

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: P242147

Luminaire Tested: **S121DR-S305D927-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242147  
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-S305D927-X4F0-XX-UDD-D-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 945.1 lumens  
Efficiency: N/A  
Efficacy: 81.5 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

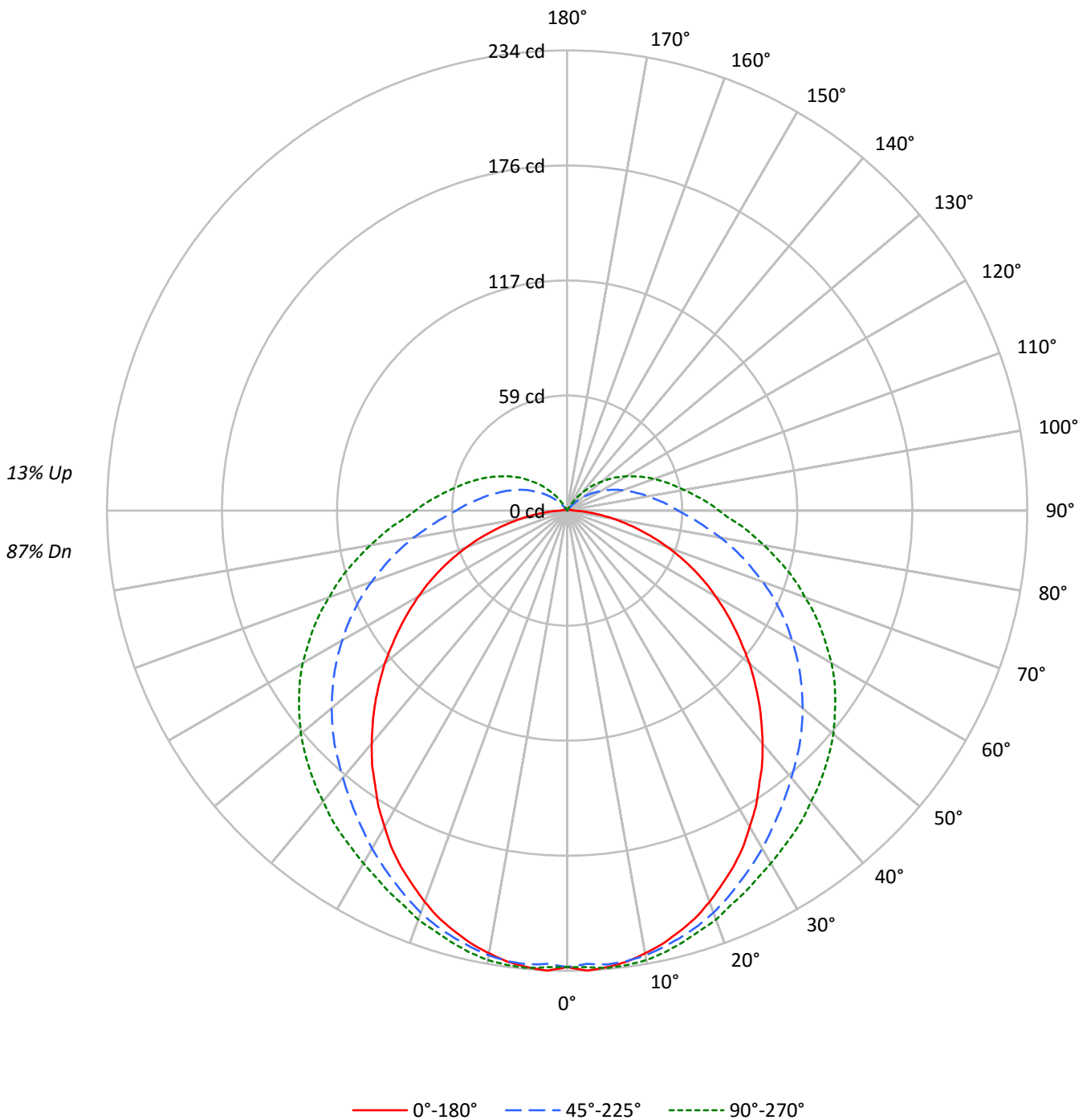
Input Watts (W): 11.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	6877	6877	6877
5°	6920	6524	6444
10°	6852	6206	6037
15°	6753	5873	5629
20°	6623	5559	5275
25°	6470	5235	4948
30°	6276	4951	4685
35°	6065	4682	4472
40°	5874	4455	4276
45°	5661	4267	4113
50°	5443	4077	3955
55°	5202	3892	3788
60°	4982	3701	3624
65°	4752	3514	3438
70°	4442	3311	3239
75°	4069	3109	3063
80°	3635	2906	2873
85°	3111	2717	2708



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	22.2	2.3
10°-20°	63.6	6.7
20°-30°	96.1	10.2
30°-40°	117.5	12.4
40°-50°	127.6	13.5
50°-60°	125.9	13.3
60°-70°	112.9	12.0
70°-80°	90.9	9.6
80°-90°	65.7	6.9
90°-100°	46.9	5.0
100°-110°	33.6	3.6
110°-120°	22.4	2.4
120°-130°	12.9	1.4
130°-140°	5.8	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°	181.8	19.2
0°-40°	299.3	31.7
0°-60°	552.7	58.5
0°-90°	822.2	87.0
90°-120°	102.9	10.9
90°-150°	122.9	13.0
90°-180°	123.0	13.0
0°-180°	945.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	232	232	232	232	232	
5°	233	233	232	234	234	22
15°	221	224	224	228	227	62
25°	200	205	208	213	214	92
35°	170	180	188	197	201	107
45°	138	150	167	181	185	106
55°	104	122	145	161	166	93
65°	71	93	119	137	142	70
75°	38	64	92	110	116	41
85°	11	39	67	84	89	12
90°	3	29	56	72	77	2
95°	2	23	49	64	68	2
105°	1	14	36	50	54	2
115°	1	7	25	37	41	1
125°	1	1	15	26	29	1
135°	0	0	6	14	17	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



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	232.1	232.1	232.1	232.1	232.1
2.5°	234.2	233.1	230.7	233.1	232.4
5°	233.1	232.8	231.7	233.8	233.5
7.5°	231.4	232.1	231.1	233.8	233.1
10°	228.6	230.4	229.7	232.4	232.1
12.5°	225.5	227.6	227.2	230.4	230.0
15°	221.4	224.5	224.5	227.6	227.2
17.5°	217.2	220.3	221.4	224.8	224.1
20°	211.7	215.8	217.6	220.7	221.4
22.5°	205.8	211.0	213.1	216.9	217.2
25°	199.9	205.1	208.2	213.1	214.1
27.5°	193.3	199.2	203.4	208.9	210.3
30°	185.7	193.0	198.5	204.8	207.2
32.5°	178.5	186.4	193.0	201.3	203.7
35°	170.2	179.5	187.8	197.2	200.6
37.5°	162.9	172.6	182.6	193.3	197.2
40°	154.6	165.0	177.4	189.2	193.0
42.5°	146.3	158.1	172.3	185.4	189.5
45°	138.0	150.5	167.4	180.9	185.4
47.5°	129.4	143.5	161.9	176.4	181.2
50°	121.1	136.3	156.3	171.6	176.7
52.5°	112.1	129.0	150.5	166.4	171.6
55°	103.8	121.8	144.6	161.2	166.4
57.5°	95.5	114.5	138.4	155.3	161.2
60°	87.2	107.2	132.1	149.4	155.3
62.5°	79.2	100.3	125.9	143.5	148.7
65°	70.9	93.4	119.3	137.0	142.5
67.5°	62.6	86.1	112.8	130.4	135.9
70°	54.3	78.5	105.8	123.8	128.7
72.5°	46.3	71.6	98.9	117.3	122.4
75°	38.4	64.3	92.4	110.0	115.5
77.5°	30.8	57.4	85.8	103.4	108.3
80°	23.9	50.5	79.2	96.8	101.7
82.5°	17.3	44.6	72.6	89.9	95.1
85°	11.4	38.7	66.8	83.7	88.9
87.5°	6.9	33.6	61.2	77.8	82.0
90°	3.1	29.1	56.4	72.3	77.1
92.5°	2.8	25.9	52.6	68.5	73.0
95°	2.4	23.2	48.8	64.3	68.5
97.5°	2.1	20.4	45.0	60.2	64.3
100°	1.7	18.0	41.9	56.4	60.5
102.5°	1.7	15.9	38.7	52.6	56.7
105°	1.4	13.8	35.6	49.5	53.6
107.5°	1.4	12.1	32.9	46.3	50.2
110°	1.4	10.4	30.1	43.2	47.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	8.6	27.7	40.1	43.9
115°	1.0	6.9	24.9	37.0	40.8
117.5°	1.0	5.2	22.5	34.2	37.7
120°	0.7	3.8	19.7	31.5	34.9
122.5°	0.7	2.4	17.6	28.4	31.8
125°	0.7	1.0	15.2	25.6	29.1
127.5°	0.7	0.3	12.8	22.8	25.9
130°	0.3	0.3	10.7	20.1	22.8
132.5°	0.3	0.3	8.3	17.3	20.4
135°	0.3	0.3	5.9	14.5	17.3
137.5°	0.3	0.0	3.8	11.8	14.2
140°	0.3	0.0	2.1	9.3	11.4
142.5°	0.3	0.0	0.3	6.6	9.0
145°	0.0	0.0	0.0	4.2	5.9
147.5°	0.0	0.0	0.0	1.7	3.5
150°	0.0	0.0	0.0	0.0	1.0
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)