

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: P242176

Luminaire Tested: **S121DR-S305D940-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242176  
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-S305D940-X4F0-XX-UDD-D-W  
Description: DEFINE 1 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: 1063.9 lumens  
Efficiency: N/A  
Efficacy: 91.7 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

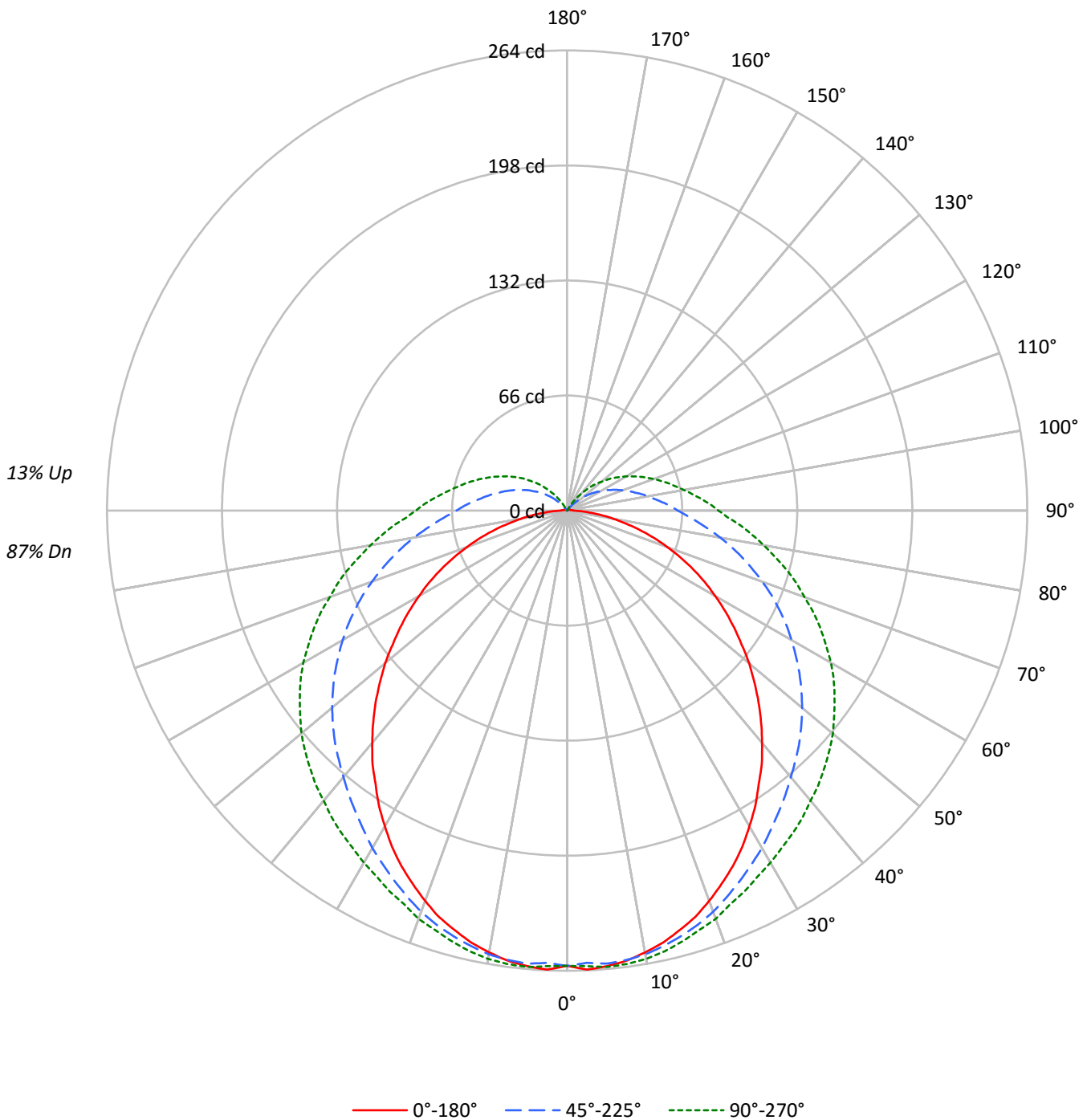
Input Watts (W): 11.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	7739	7739	7739
5°	7790	7346	7252
10°	7715	6985	6794
15°	7600	6611	6337
20°	7456	6256	5937
25°	7283	5894	5570
30°	7066	5575	5273
35°	6828	5271	5034
40°	6611	5015	4814
45°	6370	4803	4630
50°	6126	4591	4454
55°	5854	4379	4263
60°	5605	4166	4079
65°	5348	3955	3870
70°	4998	3727	3644
75°	4578	3499	3447
80°	4091	3273	3234
85°	3493	3055	3049



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	24.9	2.3
10°-20°	71.5	6.7
20°-30°	108.2	10.2
30°-40°	132.3	12.4
40°-50°	143.6	13.5
50°-60°	141.6	13.3
60°-70°	127.1	12.0
70°-80°	102.3	9.6
80°-90°	73.9	6.9
90°-100°	52.8	5.0
100°-110°	37.8	3.6
110°-120°	25.2	2.4
120°-130°	14.5	1.4
130°-140°	6.6	0.6
140°-150°	1.4	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	204.6	19.2
0°-40°	336.9	31.7
0°-60°	622.2	58.5
0°-90°	925.5	87.0
90°-120°	115.9	10.9
90°-150°	138.3	13.0
90°-180°	138.0	13.0
0°-180°	1063.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	261	261	261	261	261	
5°	262	262	261	263	263	25
15°	249	253	253	256	256	70
25°	225	231	234	240	241	104
35°	192	202	211	222	226	120
45°	155	169	188	204	209	120
55°	117	137	163	181	187	105
65°	80	105	134	154	160	79
75°	43	72	104	124	130	46
85°	13	44	75	94	100	14
90°	4	33	64	81	87	2
95°	3	26	55	72	77	2
105°	2	16	40	56	60	2
115°	1	8	28	42	46	1
125°	1	1	17	29	33	1
135°	0	0	7	16	20	0
145°	0	0	0	5	7	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°	261.2	261.2	261.2	261.2	261.2
2.5°	263.6	262.4	259.7	262.4	261.6
5°	262.4	262.0	260.9	263.2	262.8
7.5°	260.5	261.2	260.1	263.2	262.4
10°	257.4	259.3	258.5	261.6	261.2
12.5°	253.9	256.2	255.8	259.3	258.9
15°	249.2	252.7	252.7	256.2	255.8
17.5°	244.5	248.0	249.2	253.1	252.3
20°	238.3	242.9	244.9	248.4	249.2
22.5°	231.7	237.5	239.8	244.1	244.5
25°	225.0	230.9	234.4	239.8	241.0
27.5°	217.6	224.3	228.9	235.2	236.7
30°	209.1	217.3	223.5	230.5	233.2
32.5°	200.9	209.9	217.3	226.6	229.3
35°	191.6	202.1	211.4	221.9	225.8
37.5°	183.4	194.3	205.6	217.6	221.9
40°	174.0	185.7	199.7	213.0	217.3
42.5°	164.7	177.9	193.9	208.7	213.4
45°	155.3	169.4	188.4	203.6	208.7
47.5°	145.6	161.6	182.2	198.6	204.0
50°	136.3	153.4	176.0	193.1	199.0
52.5°	126.1	145.2	169.4	187.3	193.1
55°	116.8	137.0	162.7	181.4	187.3
57.5°	107.5	128.9	155.7	174.8	181.4
60°	98.1	120.7	148.7	168.2	174.8
62.5°	89.2	112.9	141.7	161.6	167.4
65°	79.8	105.1	134.3	154.2	160.4
67.5°	70.5	96.9	126.9	146.8	153.0
70°	61.1	88.4	119.1	139.4	144.8
72.5°	52.2	80.6	111.4	132.0	137.8
75°	43.2	72.4	104.0	123.8	130.0
77.5°	34.7	64.6	96.6	116.4	121.9
80°	26.9	56.8	89.2	109.0	114.5
82.5°	19.5	50.2	81.8	101.2	107.1
85°	12.8	43.6	75.1	94.2	100.1
87.5°	7.8	37.8	68.9	87.6	92.3
90°	3.5	32.7	63.5	81.4	86.8
92.5°	3.1	29.2	59.2	77.1	82.2
95°	2.7	26.1	54.9	72.4	77.1
97.5°	2.3	23.0	50.6	67.7	72.4
100°	1.9	20.2	47.1	63.5	68.1
102.5°	1.9	17.9	43.6	59.2	63.9
105°	1.6	15.6	40.1	55.7	60.3
107.5°	1.6	13.6	37.0	52.2	56.5
110°	1.6	11.7	33.9	48.7	53.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	9.7	31.1	45.2	49.4
115°	1.2	7.8	28.0	41.7	45.9
117.5°	1.2	5.8	25.3	38.5	42.4
120°	0.8	4.3	22.2	35.4	39.3
122.5°	0.8	2.7	19.9	31.9	35.8
125°	0.8	1.2	17.1	28.8	32.7
127.5°	0.8	0.4	14.4	25.7	29.2
130°	0.4	0.4	12.1	22.6	25.7
132.5°	0.4	0.4	9.3	19.5	23.0
135°	0.4	0.4	6.6	16.4	19.5
137.5°	0.4	0.0	4.3	13.2	16.0
140°	0.4	0.0	2.3	10.5	12.8
142.5°	0.4	0.0	0.4	7.4	10.1
145°	0.0	0.0	0.0	4.7	6.6
147.5°	0.0	0.0	0.0	1.9	3.9
150°	0.0	0.0	0.0	0.0	1.2
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)