

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: P831411

Luminaire Tested: S123DIP-S340D585U930-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831411
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-S340D585U930-4F0-1E-UDD-G
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 585 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: -

Summary

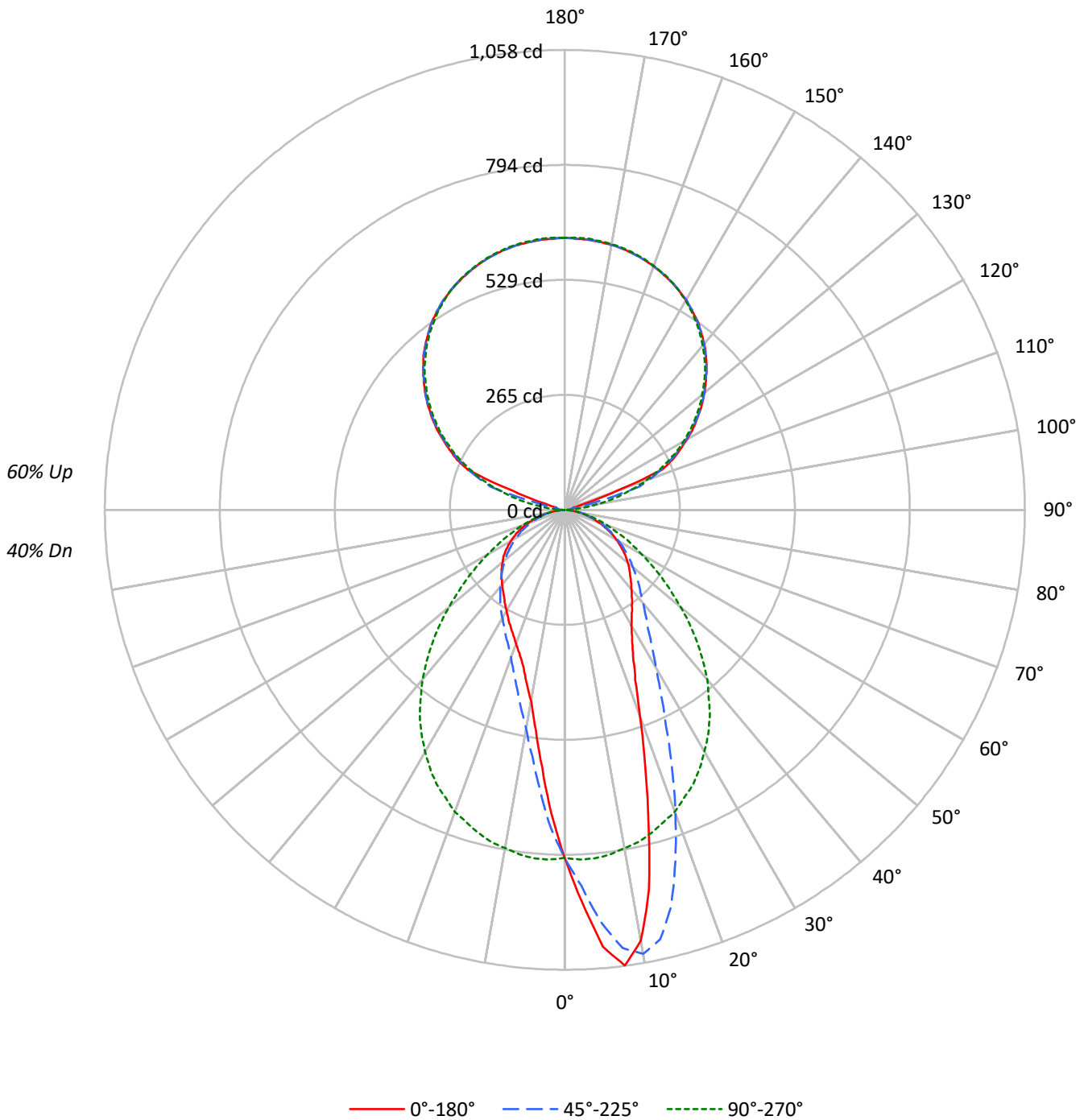
Lumens per Lamp: N/A
Luminaire Lumens: 3196.1 lumens
Efficiency: N/A
Efficacy: 115.8 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 27.6
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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40				
1	96	92	88	85	87	84	81	78	69	67	65	55	54	52	42	41	41	35				
2	88	81	75	70	80	74	69	65	61	57	54	49	46	44	38	36	35	30				
3	80	71	64	59	73	65	59	55	54	50	46	44	41	38	34	32	30	26				
4	74	64	56	50	67	58	52	47	48	44	40	39	36	33	31	28	27	23				
5	68	57	49	43	62	52	46	40	44	39	35	35	32	29	28	25	24	20				
6	63	51	43	38	57	47	40	35	39	34	31	32	29	26	26	23	21	18				
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	24	21	19	16				
8	54	42	35	30	49	39	32	28	33	28	24	27	23	21	22	19	17	15				
9	50	39	32	27	46	36	29	25	30	25	22	25	21	19	20	18	16	14				
10	47	36	29	24	43	33	27	23	28	23	20	23	20	17	19	16	14	13				

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	2.4
10°-20°	188.3	5.9
20°-30°	222.9	7.0
30°-40°	224.1	7.0
40°-50°	205.6	6.4
50°-60°	169.7	5.3
60°-70°	120.1	3.8
70°-80°	64.1	2.0
80°-90°	17.5	0.5
90°-100°	22.1	0.7
100°-110°	106.7	3.3
110°-120°	261.5	8.2
120°-130°	332.0	10.4
130°-140°	354.6	11.1
140°-150°	331.6	10.4
150°-160°	267.5	8.4
160°-170°	172.6	5.4
170°-180°	59.5	1.9
0°-30°	486.9	15.2
0°-40°	711.0	22.2
0°-60°	1086.4	34.0
0°-90°	1288.0	40.3
90°-120°	390.2	12.2
90°-150°	1408.4	44.1
90°-180°	1908.0	59.7
0°-180°	3196.1	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°	14	11	0	11	14	7
95°	18	14	28	14	18	15
105°	20	102	139	102	20	43
115°	273	267	260	267	273	257
125°	374	372	366	372	374	334
135°	461	461	456	461	461	355
145°	532	531	526	531	532	332
155°	579	579	580	579	579	267
165°	610	610	612	610	610	172
175°	624	624	626	624	624	59
180°	626	626	626	626	626	



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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°	14.0	13.7	13.5	13.3	13.1	12.8	12.4	12.0	11.6	11.2	9.8
92.5°	15.8	15.7	15.6	15.5	15.4	15.0	14.3	13.5	12.8	12.1	11.2
95°	17.7	17.7	17.7	17.7	17.7	17.3	16.6	15.9	15.1	14.4	13.3
97.5°	19.1	19.0	18.9	18.8	18.7	18.2	17.4	16.5	15.7	14.9	20.2
100°	19.5	19.4	19.3	19.2	19.1	18.7	17.8	17.0	16.2	15.3	31.5
102.5°	20.0	19.8	19.6	19.4	19.2	20.8	24.2	27.6	31.0	34.4	52.4
105°	20.5	20.3	20.0	19.8	19.6	28.7	47.0	65.3	83.5	101.8	111.1
107.5°	48.4	61.9	75.4	89.0	102.5	117.2	133.1	149.1	165.0	180.9	179.3
110°	127.9	142.7	157.4	172.2	187.0	196.1	199.5	202.9	206.3	209.7	208.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	242.3	242.5	242.7	242.9	243.1	242.7	241.8	240.9	239.9	239.0	237.9
115°	273.4	273.0	272.6	272.2	271.8	271.0	270.0	269.0	267.9	266.9	266.0
117.5°	298.5	298.4	298.3	298.2	298.1	297.7	296.8	296.0	295.2	294.4	293.8
120°	324.6	324.6	324.6	324.6	324.6	324.2	323.3	322.5	321.7	320.9	320.5
122.5°	350.2	350.0	349.9	349.8	349.7	349.4	348.9	348.4	347.9	347.4	346.9
125°	373.9	373.7	373.5	373.2	373.0	372.8	372.6	372.4	372.2	372.0	371.6
127.5°	397.1	397.3	397.5	397.7	397.9	397.9	397.6	397.3	397.0	396.7	396.1
130°	419.4	419.6	419.9	420.1	420.3	420.2	419.7	419.3	418.9	418.5	418.1
132.5°	439.9	440.2	440.5	440.8	441.1	441.1	440.7	440.3	439.8	439.4	439.1
135°	460.8	461.1	461.4	461.8	462.1	462.1	461.8	461.4	461.1	460.8	460.4
137.5°	480.8	481.0	481.2	481.4	481.6	481.5	481.0	480.5	479.9	479.4	479.2
140°	498.5	498.7	498.9	499.1	499.3	499.2	498.8	498.4	498.0	497.6	497.3
142.5°	514.8	515.1	515.4	515.7	516.0	516.0	515.7	515.4	515.1	514.8	514.5
145°	531.5	531.5	531.5	531.5	531.5	531.4	531.2	531.0	530.8	530.6	530.4
147.5°	543.6	544.1	544.6	545.1	545.7	545.8	545.6	545.4	545.2	545.0	544.8
150°	557.5	557.9	558.2	558.5	558.8	558.8	558.6	558.4	558.2	558.0	557.8
152.5°	568.7	569.2	569.7	570.3	570.8	570.8	570.4	570.0	569.6	569.2	569.1
155°	578.9	579.6	580.2	580.8	581.4	581.5	581.0	580.4	579.9	579.4	579.3
157.5°	587.8	588.6	589.4	590.3	591.1	591.2	590.6	589.9	589.3	588.7	588.8
160°	596.1	596.9	597.6	598.3	599.0	599.1	598.5	597.8	597.2	596.6	596.7
162.5°	604.0	604.7	605.3	605.9	606.5	606.5	605.8	605.0	604.3	603.6	603.7
165°	610.1	610.8	611.5	612.3	613.0	612.9	612.1	611.3	610.5	609.6	609.7
167.5°	614.7	615.6	616.4	617.2	618.0	618.0	617.2	616.4	615.6	614.7	614.7
170°	618.9	619.8	620.6	621.4	622.2	622.2	621.4	620.6	619.8	618.9	618.9
172.5°	621.3	622.2	623.1	624.0	625.0	625.0	624.2	623.4	622.5	621.7	621.6
175°	623.6	624.4	625.2	626.1	626.9	626.9	626.2	625.5	624.8	624.0	623.9
177.5°	624.0	625.1	626.1	627.1	628.2	628.3	627.5	626.6	625.8	625.0	624.9
180°	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9



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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°	8.5	7.1	5.8	4.6	3.6	2.5	1.5	0.5	1.5	2.5	3.6
92.5°	10.2	9.3	8.4	8.2	8.8	9.5	10.1	10.7	10.1	9.5	8.8
95°	12.1	11.0	9.9	11.4	15.7	19.9	24.1	28.4	24.1	19.9	15.7
97.5°	25.4	30.7	36.0	40.0	42.9	45.8	48.7	51.6	48.7	45.8	42.9
100°	47.6	63.7	79.8	86.9	84.8	82.7	80.7	78.6	80.7	82.7	84.8
102.5°	70.4	88.4	106.3	114.7	113.3	112.0	110.6	109.3	110.6	112.0	113.3
105°	120.4	129.7	139.0	143.1	142.0	140.8	139.7	138.6	139.7	140.8	142.0
107.5°	177.8	176.2	174.7	173.4	172.5	171.6	170.7	169.7	170.7	171.6	172.5
110°	207.4	206.3	205.2	204.2	203.4	202.5	201.7	200.9	201.7	202.5	203.4



TEST NUMBER: P831411

CATALOG NUMBER: S123DIP-S340D585U930-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	236.7	235.6	234.5	233.5	232.8	232.1	231.4	230.6	231.4	232.1	232.8
115°	265.1	264.1	263.2	262.4	261.8	261.2	260.6	259.9	260.6	261.2	261.8
117.5°	293.3	292.8	292.3	291.7	290.9	290.2	289.5	288.8	289.5	290.2	290.9
120°	320.2	319.9	319.6	319.0	318.1	317.1	316.2	315.3	316.2	317.1	318.1
122.5°	346.5	346.1	345.7	345.1	344.4	343.7	343.0	342.2	343.0	343.7	344.4
125°	371.2	370.8	370.4	369.7	368.9	368.1	367.3	366.4	367.3	368.1	368.9
127.5°	395.6	395.1	394.6	393.9	393.1	392.3	391.4	390.6	391.4	392.3	393.1
130°	417.7	417.3	416.9	416.2	415.4	414.6	413.8	412.9	413.8	414.6	415.4
132.5°	438.8	438.5	438.2	437.6	436.8	436.0	435.1	434.3	435.1	436.0	436.8
135°	460.0	459.6	459.2	458.7	458.0	457.4	456.8	456.2	456.8	457.4	458.0
137.5°	479.0	478.8	478.6	478.1	477.3	476.4	475.6	474.8	475.6	476.4	477.3
140°	496.9	496.6	496.3	495.9	495.2	494.6	494.0	493.4	494.0	494.6	495.2
142.5°	514.1	513.8	513.5	513.1	512.4	511.8	511.2	510.6	511.2	511.8	512.4
145°	530.2	530.0	529.7	529.3	528.6	527.8	527.1	526.4	527.1	527.8	528.6
147.5°	544.6	544.4	544.2	543.8	543.3	542.8	542.3	541.7	542.3	542.8	543.3
150°	557.6	557.4	557.2	556.9	556.6	556.3	556.0	555.7	556.0	556.3	556.6
152.5°	569.0	568.9	568.8	568.7	568.6	568.4	568.3	568.2	568.3	568.4	568.6
155°	579.2	579.1	579.0	579.0	579.2	579.5	579.7	579.9	579.7	579.5	579.2
157.5°	588.9	589.0	589.1	589.2	589.2	589.2	589.2	589.2	589.2	589.2	589.2
160°	596.8	596.9	597.0	597.1	597.2	597.3	597.4	597.5	597.4	597.3	597.2
162.5°	603.8	603.9	604.0	604.2	604.5	604.8	605.1	605.4	605.1	604.8	604.5
165°	609.8	609.9	610.0	610.2	610.6	610.9	611.2	611.5	611.2	610.9	610.6
167.5°	614.7	614.7	614.7	614.9	615.4	615.8	616.2	616.6	616.2	615.8	615.4
170°	618.9	618.9	618.9	619.1	619.5	620.0	620.4	620.8	620.4	620.0	619.5
172.5°	621.5	621.4	621.3	621.5	622.0	622.5	623.1	623.6	623.1	622.5	622.0
175°	623.8	623.7	623.6	623.8	624.4	624.9	625.4	625.9	625.4	624.9	624.4
177.5°	624.8	624.7	624.6	624.8	625.3	625.8	626.3	626.8	626.3	625.8	625.3
180°	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9



TEST NUMBER: P831411

CATALOG NUMBER: S123DIP-S340D585U930-4F0-1E-UDD-G

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°	4.6	5.8	7.1	8.5	9.8	11.2	11.6	12.0	12.4	12.8	13.1
92.5°	8.2	8.4	9.3	10.2	11.2	12.1	12.8	13.5	14.3	15.0	15.4
95°	11.4	9.9	11.0	12.1	13.3	14.4	15.1	15.9	16.6	17.3	17.7
97.5°	40.0	36.0	30.7	25.4	20.2	14.9	15.7	16.5	17.4	18.2	18.7
100°	86.9	79.8	63.7	47.6	31.5	15.3	16.2	17.0	17.8	18.7	19.1
102.5°	114.7	106.3	88.4	70.4	52.4	34.4	31.0	27.6	24.2	20.8	19.2
105°	143.1	139.0	129.7	120.4	111.1	101.8	83.5	65.3	47.0	28.7	19.6
107.5°	173.4	174.7	176.2	177.8	179.3	180.9	165.0	149.1	133.1	117.2	102.5
110°	204.2	205.2	206.3	207.4	208.6	209.7	206.3	202.9	199.5	196.1	187.0



TEST NUMBER: P831411

CATALOG NUMBER: S123DIP-S340D585U930-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	233.5	234.5	235.6	236.7	237.9	239.0	239.9	240.9	241.8	242.7	243.1
115°	262.4	263.2	264.1	265.1	266.0	266.9	267.9	269.0	270.0	271.0	271.8
117.5°	291.7	292.3	292.8	293.3	293.8	294.4	295.2	296.0	296.8	297.7	298.1
120°	319.0	319.6	319.9	320.2	320.5	320.9	321.7	322.5	323.3	324.2	324.6
122.5°	345.1	345.7	346.1	346.5	346.9	347.4	347.9	348.4	348.9	349.4	349.7
125°	369.7	370.4	370.8	371.2	371.6	372.0	372.2	372.4	372.6	372.8	373.0
127.5°	393.9	394.6	395.1	395.6	396.1	396.7	397.0	397.3	397.6	397.9	397.9
130°	416.2	416.9	417.3	417.7	418.1	418.5	418.9	419.3	419.7	420.2	420.3
132.5°	437.6	438.2	438.5	438.8	439.1	439.4	439.8	440.3	440.7	441.1	441.1
135°	458.7	459.2	459.6	460.0	460.4	460.8	461.1	461.4	461.8	462.1	462.1
137.5°	478.1	478.6	478.8	479.0	479.2	479.4	479.9	480.5	481.0	481.5	481.6
140°	495.9	496.3	496.6	496.9	497.3	497.6	498.0	498.4	498.8	499.2	499.3
142.5°	513.1	513.5	513.8	514.1	514.5	514.8	515.1	515.4	515.7	516.0	516.0
145°	529.3	529.7	530.0	530.2	530.4	530.6	530.8	531.0	531.2	531.4	531.5
147.5°	543.8	544.2	544.4	544.6	544.8	545.0	545.2	545.4	545.6	545.8	545.7
150°	556.9	557.2	557.4	557.6	557.8	558.0	558.2	558.4	558.6	558.8	558.8
152.5°	568.7	568.8	568.9	569.0	569.1	569.2	569.6	570.0	570.4	570.8	570.8
155°	579.0	579.0	579.1	579.2	579.3	579.4	579.9	580.4	581.0	581.5	581.4
157.5°	589.2	589.1	589.0	588.9	588.8	588.7	589.3	589.9	590.6	591.2	591.1
160°	597.1	597.0	596.9	596.8	596.7	596.6	597.2	597.8	598.5	599.1	599.0
162.5°	604.2	604.0	603.9	603.8	603.7	603.6	604.3	605.0	605.8	606.5	606.5
165°	610.2	610.0	609.9	609.8	609.7	609.6	610.5	611.3	612.1	612.9	613.0
167.5°	614.9	614.7	614.7	614.7	614.7	614.7	615.6	616.4	617.2	618.0	618.0
170°	619.1	618.9	618.9	618.9	618.9	618.9	619.8	620.6	621.4	622.2	622.2
172.5°	621.5	621.3	621.4	621.5	621.6	621.7	622.5	623.4	624.2	625.0	625.0
175°	623.8	623.6	623.7	623.8	623.9	624.0	624.8	625.5	626.2	626.9	626.9
177.5°	624.8	624.6	624.7	624.8	624.9	625.0	625.8	626.6	627.5	628.3	628.2
180°	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9	625.9



TEST NUMBER: P831411

CATALOG NUMBER: S123DIP-S340D585U930-4F0-1E-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°	13.3	13.5	13.7	14.0
92.5°	15.5	15.6	15.7	15.8
95°	17.7	17.7	17.7	17.7
97.5°	18.8	18.9	19.0	19.1
100°	19.2	19.3	19.4	19.5
102.5°	19.4	19.6	19.8	20.0
105°	19.8	20.0	20.3	20.5
107.5°	89.0	75.4	61.9	48.4
110°	172.2	157.4	142.7	127.9



TEST NUMBER: P831411

CATALOG NUMBER: S123DIP-S340D585U930-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	242.9	242.7	242.5	242.3
115°	272.2	272.6	273.0	273.4
117.5°	298.2	298.3	298.4	298.5
120°	324.6	324.6	324.6	324.6
122.5°	349.8	349.9	350.0	350.2
125°	373.2	373.5	373.7	373.9
127.5°	397.7	397.5	397.3	397.1
130°	420.1	419.9	419.6	419.4
132.5°	440.8	440.5	440.2	439.9
135°	461.8	461.4	461.1	460.8
137.5°	481.4	481.2	481.0	480.8
140°	499.1	498.9	498.7	498.5
142.5°	515.7	515.4	515.1	514.8
145°	531.5	531.5	531.5	531.5
147.5°	545.1	544.6	544.1	543.6
150°	558.5	558.2	557.9	557.5
152.5°	570.3	569.7	569.2	568.7
155°	580.8	580.2	579.6	578.9
157.5°	590.3	589.4	588.6	587.8
160°	598.3	597.6	596.9	596.1
162.5°	605.9	605.3	604.7	604.0
165°	612.3	611.5	610.8	610.1
167.5°	617.2	616.4	615.6	614.7
170°	621.4	620.6	619.8	618.9
172.5°	624.0	623.1	622.2	621.3
175°	626.1	625.2	624.4	623.6
177.5°	627.1	626.1	625.1	624.0
180°	625.9	625.9	625.9	625.9



TEST NUMBER: P831411

CATALOG NUMBER: S123DIP-S340D585U930-4F0-1E-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	10.07	10.82	11.11	11.87	13.27	12.31	13.06	13.35	14.10	15.51
	3H	11.71	12.38	12.76	13.44	14.86	13.72	14.40	14.78	15.45	16.88
	4H	12.28	12.92	13.35	13.98	15.41	14.17	14.81	15.23	15.86	17.30
	6H	12.65	13.23	13.72	14.29	15.74	14.44	15.03	15.51	16.09	17.53
	8H	12.74	13.30	13.82	14.37	15.81	14.50	15.06	15.58	16.13	17.57
	12H	12.78	13.31	13.87	14.38	15.84	14.52	15.05	15.60	16.11	17.58
4H	2H	10.63	11.27	11.70	12.33	13.76	12.46	13.10	13.53	14.15	15.58
	3H	12.45	12.98	13.53	14.07	15.51	14.07	14.60	15.15	15.68	17.13
	4H	13.15	13.63	14.23	14.71	16.17	14.65	15.14	15.73	16.21	17.67
	6H	13.62	14.03	14.71	15.13	16.59	15.05	15.46	16.14	16.56	18.02
	8H	13.75	14.14	14.84	15.23	16.70	15.16	15.55	16.25	16.63	18.11
	12H	13.81	14.17	14.92	15.27	16.75	15.20	15.55	16.30	16.65	18.13
8H	4H	13.40	13.79	14.50	14.88	16.36	14.75	15.14	15.84	16.22	17.70
	6H	13.99	14.31	15.10	15.44	16.91	15.24	15.57	16.36	16.70	18.17
	8H	14.20	14.48	15.32	15.59	17.08	15.42	15.70	16.54	16.82	18.31
	12H	14.32	14.56	15.44	15.67	17.20	15.52	15.77	16.64	16.88	18.41
12H	4H	13.40	13.75	14.51	14.86	16.34	14.72	15.07	15.82	16.17	17.65
	6H	14.04	14.32	15.16	15.43	16.93	15.26	15.54	16.38	16.65	18.14
	8H	14.27	14.52	15.39	15.62	17.15	15.45	15.70	16.58	16.81	18.34