

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: P242491

Luminaire Tested: S123DRP-S340D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242491  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-S340D927-X4F0-XX-UDD-D-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

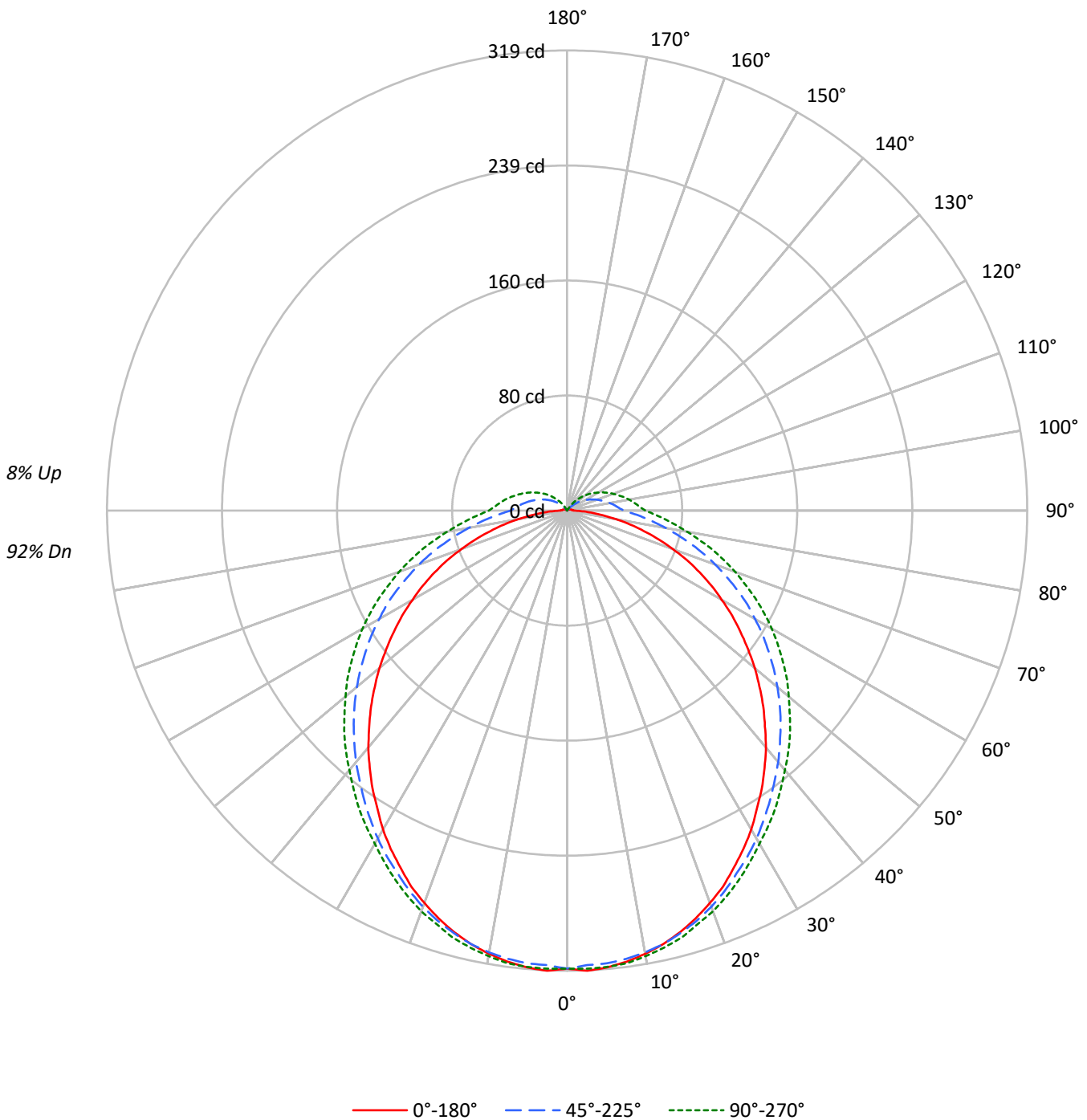
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1067.1 lumens  
Efficiency: N/A  
Efficacy: 92.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.23' 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: P242491

CATALOG NUMBER: S123DRP-S340D927-X4F0-XX-UDD-D-W

### Luminous Intensity Polar Plot





TEST NUMBER: P242491

CATALOG NUMBER: S123DRP-S340D927-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	113	113	113	113	106	106	106	100	100	100	94	94	94	92
1	105	100	95	90	102	97	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	92	83	77	71	79	73	68	74	69	65	70	66	63	60
3	86	75	67	60	83	73	65	59	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	54	48	57	51	46	54	49	45	42
5	72	59	50	43	70	58	49	42	54	47	41	52	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	38	34	32
7	62	48	39	33	60	47	38	32	45	37	32	42	36	31	40	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	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	32	26	22	20

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

	0°	45°	90°
0°	3848	3848	3848
5°	3861	3745	3744
10°	3826	3652	3628
15°	3776	3547	3505
20°	3705	3430	3368
25°	3618	3296	3227
30°	3529	3175	3085
35°	3429	3047	2970
40°	3332	2931	2848
45°	3227	2820	2748
50°	3122	2708	2639
55°	3008	2594	2540
60°	2893	2479	2438
65°	2777	2356	2319
70°	2603	2216	2195
75°	2384	2056	2068
80°	2128	1898	1924
85°	1887	1779	1829

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3227 cd/sqm



TEST NUMBER: P242491

CATALOG NUMBER: S123DRP-S340D927-X4F0-XX-UDD-D-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.1	2.8
10°-20°	85.9	8.0
20°-30°	128.4	12.0
30°-40°	153.3	14.4
40°-50°	160.4	15.0
50°-60°	150.5	14.1
60°-70°	125.7	11.8
70°-80°	89.9	8.4
80°-90°	53.5	5.0
90°-100°	33.6	3.1
100°-110°	24.7	2.3
110°-120°	16.5	1.5
120°-130°	9.4	0.9
130°-140°	4.2	0.4
140°-150°	0.9	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	244.4	22.9
0°-40°	397.7	37.3
0°-60°	708.6	66.4
0°-90°	977.8	91.6
90°-120°	74.8	7.0
90°-150°	89.3	8.4
90°-180°	89.0	8.3
0°-180°	1067.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	318	318	318	318	318	
5°	318	317	315	318	318	30
15°	303	304	303	307	306	85
25°	273	277	278	282	282	126
35°	235	241	245	250	252	147
45°	192	201	209	216	219	148
55°	147	158	170	180	183	131
65°	101	115	130	140	144	100
75°	55	71	88	100	104	59
85°	17	34	53	64	68	17
90°	4	21	39	51	54	3
95°	4	17	34	45	48	3
105°	3	11	26	36	39	3
115°	2	6	18	27	29	2
125°	1	1	11	18	21	1
135°	1	0	4	10	12	1
145°	0	0	0	3	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: P242491

CATALOG NUMBER: S123DRP-S340D927-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	317.5	317.5	317.5	317.5	317.5
2.5°	319.3	318.2	315.4	318.2	317.9
5°	317.9	317.2	315.1	317.9	317.5
7.5°	315.4	315.4	313.4	316.8	316.5
10°	312.0	312.7	311.0	314.4	313.7
12.5°	307.8	308.9	307.8	311.0	310.3
15°	302.6	303.7	303.3	306.8	306.5
17.5°	296.4	298.5	298.2	301.3	300.6
20°	289.5	291.6	292.3	295.4	295.7
22.5°	282.2	284.3	285.4	289.5	289.2
25°	273.2	276.7	277.7	282.2	282.2
27.5°	264.6	268.4	270.5	274.3	274.6
30°	255.3	259.8	262.5	266.7	266.7
32.5°	244.9	250.1	253.9	258.4	259.4
35°	235.2	240.7	245.2	250.4	251.8
37.5°	224.8	231.1	236.2	242.1	243.2
40°	214.4	220.7	227.6	233.5	234.9
42.5°	203.0	211.0	218.3	224.8	226.9
45°	192.3	200.6	209.3	215.8	218.6
47.5°	180.9	190.2	199.9	207.2	209.3
50°	169.8	179.5	190.2	198.2	200.6
52.5°	158.1	168.4	180.6	188.9	192.0
55°	146.7	158.1	170.5	179.9	182.6
57.5°	135.6	147.3	160.8	170.2	173.3
60°	123.8	136.3	150.5	160.1	163.9
62.5°	112.8	125.6	140.8	150.5	153.9
65°	101.3	114.8	130.1	140.4	143.9
67.5°	89.9	104.1	119.3	130.7	133.5
70°	77.8	92.7	109.3	120.4	123.8
72.5°	66.8	81.6	98.9	110.3	113.8
75°	55.0	71.3	88.5	100.0	104.1
77.5°	45.0	61.2	78.5	90.6	93.7
80°	34.2	51.2	69.2	80.9	84.4
82.5°	24.9	42.2	60.5	72.3	75.7
85°	16.9	34.2	52.6	64.3	67.8
87.5°	10.4	27.7	45.3	57.1	60.5
90°	4.5	21.4	39.1	50.8	54.3
92.5°	4.2	19.0	36.3	47.7	50.8
95°	3.8	17.3	34.2	45.0	48.4
97.5°	3.5	15.9	32.2	42.5	46.0
100°	3.1	14.2	30.1	40.1	43.6
102.5°	2.8	12.5	28.0	37.7	41.2
105°	2.8	11.1	25.9	35.6	38.7
107.5°	2.4	9.7	23.9	33.2	36.3
110°	2.1	8.3	22.1	31.1	33.9



TEST NUMBER: P242491

CATALOG NUMBER: S123DRP-S340D927-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.1	6.9	20.1	28.7	31.8
115°	1.7	5.9	18.3	26.6	29.4
117.5°	1.7	4.5	16.3	24.6	27.3
120°	1.4	3.1	14.5	22.5	24.9
122.5°	1.4	2.1	12.8	20.4	22.8
125°	1.0	1.0	11.1	18.3	20.8
127.5°	1.0	0.7	9.3	16.3	18.7
130°	1.0	0.7	7.6	14.2	16.3
132.5°	0.7	0.7	5.9	12.1	14.5
135°	0.7	0.3	4.2	10.4	12.1
137.5°	0.7	0.3	2.8	8.3	10.0
140°	0.3	0.3	1.4	6.6	8.3
142.5°	0.3	0.0	0.0	4.5	6.2
145°	0.3	0.0	0.0	2.8	4.2
147.5°	0.0	0.0	0.0	1.0	2.4
150°	0.0	0.0	0.0	0.0	0.7
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: P242491  
 CATALOG NUMBER: S123DRP-S340D927-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	13.73	15.24	14.22	15.72	16.23	15.73	17.24	16.22	17.72	18.23
	3H	15.29	16.66	15.79	17.15	17.71	18.11	19.48	18.61	19.97	20.53
	4H	15.81	17.11	16.33	17.62	18.19	19.22	20.52	19.74	21.03	21.60
	6H	16.16	17.37	16.69	17.89	18.47	20.33	21.54	20.87	22.06	22.65
	8H	16.24	17.40	16.79	17.95	18.54	20.89	22.04	21.43	22.59	23.18
	12H	16.29	17.40	16.85	17.94	18.56	21.49	22.60	22.04	23.14	23.76
4H	2H	14.64	15.94	15.16	16.45	17.02	16.19	17.49	16.71	18.00	18.57
	3H	16.44	17.55	16.98	18.10	18.69	18.78	19.89	19.32	20.44	21.03
	4H	17.11	18.12	17.66	18.68	19.30	20.05	21.07	20.61	21.63	22.25
	6H	17.58	18.48	18.16	19.06	19.70	21.34	22.23	21.91	22.81	23.45
	8H	17.72	18.56	18.30	19.14	19.79	21.99	22.83	22.57	23.41	24.06
	12H	17.80	18.57	18.41	19.18	19.83	22.70	23.46	23.30	24.08	24.73
8H	4H	17.74	18.58	18.32	19.17	19.82	20.28	21.12	20.86	21.70	22.35
	6H	18.40	19.11	19.01	19.74	20.39	21.72	22.43	22.33	23.06	23.71
	8H	18.63	19.27	19.26	19.91	20.58	22.49	23.14	23.12	23.77	24.44
	12H	18.80	19.37	19.43	20.00	20.73	23.38	23.95	24.00	24.57	25.31
12H	4H	17.90	18.66	18.50	19.27	19.93	20.29	21.05	20.89	21.66	22.32
	6H	18.64	19.28	19.26	19.92	20.59	21.76	22.40	22.38	23.04	23.71
	8H	18.96	19.53	19.59	20.16	20.89	22.60	23.17	23.23	23.80	24.53