

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: P243198

Luminaire Tested: S122DRP-H290D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243198
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-53)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-H290D930-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

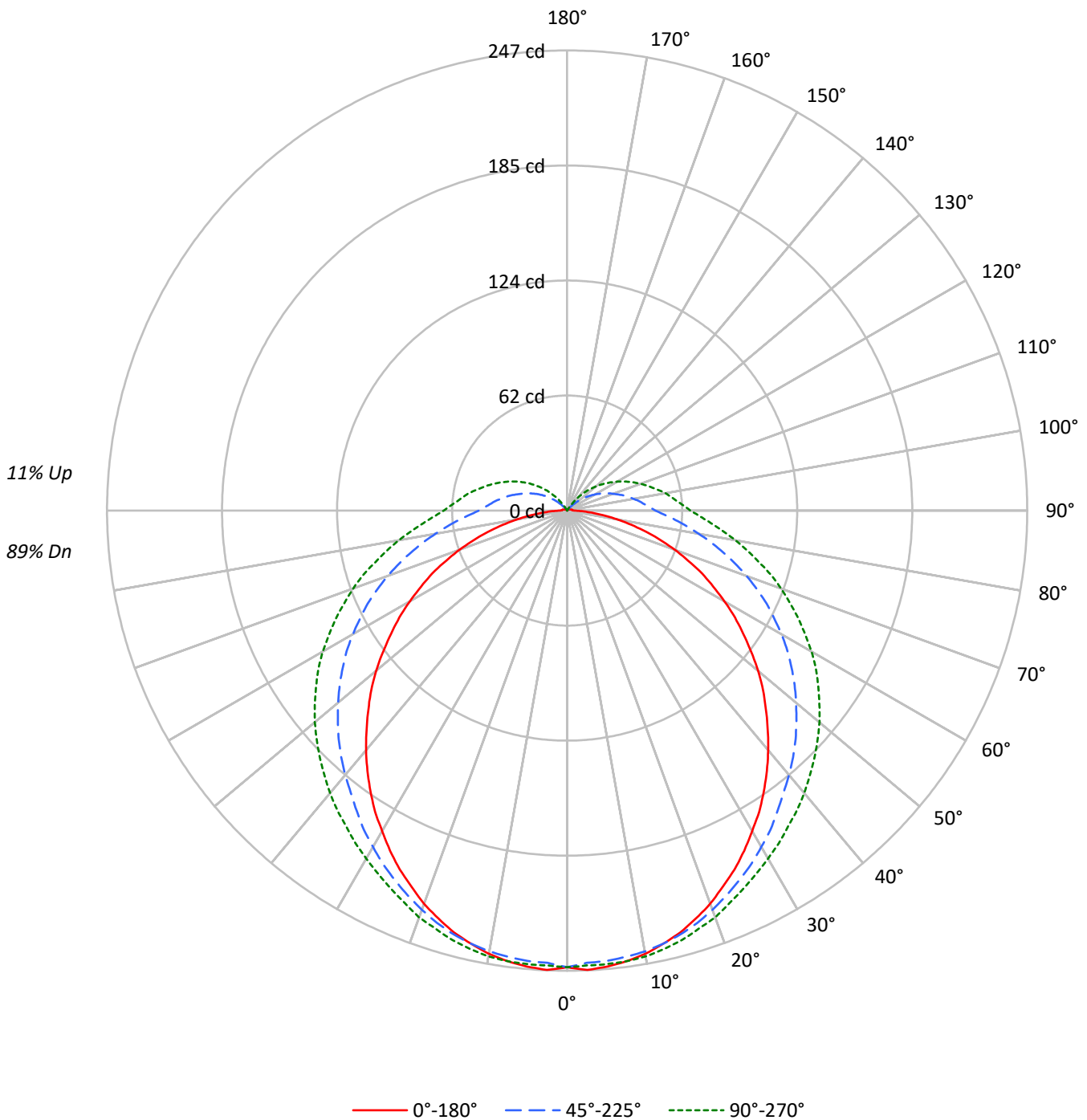
Lumens per Lamp: N/A
Luminaire Lumens: 940.4 lumens
Efficiency: N/A
Efficacy: 84.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{in}): 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: P243198

CATALOG NUMBER: S122DRP-H290D930-X4F0-XX-UDD-D-W

Luminous Intensity Polar Plot





TEST NUMBER: P243198

CATALOG NUMBER: S122DRP-H290D930-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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	104	98	93	88	100	95	90	86	88	84	81	82	79	76	77	74	72	69
2	93	84	77	70	90	81	74	68	76	70	65	71	66	62	66	62	59	56
3	85	73	64	57	81	71	63	56	66	59	54	62	56	51	58	53	49	46
4	77	64	55	48	74	62	54	47	58	51	45	55	48	43	51	46	41	39
5	71	57	48	41	68	55	47	40	52	44	39	49	42	37	46	40	36	33
6	65	51	42	35	63	50	41	35	47	39	34	44	37	32	41	36	31	29
7	60	46	37	31	58	45	37	30	42	35	29	40	33	28	38	32	28	25
8	56	42	33	27	54	41	33	27	39	31	26	37	30	25	35	29	25	22
9	52	39	30	25	50	38	30	24	36	28	24	34	27	23	32	26	22	20
10	49	36	28	22	47	35	27	22	33	26	21	31	25	21	30	24	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4669	4669	4669
5°	4689	4476	4451
10°	4655	4328	4270
15°	4598	4175	4080
20°	4517	4010	3900
25°	4424	3846	3716
30°	4315	3692	3567
35°	4215	3539	3435
40°	4101	3408	3328
45°	3979	3291	3218
50°	3866	3170	3117
55°	3718	3056	3008
60°	3585	2931	2901
65°	3442	2803	2773
70°	3229	2650	2648
75°	2998	2488	2502
80°	2669	2328	2375
85°	2333	2204	2249

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3979 cd/sqm



TEST NUMBER: P243198

CATALOG NUMBER: S122DRP-H290D930-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.2	2.5
10°-20°	66.7	7.1
20°-30°	101.0	10.7
30°-40°	123.2	13.1
40°-50°	132.6	14.1
50°-60°	129.0	13.7
60°-70°	112.7	12.0
70°-80°	86.8	9.2
80°-90°	58.3	6.2
90°-100°	40.4	4.3
100°-110°	29.7	3.2
110°-120°	19.8	2.1
120°-130°	11.2	1.2
130°-140°	4.8	0.5
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°	191.0	20.3
0°-40°	314.2	33.4
0°-60°	575.8	61.2
0°-90°	833.7	88.7
90°-120°	89.8	9.5
90°-150°	106.7	11.3
90°-180°	107.0	11.4
0°-180°	940.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	245	245	245	245	245	
5°	246	245	243	245	244	23
15°	234	236	236	239	239	66
25°	213	216	219	224	224	98
35°	184	190	197	204	207	115
45°	151	160	173	184	188	117
55°	115	129	147	160	164	103
65°	80	97	118	132	137	79
75°	44	64	87	102	106	46
85°	13	35	58	73	78	14
90°	4	25	47	62	66	3
95°	3	20	41	55	59	2
105°	2	12	31	44	47	2
115°	1	6	22	33	36	1
125°	1	1	13	22	26	1
135°	0	0	4	12	15	0
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: P243198

CATALOG NUMBER: S122DRP-H290D930-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	245.1	245.1	245.1	245.1	245.1
2.5°	246.8	245.7	243.0	245.1	244.4
5°	245.7	244.7	242.7	244.7	244.4
7.5°	244.0	243.4	241.6	244.4	244.0
10°	241.6	241.3	240.3	243.0	243.0
12.5°	238.2	238.6	238.2	241.3	241.0
15°	234.5	235.5	235.5	238.6	238.6
17.5°	229.7	231.4	232.1	235.5	235.2
20°	224.6	226.6	228.0	231.7	232.4
22.5°	218.4	221.5	223.6	227.7	228.0
25°	212.6	216.0	218.8	223.6	223.9
27.5°	205.8	209.9	214.0	218.8	219.8
30°	198.6	203.8	208.5	214.3	215.7
32.5°	191.8	196.9	203.1	209.2	211.6
35°	184.0	190.1	196.9	204.4	206.8
37.5°	176.1	182.6	190.8	199.7	202.7
40°	167.9	175.4	185.3	194.9	198.0
42.5°	159.4	167.6	179.5	189.4	192.8
45°	150.9	160.1	173.4	184.0	187.7
47.5°	142.7	152.6	166.9	178.8	182.3
50°	133.8	144.7	160.4	172.7	176.8
52.5°	124.6	136.9	153.9	166.6	170.7
55°	115.4	129.0	147.1	160.4	164.5
57.5°	106.8	121.2	140.3	153.6	158.4
60°	97.6	113.0	132.8	146.8	151.5
62.5°	88.4	105.1	125.3	139.6	144.0
65°	79.9	96.9	118.1	132.4	136.9
67.5°	70.3	88.4	110.2	125.3	129.4
70°	61.4	80.5	102.4	117.4	122.2
72.5°	52.6	72.0	94.5	109.6	114.7
75°	44.0	64.2	86.7	102.1	106.5
77.5°	35.2	56.3	79.2	94.5	99.0
80°	27.3	48.5	71.7	87.0	91.8
82.5°	19.5	41.3	64.8	79.9	84.3
85°	13.3	35.2	58.4	73.0	77.5
87.5°	7.9	29.4	52.2	66.9	71.3
90°	3.8	24.6	47.4	61.8	66.2
92.5°	3.1	22.2	44.0	58.0	62.5
95°	2.7	19.8	41.3	55.0	59.0
97.5°	2.7	18.1	38.9	52.2	56.3
100°	2.4	16.0	36.2	49.1	53.6
102.5°	2.4	14.0	33.8	46.4	50.5
105°	2.0	12.3	31.4	43.7	47.4
107.5°	1.7	10.6	28.7	41.0	44.7
110°	1.7	8.9	26.3	38.2	42.0



TEST NUMBER: P243198

CATALOG NUMBER: S122DRP-H290D930-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.4	7.5	24.2	35.5	39.3
115°	1.4	5.8	21.8	32.8	36.5
117.5°	1.4	4.1	19.5	30.0	33.8
120°	1.0	2.7	17.4	27.6	31.1
122.5°	1.0	1.7	15.0	24.9	28.3
125°	1.0	0.7	13.0	22.2	25.6
127.5°	0.7	0.7	10.6	19.8	22.9
130°	0.7	0.3	8.5	17.1	20.1
132.5°	0.7	0.3	6.5	14.7	17.4
135°	0.3	0.3	4.4	11.9	15.0
137.5°	0.3	0.3	2.4	9.6	11.9
140°	0.3	0.0	1.0	7.2	9.2
142.5°	0.3	0.0	0.0	4.8	6.8
145°	0.3	0.0	0.0	2.7	4.1
147.5°	0.0	0.0	0.0	0.7	2.0
150°	0.0	0.0	0.0	0.0	0.3
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: P243198
 CATALOG NUMBER: S122DRP-H290D930-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	13.57	15.05	14.10	15.58	16.16	16.63	18.11	17.16	18.64	19.23
	3H	15.07	16.42	15.61	16.96	17.58	19.27	20.62	19.81	21.16	21.78
	4H	15.57	16.86	16.13	17.41	18.05	20.55	21.83	21.11	22.39	23.02
	6H	15.89	17.09	16.47	17.66	18.31	21.87	23.07	22.45	23.64	24.29
	8H	15.97	17.12	16.55	17.71	18.36	22.56	23.71	23.14	24.30	24.95
	12H	16.01	17.11	16.60	17.69	18.38	23.31	24.41	23.90	25.00	25.68
4H	2H	14.69	15.97	15.25	16.53	17.16	17.03	18.31	17.59	18.87	19.50
	3H	16.45	17.55	17.02	18.14	18.80	19.87	20.97	20.45	21.57	22.22
	4H	17.10	18.11	17.69	18.71	19.40	21.31	22.32	21.91	22.93	23.61
	6H	17.55	18.44	18.16	19.07	19.77	22.82	23.71	23.43	24.34	25.04
	8H	17.68	18.52	18.29	19.15	19.86	23.60	24.44	24.22	25.07	25.78
	12H	17.75	18.52	18.39	19.17	19.89	24.47	25.23	25.11	25.89	26.60
8H	4H	17.94	18.78	18.55	19.41	20.12	21.51	22.35	22.12	22.98	23.69
	6H	18.60	19.32	19.25	19.99	20.70	23.17	23.88	23.82	24.55	25.27
	8H	18.83	19.48	19.49	20.16	20.88	24.08	24.72	24.74	25.40	26.13
	12H	19.00	19.58	19.66	20.25	21.04	25.11	25.69	25.77	26.35	27.14
12H	4H	18.17	18.93	18.81	19.59	20.30	21.51	22.28	22.15	22.93	23.65
	6H	18.94	19.59	19.60	20.27	21.00	23.20	23.85	23.86	24.53	25.25
	8H	19.28	19.86	19.95	20.53	21.32	24.17	24.75	24.83	25.42	26.21