

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: P242348

Luminaire Tested: **S122DR-S290D940-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242348  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DR-S290D940-X4F0-XX-UDD-D-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1025.1 lumens  
Efficiency: N/A  
Efficacy: 88.4 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

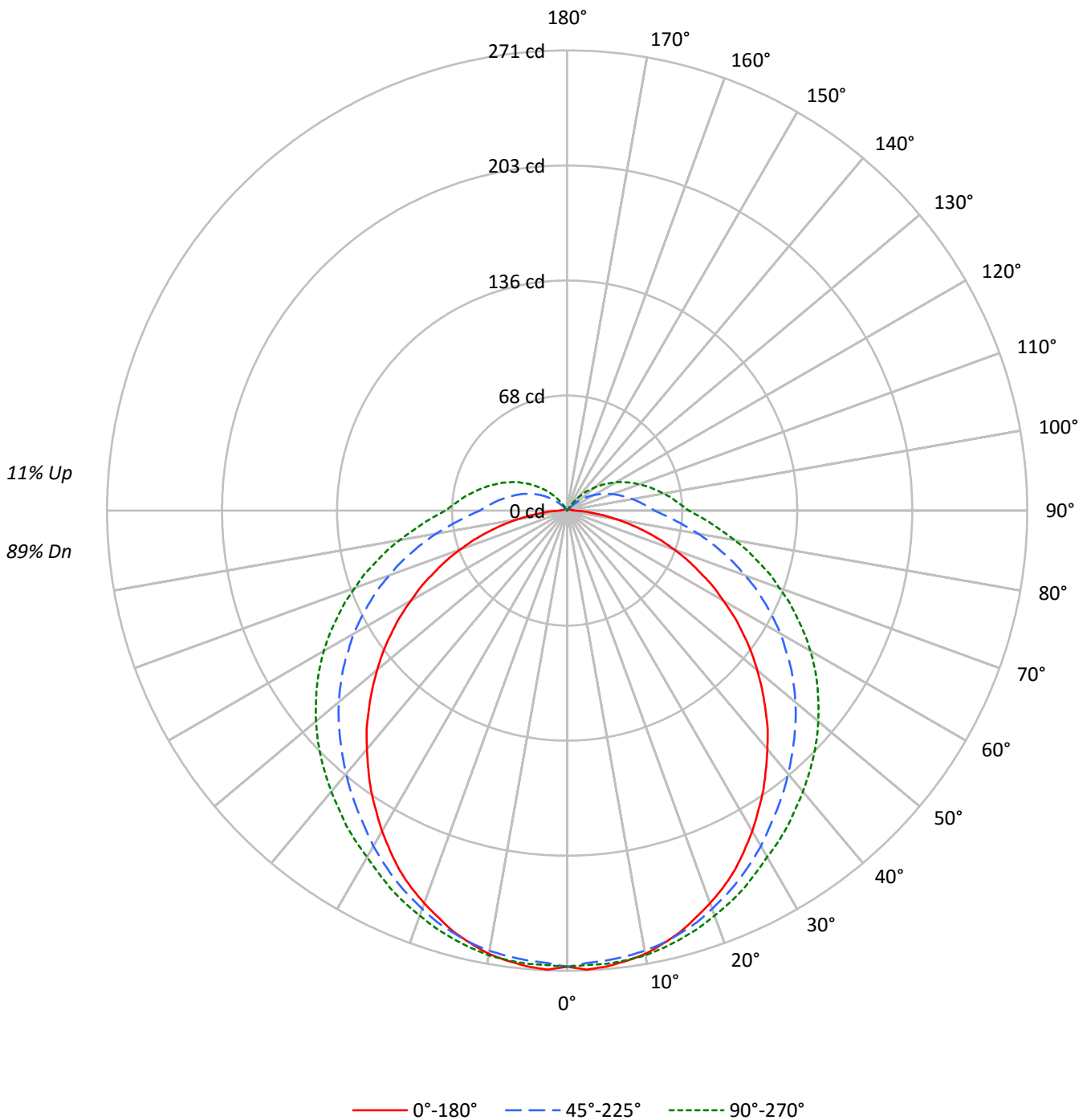
Input Watts (W): 11.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	85	81	82	79	77	77	75	72	69
2	94	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	42	39
5	71	57	48	41	68	56	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	42	36	31	29
7	60	46	37	31	58	45	37	31	43	35	30	40	34	29	38	32	28	25
8	56	42	34	28	54	41	33	27	39	32	26	37	30	25	35	29	25	23
9	52	39	30	25	50	38	30	24	36	29	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°	5116	5116	5116
5°	5141	4904	4878
10°	5108	4740	4672
15°	5039	4569	4462
20°	4950	4390	4261
25°	4861	4216	4077
30°	4736	4041	3896
35°	4611	3870	3763
40°	4479	3725	3632
45°	4354	3591	3518
50°	4218	3470	3404
55°	4076	3340	3290
60°	3904	3204	3169
65°	3722	3050	3028
70°	3523	2883	2878
75°	3263	2715	2735
80°	2855	2543	2589
85°	2456	2381	2464



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	25.5	2.5
10°-20°	73.0	7.1
20°-30°	110.7	10.8
30°-40°	134.8	13.1
40°-50°	145.0	14.1
50°-60°	140.8	13.7
60°-70°	123.0	12.0
70°-80°	94.6	9.2
80°-90°	63.4	6.2
90°-100°	43.7	4.3
100°-110°	31.9	3.1
110°-120°	21.1	2.1
120°-130°	11.8	1.1
130°-140°	4.9	0.5
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°	209.2	20.4
0°-40°	343.9	33.6
0°-60°	629.8	61.4
0°-90°	910.8	88.9
90°-120°	96.7	9.4
90°-150°	114.3	11.1
90°-180°	114.0	11.1
0°-180°	1025.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	269	269	269	269	269	
5°	269	268	266	268	268	26
15°	257	258	258	261	261	72
25°	234	236	240	244	246	107
35°	201	208	215	224	227	126
45°	165	176	189	201	205	127
55°	126	141	161	175	180	113
65°	86	106	128	144	150	86
75°	48	70	95	111	116	51
85°	14	38	63	79	85	15
90°	4	26	51	67	72	3
95°	3	21	45	60	64	2
105°	2	13	34	47	51	2
115°	2	6	23	35	39	1
125°	1	1	13	24	27	1
135°	0	0	4	12	16	0
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



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	268.6	268.6	268.6	268.6	268.6
2.5°	270.6	269.4	266.7	268.6	267.9
5°	269.4	268.3	265.9	268.3	267.9
7.5°	267.5	266.7	264.8	267.5	267.1
10°	265.1	264.4	263.2	266.3	265.9
12.5°	261.2	261.6	260.9	264.0	263.6
15°	257.0	257.7	257.7	261.2	260.9
17.5°	251.5	253.1	254.2	257.7	257.7
20°	246.1	248.0	249.6	253.9	253.9
22.5°	240.2	242.6	244.9	249.2	250.0
25°	233.6	236.3	239.8	244.5	245.7
27.5°	225.8	230.1	234.0	239.8	240.6
30°	218.0	223.1	228.2	234.4	235.6
32.5°	209.5	215.3	221.5	228.9	231.3
35°	201.3	207.9	215.3	223.9	226.6
37.5°	192.3	199.7	209.1	218.4	221.1
40°	183.4	191.9	202.5	212.6	216.1
42.5°	174.8	183.4	195.8	207.1	210.6
45°	165.1	175.6	189.2	201.3	205.2
47.5°	155.7	167.0	182.6	195.1	199.3
50°	146.0	158.1	175.6	188.8	193.1
52.5°	136.7	149.5	168.2	181.8	186.5
55°	126.5	140.6	160.8	174.8	179.9
57.5°	116.8	132.4	152.6	167.8	172.9
60°	106.3	123.0	145.2	160.0	165.5
62.5°	96.9	114.5	136.7	152.6	157.7
65°	86.4	105.5	128.5	144.4	149.5
67.5°	77.1	96.9	120.3	136.3	141.7
70°	67.0	87.2	111.4	128.1	132.8
72.5°	57.6	78.6	103.2	119.5	125.4
75°	47.9	69.7	94.6	111.4	116.4
77.5°	38.5	61.1	86.4	103.2	108.6
80°	29.2	53.0	78.3	94.6	100.1
82.5°	21.4	44.8	70.5	86.8	91.9
85°	14.0	38.2	63.1	79.4	84.9
87.5°	8.6	31.9	56.8	72.8	77.9
90°	3.9	26.5	51.4	67.0	71.6
92.5°	3.5	24.1	47.9	63.1	67.7
95°	3.1	21.4	44.8	59.6	64.2
97.5°	2.7	19.5	42.0	56.5	61.1
100°	2.7	17.1	38.9	53.3	57.6
102.5°	2.3	15.2	36.2	50.2	54.5
105°	1.9	13.2	33.5	47.1	51.4
107.5°	1.9	11.3	30.8	44.0	48.3
110°	1.6	9.3	28.4	40.9	45.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	7.8	25.7	38.2	42.4
115°	1.6	5.8	23.4	35.0	39.3
117.5°	1.2	4.3	20.6	32.3	36.2
120°	1.2	2.7	18.3	29.2	33.5
122.5°	1.2	1.6	16.0	26.5	30.0
125°	0.8	0.8	13.2	23.7	27.3
127.5°	0.8	0.4	10.9	20.6	24.1
130°	0.8	0.4	8.6	17.9	21.0
132.5°	0.8	0.4	6.2	15.2	18.3
135°	0.4	0.4	4.3	12.5	15.6
137.5°	0.4	0.4	2.3	9.7	12.5
140°	0.4	0.0	0.8	7.0	9.3
142.5°	0.4	0.0	0.0	4.7	6.6
145°	0.0	0.0	0.0	2.3	4.3
147.5°	0.0	0.0	0.0	0.4	1.6
150°	0.0	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

(END OF REPORT)