

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242692

Luminaire Tested: S124DRP-S350D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242692  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-S350D940-X4F0-XX-UDD-D-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

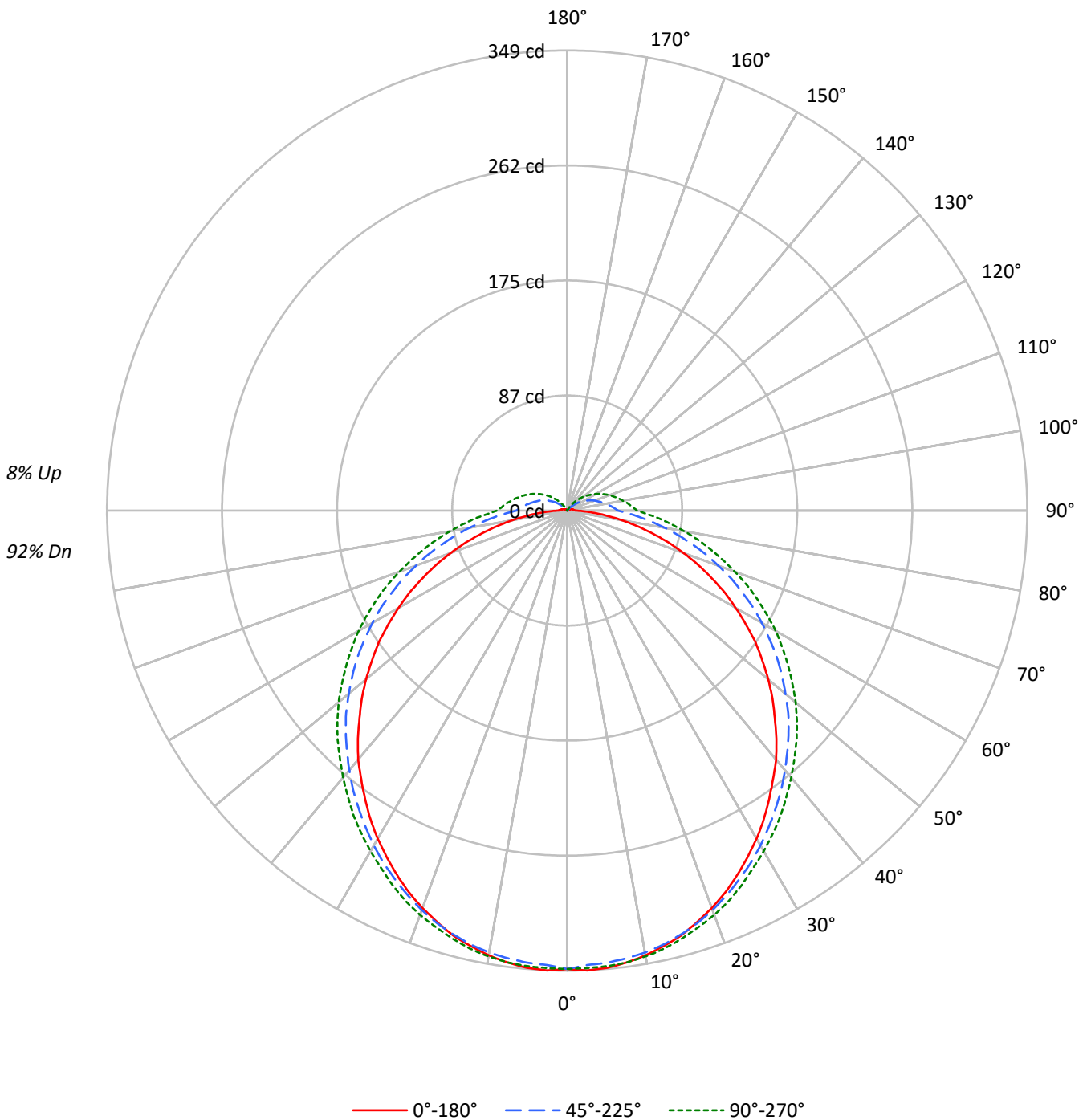
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1185.4 lumens  
Efficiency: N/A  
Efficacy: 102.2 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')  
CIE Type: Direct  
  
Input Watts (W): 11.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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

TEST NUMBER: P242692

CATALOG NUMBER: S124DRP-S350D940-X4F0-XX-UDD-D-W

### Luminous Intensity Polar Plot





TEST NUMBER: P242692

CATALOG NUMBER: S124DRP-S350D940-X4F0-XX-UDD-D-W

**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	0
RCR																		
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60
3	87	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	49	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	38	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20

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

	0°	45°	90°
0°	3091	3091	3091
5°	3100	3017	3025
10°	3081	2965	2960
15°	3053	2905	2886
20°	3011	2839	2814
25°	2964	2765	2734
30°	2913	2693	2652
35°	2855	2618	2581
40°	2810	2547	2507
45°	2741	2480	2442
50°	2683	2404	2374
55°	2622	2332	2294
60°	2530	2240	2221
65°	2427	2143	2130
70°	2302	2031	2026
75°	2130	1906	1930
80°	1934	1783	1832
85°	1686	1670	1766

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2741 cd/sqm



TEST NUMBER: P242692

CATALOG NUMBER: S124DRP-S350D940-X4F0-XX-UDD-D-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.9	2.8
10°-20°	94.4	8.0
20°-30°	142.7	12.0
30°-40°	172.7	14.6
40°-50°	182.5	15.4
50°-60°	171.8	14.5
60°-70°	142.6	12.0
70°-80°	100.0	8.4
80°-90°	56.4	4.8
90°-100°	33.6	2.8
100°-110°	24.9	2.1
110°-120°	16.7	1.4
120°-130°	9.4	0.8
130°-140°	4.1	0.3
140°-150°	0.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	270.0	22.8
0°-40°	442.7	37.3
0°-60°	797.0	67.2
0°-90°	1096.0	92.5
90°-120°	75.1	6.3
90°-150°	89.4	7.5
90°-180°	89.0	7.5
0°-180°	1185.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	348	348	348	348	348	
5°	348	347	344	347	347	33
15°	334	334	333	336	336	94
25°	305	308	309	313	313	141
35°	267	272	276	281	282	167
45°	223	230	238	244	246	172
55°	174	183	194	202	204	155
65°	121	133	146	156	159	120
75°	67	81	98	109	112	71
85°	21	37	54	66	70	21
90°	6	22	38	50	53	4
95°	5	18	34	44	48	4
105°	4	11	26	35	38	4
115°	2	6	18	27	30	2
125°	2	1	11	18	21	1
135°	1	1	4	10	12	1
145°	0	0	0	2	4	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

TEST NUMBER: P242692

CATALOG NUMBER: S124DRP-S350D940-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	347.7	347.7	347.7	347.7	347.7
2.5°	349.2	348.1	345.0	347.7	347.3
5°	348.1	346.9	344.2	347.3	346.9
7.5°	345.7	345.0	342.6	346.1	345.7
10°	342.6	342.2	340.3	343.8	343.4
12.5°	338.3	338.3	337.2	340.3	340.3
15°	333.7	334.1	332.9	336.4	336.0
17.5°	327.4	328.6	328.2	331.7	331.3
20°	320.8	322.0	322.4	326.3	326.3
22.5°	313.4	315.0	315.8	319.6	320.4
25°	305.2	307.6	308.7	313.0	313.4
27.5°	296.3	299.8	301.4	305.2	305.6
30°	287.3	290.4	293.2	297.5	298.2
32.5°	277.6	281.5	284.6	289.7	290.4
35°	267.1	271.8	275.7	281.1	282.3
37.5°	256.6	262.0	266.7	272.1	273.3
40°	246.5	251.5	257.0	262.8	264.4
42.5°	234.8	240.6	247.2	253.9	255.0
45°	222.7	230.1	237.5	244.1	246.1
47.5°	211.4	218.8	227.4	234.0	236.3
50°	199.0	207.5	216.1	223.9	226.2
52.5°	186.5	195.1	205.2	213.0	215.3
55°	174.4	182.6	194.3	202.1	204.4
57.5°	160.8	170.9	182.2	191.6	193.5
60°	147.6	157.7	170.5	179.5	182.6
62.5°	134.7	146.0	158.9	167.8	170.9
65°	120.7	133.2	146.4	156.1	159.2
67.5°	107.5	120.7	134.7	144.4	147.6
70°	93.8	107.1	121.9	132.4	135.1
72.5°	80.6	94.2	110.2	120.3	123.4
75°	67.0	81.4	97.7	108.6	112.1
77.5°	54.1	69.3	86.4	97.3	101.2
80°	42.4	58.0	75.1	86.8	89.9
82.5°	30.8	47.1	64.2	76.3	79.8
85°	20.6	37.0	54.5	66.2	70.1
87.5°	12.8	28.8	45.9	57.2	60.7
90°	6.2	21.8	38.5	49.8	53.0
92.5°	5.8	19.5	36.2	47.1	50.2
95°	5.1	17.9	33.9	44.4	47.9
97.5°	4.7	16.0	31.9	42.0	45.6
100°	4.3	14.4	29.6	40.1	42.8
102.5°	4.3	12.8	27.6	37.8	40.9
105°	3.5	11.3	25.7	35.4	38.5
107.5°	3.5	10.1	23.7	33.5	36.2
110°	3.1	8.6	22.2	31.1	34.3



TEST NUMBER: P242692

CATALOG NUMBER: S124DRP-S350D940-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.7	7.4	20.2	28.8	31.9
115°	2.3	5.8	18.3	26.9	29.6
117.5°	2.3	4.7	16.4	24.5	27.6
120°	1.9	3.1	14.4	22.2	25.3
122.5°	1.9	1.9	12.5	20.2	23.0
125°	1.6	1.2	10.9	18.3	20.6
127.5°	1.6	1.2	9.0	16.0	18.7
130°	1.2	0.8	7.0	14.0	16.4
132.5°	1.2	0.8	5.5	12.1	14.4
135°	0.8	0.8	3.5	9.7	12.1
137.5°	0.8	0.4	1.9	7.8	9.7
140°	0.8	0.4	0.8	5.8	7.8
142.5°	0.4	0.4	0.0	4.3	5.8
145°	0.4	0.0	0.0	2.3	3.9
147.5°	0.4	0.0	0.0	0.4	1.9
150°	0.4	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242692  
 CATALOG NUMBER: S124DRP-S350D940-X4F0-XX-UDD-D-W

**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	13.71	15.24	14.19	15.70	16.20	15.26	16.79	15.74	17.26	17.75
	3H	15.35	16.74	15.84	17.22	17.75	17.57	18.96	18.06	19.44	19.97
	4H	15.92	17.23	16.43	17.73	18.28	18.63	19.95	19.14	20.44	20.99
	6H	16.30	17.53	16.82	18.03	18.60	19.68	20.91	20.21	21.41	21.98
	8H	16.41	17.58	16.94	18.11	18.68	20.20	21.38	20.74	21.91	22.48
	12H	16.47	17.59	17.01	18.12	18.72	20.76	21.88	21.30	22.40	23.01
4H	2H	14.56	15.87	15.07	16.37	16.92	15.76	17.08	16.28	17.57	18.13
	3H	16.44	17.56	16.96	18.10	18.67	18.29	19.41	18.82	19.95	20.52
	4H	17.14	18.17	17.69	18.72	19.32	19.51	20.53	20.05	21.08	21.69
	6H	17.66	18.56	18.22	19.14	19.76	20.74	21.64	21.30	22.21	22.83
	8H	17.82	18.67	18.39	19.24	19.87	21.35	22.20	21.92	22.77	23.40
	12H	17.92	18.69	18.51	19.29	19.93	22.01	22.78	22.60	23.38	24.02
8H	4H	17.72	18.57	18.29	19.14	19.78	19.76	20.61	20.33	21.19	21.82
	6H	18.42	19.13	19.02	19.75	20.39	21.16	21.87	21.76	22.49	23.13
	8H	18.67	19.32	19.28	19.94	20.59	21.90	22.54	22.51	23.17	23.82
	12H	18.86	19.43	19.47	20.04	20.76	22.72	23.30	23.34	23.91	24.63
12H	4H	17.86	18.63	18.45	19.23	19.87	19.78	20.55	20.37	21.15	21.79
	6H	18.63	19.28	19.24	19.90	20.55	21.21	21.85	21.82	22.48	23.13
	8H	18.97	19.54	19.58	20.16	20.87	22.01	22.59	22.63	23.20	23.92