

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P243198

Luminaire Tested: **S122DR-H290D930-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
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 (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DR-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: ELECTRONIC 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

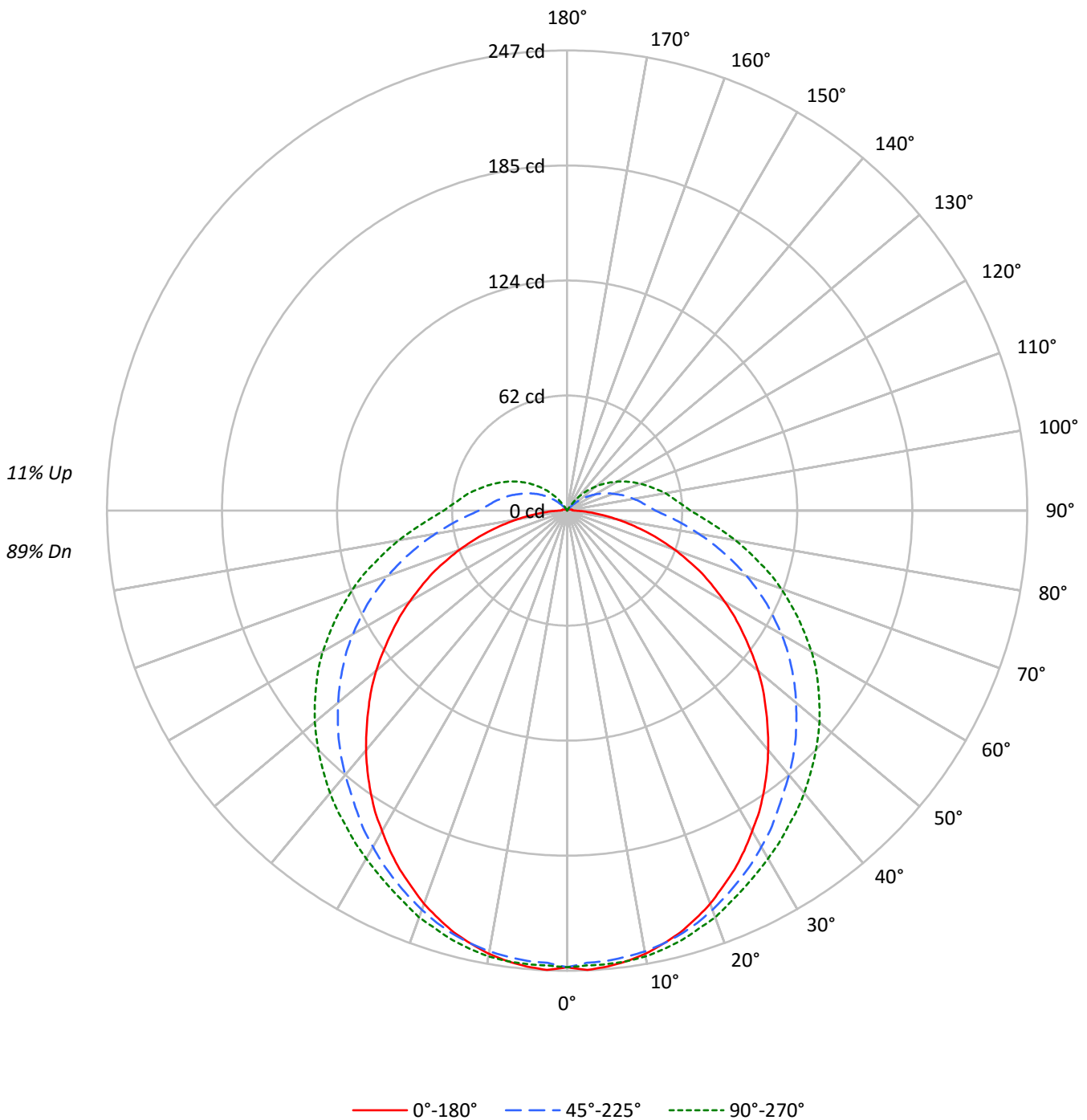
Input Watts (W): 11.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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



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**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



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**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



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**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

(END OF REPORT)