

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: P242166

Luminaire Tested: **S121DR-S305D930-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242166  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S121DR-S305D930-X4F0-XX-UDD-D-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 972.7 lumens  
Efficiency: N/A  
Efficacy: 83.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.44  
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')  
CIE Type: Semi-Direct

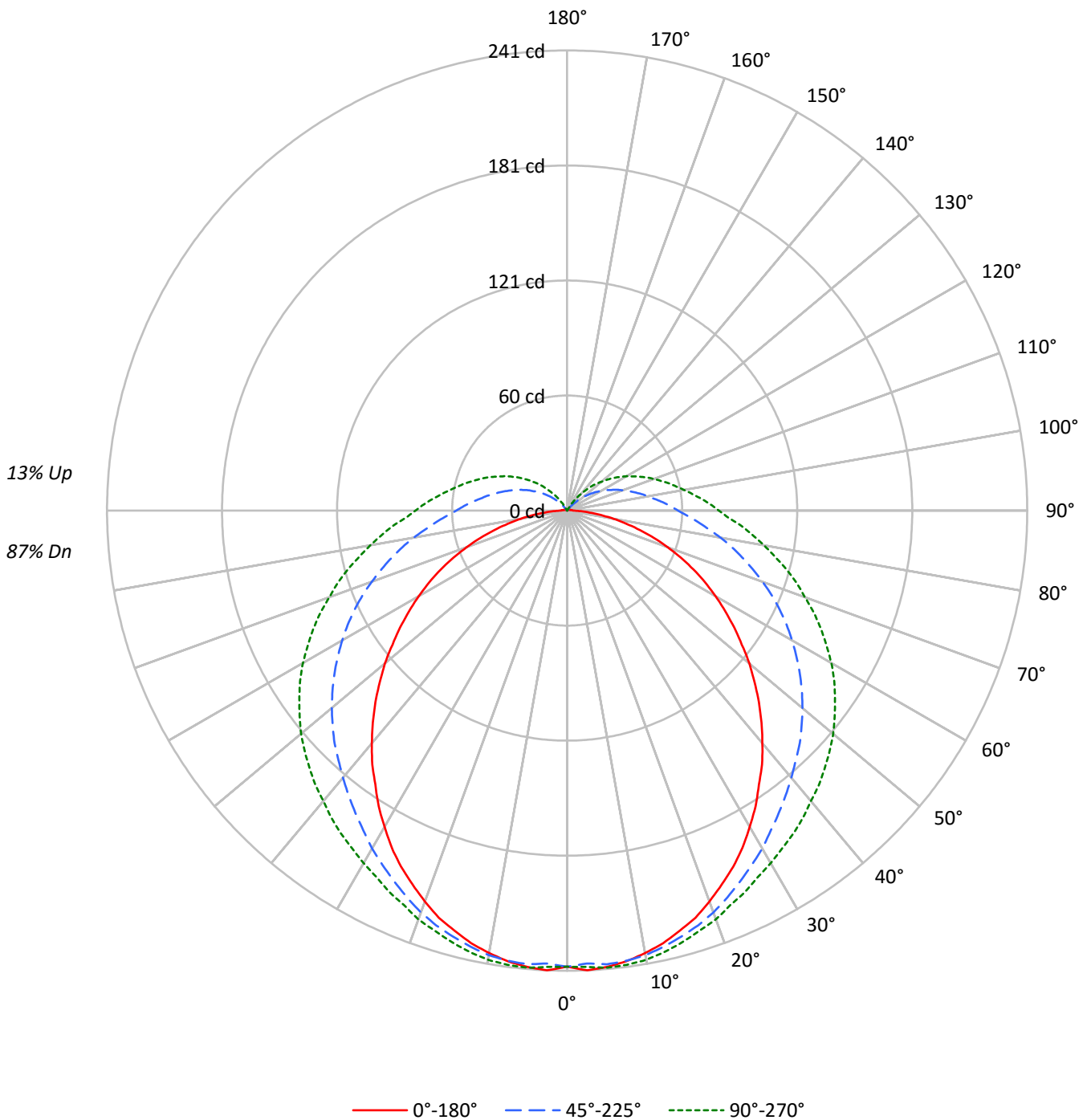
Input Watts (W): 11.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P242166

CATALOG NUMBER: S121DR-S305D930-X4F0-XX-UDD-D-W

### Luminous Intensity Polar Plot





TEST NUMBER: P242166

CATALOG NUMBER: S121DR-S305D930-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	104	104	104	97	97	97	90	90	90	87
1	103	97	92	87	99	94	89	84	87	83	79	81	77	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	68	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	49	56	51	47	44
4	76	63	54	47	73	61	53	46	57	50	44	53	47	42	49	44	40	37
5	70	56	47	40	67	54	46	39	51	43	37	47	41	36	44	39	34	32
6	65	51	41	34	62	49	40	34	46	38	32	43	36	31	40	34	30	27
7	60	46	37	30	57	44	36	30	41	34	28	39	32	27	36	31	26	24
8	55	42	33	27	53	40	32	26	38	31	25	36	29	24	33	28	23	21
9	52	38	30	24	50	37	29	23	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	20	30	24	20	29	23	19	17

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

	0°	45°	90°
0°	7079	7079	7079
5°	7122	6715	6632
10°	7053	6388	6214
15°	6948	6043	5795
20°	6817	5720	5427
25°	6661	5389	5094
30°	6461	5096	4821
35°	6240	4820	4604
40°	6045	4586	4400
45°	5825	4392	4233
50°	5600	4197	4072
55°	5353	4005	3897
60°	5125	3811	3729
65°	4892	3617	3539
70°	4573	3408	3332
75°	4186	3196	3153
80°	3741	2990	2957
85°	3193	2794	2787



TEST NUMBER: P242166

CATALOG NUMBER: S121DR-S305D930-X4F0-XX-UDD-D-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	22.8	2.3
10°-20°	65.4	6.7
20°-30°	98.9	10.2
30°-40°	120.9	12.4
40°-50°	131.3	13.5
50°-60°	129.5	13.3
60°-70°	116.2	12.0
70°-80°	93.6	9.6
80°-90°	67.6	6.9
90°-100°	48.3	5.0
100°-110°	34.6	3.6
110°-120°	23.1	2.4
120°-130°	13.3	1.4
130°-140°	6.0	0.6
140°-150°	1.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	187.1	19.2
0°-40°	308.0	31.7
0°-60°	568.8	58.5
0°-90°	846.2	87.0
90°-120°	105.9	10.9
90°-150°	126.5	13.0
90°-180°	127.0	13.1
0°-180°	972.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	239	239	239	239	239	
5°	240	240	238	241	240	23
15°	228	231	231	234	234	64
25°	206	211	214	219	220	95
35°	175	185	193	203	206	110
45°	142	155	172	186	191	110
55°	107	125	149	166	171	96
65°	73	96	123	141	147	72
75°	40	66	95	113	119	42
85°	12	40	69	86	92	12
90°	3	30	58	74	79	2
95°	2	24	50	66	70	2
105°	1	14	37	51	55	2
115°	1	7	26	38	42	1
125°	1	1	16	26	30	1
135°	0	0	6	15	18	0
145°	0	0	0	4	6	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: P242166

CATALOG NUMBER: S121DR-S305D930-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	238.9	238.9	238.9	238.9	238.9
2.5°	241.0	239.9	237.4	239.9	239.2
5°	239.9	239.6	238.5	240.6	240.3
7.5°	238.1	238.9	237.8	240.6	239.9
10°	235.3	237.1	236.4	239.2	238.9
12.5°	232.1	234.2	233.9	237.1	236.7
15°	227.8	231.0	231.0	234.2	233.9
17.5°	223.6	226.8	227.8	231.4	230.7
20°	217.9	222.1	223.9	227.1	227.8
22.5°	211.8	217.1	219.3	223.2	223.6
25°	205.8	211.1	214.3	219.3	220.4
27.5°	199.0	205.0	209.3	215.0	216.4
30°	191.2	198.6	204.3	210.7	213.2
32.5°	183.7	191.9	198.6	207.2	209.7
35°	175.1	184.8	193.3	202.9	206.5
37.5°	167.7	177.6	188.0	199.0	202.9
40°	159.1	169.8	182.6	194.7	198.6
42.5°	150.6	162.7	177.3	190.8	195.1
45°	142.0	154.9	172.3	186.2	190.8
47.5°	133.1	147.7	166.6	181.5	186.5
50°	124.6	140.3	160.9	176.6	181.9
52.5°	115.3	132.8	154.9	171.2	176.6
55°	106.8	125.3	148.8	165.9	171.2
57.5°	98.2	117.8	142.4	159.8	165.9
60°	89.7	110.4	136.0	153.8	159.8
62.5°	81.5	103.2	129.6	147.7	153.1
65°	73.0	96.1	122.8	141.0	146.7
67.5°	64.4	88.6	116.0	134.2	139.9
70°	55.9	80.8	108.9	127.4	132.4
72.5°	47.7	73.7	101.8	120.7	126.0
75°	39.5	66.2	95.0	113.2	118.9
77.5°	31.7	59.1	88.3	106.4	111.4
80°	24.6	52.0	81.5	99.7	104.7
82.5°	17.8	45.9	74.8	92.6	97.9
85°	11.7	39.9	68.7	86.1	91.5
87.5°	7.1	34.5	63.0	80.1	84.4
90°	3.2	29.9	58.0	74.4	79.4
92.5°	2.8	26.7	54.1	70.5	75.1
95°	2.5	23.9	50.2	66.2	70.5
97.5°	2.1	21.0	46.3	61.9	66.2
100°	1.8	18.5	43.1	58.0	62.3
102.5°	1.8	16.4	39.9	54.1	58.4
105°	1.4	14.2	36.7	50.9	55.2
107.5°	1.4	12.5	33.8	47.7	51.6
110°	1.4	10.7	31.0	44.5	48.4



TEST NUMBER: P242166

CATALOG NUMBER: S121DR-S305D930-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	8.9	28.5	41.3	45.2
115°	1.1	7.1	25.6	38.1	42.0
117.5°	1.1	5.3	23.1	35.2	38.8
120°	0.7	3.9	20.3	32.4	36.0
122.5°	0.7	2.5	18.2	29.2	32.7
125°	0.7	1.1	15.7	26.3	29.9
127.5°	0.7	0.4	13.2	23.5	26.7
130°	0.4	0.4	11.0	20.6	23.5
132.5°	0.4	0.4	8.5	17.8	21.0
135°	0.4	0.4	6.1	15.0	17.8
137.5°	0.4	0.0	3.9	12.1	14.6
140°	0.4	0.0	2.1	9.6	11.7
142.5°	0.4	0.0	0.4	6.8	9.3
145°	0.0	0.0	0.0	4.3	6.1
147.5°	0.0	0.0	0.0	1.8	3.6
150°	0.0	0.0	0.0	0.0	1.1
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)