1215.8	1217.3	1218.8	1220.2	1220.3	1219.1	1217.8	1216.5	1215.3	1215.5
162.5°	1230.4	1231.7	1233.0	1234.2	1235.5	1235.4	1233.9	1232.4	1231.0	1229.5	1229.7
165°	1242.8	1244.2	1245.7	1247.2	1248.6	1248.5	1246.9	1245.2	1243.5	1241.8	1242.0
167.5°	1252.2	1253.9	1255.6	1257.3	1259.0	1259.0	1257.3	1255.6	1253.9	1252.2	1252.2
170°	1260.8	1262.4	1264.1	1265.8	1267.5	1267.5	1265.8	1264.1	1262.4	1260.8	1260.8
172.5°	1265.5	1267.4	1269.3	1271.2	1273.1	1273.2	1271.5	1269.8	1268.1	1266.4	1266.2
175°	1270.2	1271.9	1273.6	1275.3	1277.0	1277.1	1275.6	1274.1	1272.6	1271.2	1271.0
177.5°	1271.2	1273.3	1275.4	1277.5	1279.6	1279.8	1278.1	1276.4	1274.7	1273.1	1272.9
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5
2.5°	856.2	854.0	845.8	837.6	828.3	819.1	812.2	805.3	795.1	784.9	776.5
5°	927.9	917.5	900.2	882.9	859.5	836.1	820.4	804.6	783.4	762.2	745.3
7.5°	984.7	966.9	942.7	918.6	888.0	857.3	828.3	799.4	767.0	734.7	708.4
10°	1020.9	1008.9	981.0	953.1	912.1	871.1	830.6	790.1	748.5	706.9	672.0
12.5°	1024.5	1025.6	1000.0	974.3	927.9	881.5	832.2	783.0	730.6	678.3	637.6
15°	993.4	1012.6	998.5	984.3	937.5	890.7	830.2	769.6	709.3	648.9	601.9
17.5°	935.9	976.9	979.0	981.0	934.2	887.4	820.4	753.3	685.0	616.6	567.2
20°	857.3	917.9	938.7	959.5	921.4	883.3	811.3	739.2	662.7	586.2	534.3
22.5°	777.1	850.6	888.7	926.8	898.5	870.3	793.6	716.9	636.1	555.3	502.8
25°	685.7	765.9	824.4	882.9	865.7	848.4	772.8	697.2	611.2	525.2	471.6
27.5°	606.0	687.6	758.1	828.7	825.0	821.3	746.2	671.2	583.2	495.1	443.3
30°	535.1	611.0	690.0	768.9	778.0	787.1	714.7	642.2	554.0	465.8	415.8
32.5°	472.3	538.6	623.3	708.0	725.8	743.6	678.3	612.9	525.6	438.3	390.2
35°	420.9	481.0	565.7	650.4	672.7	695.0	638.2	581.3	496.3	411.2	365.3
37.5°	375.4	425.7	508.3	591.0	618.3	645.6	594.7	543.8	464.1	384.5	342.3
40°	337.7	378.1	454.1	530.1	561.6	593.2	551.2	509.3	433.7	358.1	319.3
42.5°	306.1	342.1	411.0	479.9	510.2	540.5	505.0	469.5	402.3	335.1	299.6
45°	279.1	307.9	370.5	433.1	461.9	490.7	460.2	429.8	370.5	311.3	278.2
47.5°	253.9	278.6	332.1	385.6	411.2	436.8	413.1	389.3	339.1	289.0	259.1
50°	231.2	251.1	297.9	344.7	367.0	389.3	368.3	347.3	306.1	264.8	238.8
52.5°	211.5	227.7	266.9	306.1	325.2	344.3	326.3	308.3	275.6	242.9	220.3
55°	192.0	205.8	239.8	273.8	286.8	299.8	285.8	271.9	245.5	219.2	200.0
57.5°	173.8	186.1	214.0	241.8	251.8	261.9	249.2	236.6	216.7	196.9	180.9
60°	156.0	166.0	189.3	212.5	218.6	224.7	214.5	204.3	190.4	176.4	162.1
62.5°	139.5	148.6	165.9	183.1	187.2	191.3	183.5	175.7	165.1	154.5	143.4
65°	122.4	129.3	143.4	157.5	160.1	162.7	155.8	149.0	141.0	133.0	124.8
67.5°	106.6	111.4	123.0	134.5	134.7	134.8	129.3	123.7	119.2	114.8	108.3
70°	91.2	95.8	103.4	111.1	111.3	111.4	107.0	102.5	99.2	95.8	91.0
72.5°	75.4	78.7	84.5	90.3	89.9	89.5	86.7	83.9	81.3	78.7	75.2
75°	61.1	63.9	67.8	71.7	70.6	69.5	68.0	66.5	64.3	62.0	59.8
77.5°	48.1	49.8	52.0	54.2	53.5	52.7	51.4	50.1	48.5	46.8	45.9
80°	35.3	36.0	37.5	39.0	38.6	38.3	36.8	35.3	34.9	34.5	33.2
82.5°	24.0	24.9	25.3	25.6	25.4	25.3	24.1	23.0	22.7	22.3	22.1
85°	14.3	14.5	14.7	14.9	14.3	13.7	13.4	13.0	13.0	13.0	12.8
87.5°	6.5	6.7	6.7	6.7	6.5	6.3	5.9	5.6	5.8	5.9	5.9
90°	17.3	14.5	11.8	9.4	7.3	5.2	3.1	0.9	3.1	5.2	7.3
92.5°	20.8	18.9	17.0	16.7	18.0	19.3	20.5	21.8	20.5	19.3	18.0
95°	24.7	22.4	20.1	23.3	31.9	40.5	49.2	57.8	49.2	40.5	31.9
97.5°	51.8	62.5	73.3	81.6	87.5	93.4	99.2	105.1	99.2	93.4	87.5
100°	96.9	129.8	162.6	176.9	172.7	168.5	164.3	160.1	164.3	168.5	172.7
102.5°	143.3	180.0	216.6	233.5	230.8	228.1	225.3	222.6	225.3	228.1	230.8
105°	245.3	264.3	283.2	291.5	289.2	286.9	284.6	282.3	284.6	286.9	289.2
107.5°	362.2	359.0	355.8	353.3	351.4	349.5	347.6	345.7	347.6	349.5	351.4
110°	422.6	420.3	417.9	415.9	414.3	412.6	410.9	409.2	410.9	412.6	414.3





TEST NUMBER: P831357

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	482.2	479.9	477.6	475.7	474.2	472.8	471.3	469.8	471.3	472.8	474.2
115°	539.9	538.0	536.1	534.5	533.3	532.0	530.8	529.5	530.8	532.0	533.3
117.5°	597.5	596.4	595.4	594.1	592.6	591.2	589.7	588.2	589.7	591.2	592.6
120°	652.3	651.7	651.1	649.8	647.9	646.0	644.1	642.2	644.1	646.0	647.9
122.5°	705.9	705.0	704.2	703.0	701.6	700.1	698.6	697.2	698.6	700.1	701.6
125°	756.1	755.3	754.4	753.1	751.5	749.8	748.1	746.4	748.1	749.8	751.5
127.5°	805.9	804.8	803.8	802.4	800.7	799.0	797.4	795.7	797.4	799.0	800.7
130°	850.8	850.0	849.1	847.9	846.2	844.5	842.8	841.1	842.8	844.5	846.2
132.5°	893.9	893.2	892.6	891.4	889.8	888.1	886.4	884.7	886.4	888.1	889.8
135°	937.0	936.2	935.3	934.3	933.0	931.8	930.5	929.2	930.5	931.8	933.0
137.5°	975.7	975.3	974.9	973.8	972.2	970.5	968.8	967.1	968.8	970.5	972.2
140°	1012.3	1011.6	1011.0	1010.1	1008.8	1007.5	1006.3	1005.0	1006.3	1007.5	1008.8
142.5°	1047.3	1046.7	1046.0	1045.1	1043.8	1042.6	1041.3	1040.0	1041.3	1042.6	1043.8
145°	1079.9	1079.5	1079.1	1078.1	1076.7	1075.2	1073.7	1072.3	1073.7	1075.2	1076.7
147.5°	1109.3	1108.9	1108.5	1107.7	1106.7	1105.6	1104.6	1103.5	1104.6	1105.6	1106.7
150°	1135.8	1135.4	1135.0	1134.5	1133.8	1133.2	1132.6	1131.9	1132.6	1133.2	1133.8
152.5°	1159.0	1158.8	1158.6	1158.3	1158.1	1157.9	1157.7	1157.5	1157.7	1157.9	1158.1
155°	1179.8	1179.6	1179.4	1179.5	1179.9	1180.3	1180.8	1181.2	1180.8	1180.3	1179.9
157.5°	1199.6	1199.8	1200.0	1200.1	1200.1	1200.1	1200.1	1200.1	1200.1	1200.1	1200.1
160°	1215.7	1215.9	1216.1	1216.3	1216.5	1216.8	1217.0	1217.2	1217.0	1216.8	1216.5
162.5°	1229.9	1230.1	1230.3	1230.8	1231.4	1232.0	1232.7	1233.3	1232.7	1232.0	1231.4
165°	1242.2	1242.4	1242.6	1243.1	1243.7	1244.3	1245.0	1245.6	1245.0	1244.3	1243.7
167.5°	1252.2	1252.2	1252.2	1252.6	1253.5	1254.3	1255.2	1256.0	1255.2	1254.3	1253.5
170°	1260.8	1260.8	1260.8	1261.2	1262.0	1262.9	1263.7	1264.5	1263.7	1262.9	1262.0
172.5°	1266.0	1265.8	1265.6	1266.0	1267.1	1268.1	1269.2	1270.2	1269.2	1268.1	1267.1
175°	1270.8	1270.5	1270.3	1270.8	1271.8	1272.9	1273.9	1275.0	1273.9	1272.9	1271.8
177.5°	1272.6	1272.4	1272.2	1272.6	1273.7	1274.7	1275.8	1276.9	1275.8	1274.7	1273.7
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0



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**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5
2.5°	768.2	760.9	753.7	748.1	742.5	733.1	723.6	721.4	719.1	716.0	712.8
5°	728.4	710.6	692.8	676.8	660.8	648.4	635.9	627.8	619.6	613.6	607.7
7.5°	682.0	655.2	628.5	609.6	590.6	572.6	554.6	548.8	543.1	535.3	527.5
10°	637.0	607.5	578.0	553.3	528.6	510.9	493.3	486.2	479.2	469.3	459.5
12.5°	596.9	564.6	532.3	507.4	482.5	465.4	448.3	438.1	427.9	422.3	416.8
15°	555.0	520.4	485.9	462.8	439.8	424.4	409.0	400.1	391.1	385.8	380.4
17.5°	517.8	483.6	449.5	427.4	405.3	391.1	377.0	369.2	361.4	357.3	353.3
20°	482.5	449.1	415.7	394.1	372.6	361.1	349.5	344.5	339.5	336.2	332.8
22.5°	450.2	417.3	384.5	366.1	347.7	338.4	329.1	325.6	322.0	319.3	316.5
25°	417.9	388.5	359.2	343.6	328.0	320.4	312.8	309.2	305.7	302.9	300.1
27.5°	391.5	363.5	335.4	322.0	308.7	302.7	296.8	294.0	291.2	288.6	286.0
30°	365.9	340.8	315.7	304.2	292.7	287.3	281.9	279.1	276.4	273.9	271.5
32.5°	342.1	320.6	299.0	288.4	277.8	273.4	268.9	265.6	262.2	260.4	258.5
35°	319.4	300.1	280.8	272.1	263.4	258.9	254.4	251.7	248.9	247.4	245.9
37.5°	300.1	282.9	265.6	257.2	248.9	244.6	240.3	237.9	235.5	234.9	234.4
40°	280.4	265.6	250.7	242.6	234.4	230.7	227.0	225.5	224.0	223.6	223.2
42.5°	264.1	249.6	235.1	227.7	220.3	217.1	214.0	213.2	212.5	213.0	213.6
45°	245.2	233.1	221.0	214.1	207.3	204.7	202.1	201.5	201.0	202.1	203.2
47.5°	229.2	218.0	206.9	200.4	193.9	192.0	190.2	190.0	189.8	191.3	192.8
50°	212.8	202.1	191.3	186.1	180.9	179.2	177.6	178.1	178.7	181.1	183.5
52.5°	197.6	187.6	177.6	172.7	167.9	166.8	165.7	167.0	168.3	170.9	173.5
55°	180.9	171.8	162.7	159.0	155.3	154.2	153.0	155.6	158.2	160.7	163.1
57.5°	164.9	156.9	149.0	145.6	142.3	142.1	141.9	144.3	146.7	149.3	151.9
60°	147.8	141.2	134.5	131.9	129.3	129.6	130.0	132.8	135.6	137.6	139.7
62.5°	132.2	126.7	121.1	118.7	116.3	117.2	118.1	120.9	123.7	126.1	128.5
65°	116.6	112.0	107.3	105.7	104.0	105.3	106.6	109.0	111.4	113.1	114.8
67.5°	101.8	97.9	94.0	92.7	91.4	92.7	94.0	96.4	98.8	100.5	102.1
70°	86.2	83.0	79.9	78.9	78.0	79.5	81.0	83.0	85.1	86.7	88.4
72.5°	71.7	69.3	66.9	66.7	66.5	67.8	69.1	71.1	73.2	74.3	75.4
75°	57.6	56.3	55.0	54.8	54.6	55.9	57.2	58.3	59.4	60.4	61.3
77.5°	44.9	43.8	42.7	42.9	43.1	44.0	44.9	46.1	47.2	47.7	48.3
80°	31.9	31.6	31.2	31.6	31.9	32.7	33.4	34.2	34.9	35.3	35.7
82.5°	21.9	21.5	21.2	21.7	22.3	22.8	23.4	24.0	24.5	24.7	24.9
85°	12.6	13.2	13.7	13.7	13.7	13.9	14.1	14.3	14.5	14.3	14.1
87.5°	5.9	6.1	6.3	6.3	6.3	6.5	6.7	6.7	6.7	6.5	6.3
90°	9.4	11.8	14.5	17.3	20.0	22.7	23.6	24.4	25.3	26.1	26.7
92.5°	16.7	17.0	18.9	20.8	22.7	24.6	26.1	27.6	29.0	30.5	31.4
95°	23.3	20.1	22.4	24.7	27.0	29.4	30.8	32.3	33.8	35.3	36.0
97.5°	81.6	73.3	62.5	51.8	41.0	30.3	32.0	33.7	35.4	37.0	38.0
100°	176.9	162.6	129.8	96.9	64.1	31.3	32.9	34.6	36.3	38.0	38.9
102.5°	233.5	216.6	180.0	143.3	106.7	70.1	63.1	56.2	49.3	42.3	39.0
105°	291.5	283.2	264.3	245.3	226.4	207.4	170.2	132.9	95.7	58.4	40.0
107.5°	353.3	355.8	359.0	362.2	365.3	368.5	336.1	303.6	271.2	238.8	208.8
110°	415.9	417.9	420.3	422.6	424.9	427.2	420.3	413.3	406.4	399.4	380.9



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**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	475.7	477.6	479.9	482.2	484.6	486.9	488.8	490.7	492.6	494.4	495.2
115°	534.5	536.1	538.0	539.9	541.8	543.7	545.8	547.9	550.0	552.1	553.6
117.5°	594.1	595.4	596.4	597.5	598.5	599.6	601.3	603.0	604.6	606.3	607.3
120°	649.8	651.1	651.7	652.3	653.0	653.6	655.3	657.0	658.6	660.3	661.2
122.5°	703.0	704.2	705.0	705.9	706.7	707.6	708.6	709.7	710.7	711.8	712.4
125°	753.1	754.4	755.3	756.1	756.9	757.8	758.2	758.6	759.0	759.5	759.9
127.5°	802.4	803.8	804.8	805.9	806.9	808.0	808.6	809.2	809.9	810.5	810.6
130°	847.9	849.1	850.0	850.8	851.7	852.5	853.3	854.2	855.0	855.9	856.1
132.5°	891.4	892.6	893.2	893.9	894.5	895.1	896.0	896.8	897.7	898.5	898.6
135°	934.3	935.3	936.2	937.0	937.9	938.7	939.3	940.0	940.6	941.2	941.2
137.5°	973.8	974.9	975.3	975.7	976.2	976.6	977.6	978.7	979.7	980.8	981.1
140°	1010.1	1011.0	1011.6	1012.3	1012.9	1013.5	1014.4	1015.2	1016.1	1016.9	1017.1
142.5°	1045.1	1046.0	1046.7	1047.3	1047.9	1048.6	1049.2	1049.8	1050.5	1051.1	1051.1
145°	1078.1	1079.1	1079.5	1079.9	1080.4	1080.8	1081.2	1081.6	1082.0	1082.5	1082.7
147.5°	1107.7	1108.5	1108.9	1109.3	1109.7	1110.1	1110.6	1111.0	1111.4	1111.8	1111.5
150°	1134.5	1135.0	1135.4	1135.8	1136.2	1136.7	1137.1	1137.5	1137.9	1138.3	1138.2
152.5°	1158.3	1158.6	1158.8	1159.0	1159.2	1159.4	1160.2	1161.1	1161.9	1162.8	1162.7
155°	1179.5	1179.4	1179.6	1179.8	1180.0	1180.2	1181.3	1182.3	1183.4	1184.4	1184.3
157.5°	1200.1	1200.0	1199.8	1199.6	1199.4	1199.2	1200.4	1201.7	1203.0	1204.2	1204.0
160°	1216.3	1216.1	1215.9	1215.7	1215.5	1215.3	1216.5	1217.8	1219.1	1220.3	1220.2
162.5°	1230.8	1230.3	1230.1	1229.9	1229.7	1229.5	1231.0	1232.4	1233.9	1235.4	1235.5
165°	1243.1	1242.6	1242.4	1242.2	1242.0	1241.8	1243.5	1245.2	1246.9	1248.5	1248.6
167.5°	1252.6	1252.2	1252.2	1252.2	1252.2	1252.2	1253.9	1255.6	1257.3	1259.0	1259.0
170°	1261.2	1260.8	1260.8	1260.8	1260.8	1260.8	1262.4	1264.1	1265.8	1267.5	1267.5
172.5°	1266.0	1265.6	1265.8	1266.0	1266.2	1266.4	1268.1	1269.8	1271.5	1273.2	1273.1
175°	1270.8	1270.3	1270.5	1270.8	1271.0	1271.2	1272.6	1274.1	1275.6	1277.1	1277.0
177.5°	1272.6	1272.2	1272.4	1272.6	1272.9	1273.1	1274.7	1276.4	1278.1	1279.8	1279.6
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0



TEST NUMBER: P831357

CATALOG NUMBER: S123DIP-S340D1195U930-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	800.5	800.5	800.5	800.5
2.5°	711.5	710.2	705.0	699.8
5°	603.2	598.8	597.3	595.8
7.5°	527.1	526.7	518.9	511.1
10°	460.0	460.6	453.5	446.5
12.5°	412.1	407.5	406.9	406.4
15°	376.1	371.8	371.1	370.3
17.5°	350.7	348.1	347.3	346.6
20°	331.3	329.8	328.5	327.2
22.5°	314.6	312.8	311.6	310.5
25°	298.5	296.8	296.4	296.0
27.5°	284.0	281.9	281.9	281.9
30°	270.2	268.9	268.4	267.8
32.5°	257.4	256.3	256.3	256.3
35°	245.3	244.8	244.0	243.3
37.5°	234.4	234.4	234.0	233.6
40°	223.8	224.4	224.4	224.4
42.5°	214.1	214.7	214.7	214.7
45°	204.1	205.0	205.4	205.8
47.5°	194.3	195.8	196.1	196.5
50°	184.6	185.7	185.9	186.1
52.5°	174.8	176.1	177.0	177.9
55°	164.4	165.7	166.2	166.8
57.5°	153.2	154.5	154.7	154.9
60°	141.0	142.3	142.6	143.0
62.5°	129.3	130.0	130.4	130.8
65°	115.9	117.0	117.8	118.5
67.5°	103.1	104.0	104.0	104.0
70°	88.8	89.1	89.7	90.3
72.5°	75.6	75.8	75.8	75.8
75°	61.7	62.0	62.2	62.4
77.5°	48.5	48.7	48.7	48.7
80°	35.5	35.3	35.3	35.3
82.5°	24.3	23.8	23.8	23.8
85°	13.9	13.7	13.9	14.1
87.5°	6.3	6.3	6.3	6.3
90°	27.2	27.6	28.0	28.4
92.5°	31.6	31.8	32.0	32.2
95°	36.0	36.0	36.0	36.0
97.5°	38.2	38.4	38.6	38.8
100°	39.2	39.4	39.6	39.8
102.5°	39.5	39.9	40.3	40.7
105°	40.4	40.8	41.3	41.7
107.5°	181.2	153.7	126.1	98.5
110°	350.8	320.7	290.6	260.5



TEST NUMBER: P831357

CATALOG NUMBER: S123DIP-S340D1195U930-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	494.8	494.3	493.9	493.5
115°	554.4	555.3	556.1	557.0
117.5°	607.5	607.7	607.9	608.1
120°	661.2	661.2	661.2	661.2
122.5°	712.6	712.8	713.0	713.3
125°	760.3	760.7	761.1	761.6
127.5°	810.2	809.8	809.3	808.9
130°	855.7	855.2	854.8	854.4
132.5°	898.0	897.3	896.7	896.1
135°	940.6	940.0	939.3	938.7
137.5°	980.7	980.3	979.8	979.4
140°	1016.7	1016.3	1015.8	1015.4
142.5°	1050.5	1049.8	1049.2	1048.6
145°	1082.7	1082.7	1082.7	1082.7
147.5°	1110.5	1109.4	1108.4	1107.3
150°	1137.6	1137.0	1136.4	1135.7
152.5°	1161.6	1160.6	1159.5	1158.5
155°	1183.1	1181.8	1180.6	1179.3
157.5°	1202.3	1200.7	1199.0	1197.3
160°	1218.8	1217.3	1215.8	1214.3
162.5°	1234.2	1233.0	1231.7	1230.4
165°	1247.2	1245.7	1244.2	1242.8
167.5°	1257.3	1255.6	1253.9	1252.2
170°	1265.8	1264.1	1262.4	1260.8
172.5°	1271.2	1269.3	1267.4	1265.5
175°	1275.3	1273.6	1271.9	1270.2
177.5°	1277.5	1275.4	1273.3	1271.2
180°	1275.0	1275.0	1275.0	1275.0



TEST NUMBER: P831357

CATALOG NUMBER: S123DIP-S340D1195U930-4F0-1E-UDD-G

**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	8.06	8.72	9.21	9.85	11.45	10.30	10.96	11.45	12.09	13.68
	3H	9.69	10.28	10.85	11.43	13.03	11.71	12.30	12.87	13.44	15.05
	4H	10.26	10.82	11.43	11.96	13.58	12.15	12.71	13.32	13.85	15.46
	6H	10.62	11.14	11.80	12.28	13.90	12.41	12.93	13.59	14.07	15.70
	8H	10.71	11.20	11.89	12.36	13.98	12.47	12.96	13.65	14.12	15.74
	12H	10.75	11.21	11.93	12.37	14.01	12.48	12.95	13.66	14.10	15.74
4H	2H	8.61	9.17	9.79	10.32	11.93	10.44	11.00	11.61	12.14	13.75
	3H	10.42	10.89	11.60	12.06	13.68	12.04	12.50	13.22	13.67	15.30
	4H	11.11	11.54	12.29	12.70	14.34	12.61	13.04	13.79	14.20	15.84
	6H	11.58	11.94	12.76	13.12	14.76	13.01	13.37	14.19	14.56	16.19
	8H	11.71	12.05	12.89	13.22	14.87	13.12	13.46	14.30	14.63	16.28
	12H	11.77	12.08	12.97	13.26	14.91	13.15	13.46	14.35	14.64	16.30
8H	4H	11.36	11.71	12.55	12.88	14.53	12.70	13.05	13.89	14.22	15.87
	6H	11.94	12.23	13.15	13.44	15.09	13.20	13.48	14.40	14.70	16.34
	8H	12.15	12.40	13.36	13.59	15.25	13.38	13.62	14.59	14.81	16.48
	12H	12.27	12.48	13.48	13.67	15.37	13.47	13.69	14.68	14.88	16.57
12H	4H	11.36	11.67	12.55	12.85	14.50	12.67	12.98	13.87	14.16	15.82
	6H	11.99	12.24	13.20	13.43	15.10	13.21	13.46	14.42	14.65	16.31
	8H	12.22	12.43	13.43	13.62	15.32	13.40	13.62	14.61	14.81	16.50