

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: P243026

Luminaire Tested: **S121DR-H305D930-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243026  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-52)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S121DR-H305D930-X4F0-XX-UDD-D-W  
Description: DEFINE 1 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: 944.8 lumens  
Efficiency: N/A  
Efficacy: 84.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.43  
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')  
CIE Type: Semi-Direct

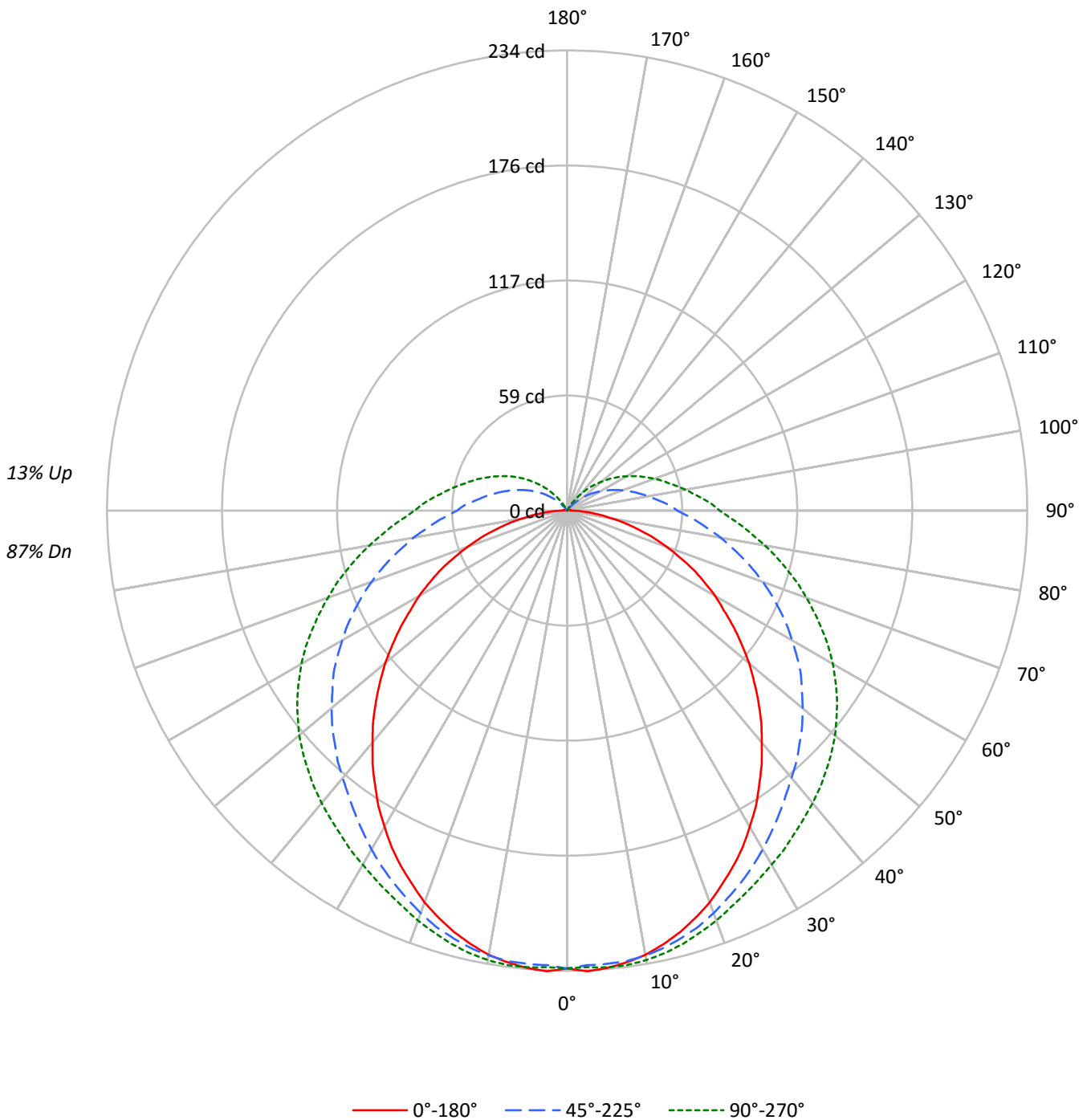
Input Watts (W): 11.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	78	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	69	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	50	56	51	47	44
4	76	64	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	29	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	24	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	21	30	24	20	29	23	19	17

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

	0°	45°	90°
0°	6898	6898	6898
5°	6932	6516	6433
10°	6876	6206	6037
15°	6768	5884	5649
20°	6633	5564	5287
25°	6464	5253	4962
30°	6276	4964	4701
35°	6069	4690	4481
40°	5847	4458	4302
45°	5640	4262	4135
50°	5429	4077	3980
55°	5182	3905	3815
60°	4970	3701	3640
65°	4738	3508	3450
70°	4409	3311	3257
75°	4016	3102	3068
80°	3528	2906	2884
85°	3084	2721	2714



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	22.2	2.3
10°-20°	63.6	6.7
20°-30°	96.2	10.2
30°-40°	117.6	12.4
40°-50°	127.7	13.5
50°-60°	126.0	13.3
60°-70°	112.9	11.9
70°-80°	90.8	9.6
80°-90°	65.6	6.9
90°-100°	47.0	5.0
100°-110°	33.6	3.6
110°-120°	22.2	2.4
120°-130°	12.6	1.3
130°-140°	5.6	0.6
140°-150°	1.2	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	182.0	19.3
0°-40°	299.6	31.7
0°-60°	553.3	58.6
0°-90°	822.6	87.1
90°-120°	102.7	10.9
90°-150°	122.2	12.9
90°-180°	122.0	12.9
0°-180°	944.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	233	233	233	233	233	
5°	234	233	231	234	233	22
15°	222	224	225	228	228	63
25°	200	205	209	214	215	92
35°	170	179	188	198	201	107
45°	138	150	167	182	186	106
55°	103	121	145	162	168	92
65°	71	92	119	138	143	70
75°	38	64	92	110	116	40
85°	11	38	67	84	89	12
90°	3	29	56	73	78	2
95°	2	23	49	64	69	1
105°	1	14	36	50	54	1
115°	1	6	25	37	41	1
125°	0	1	15	26	29	0
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°	232.8	232.8	232.8	232.8	232.8
2.5°	234.5	233.1	231.4	233.1	232.4
5°	233.5	232.8	231.4	233.8	233.1
7.5°	231.7	231.7	231.1	233.5	233.1
10°	229.4	230.0	229.7	232.4	232.1
12.5°	225.9	227.3	227.7	230.7	230.4
15°	221.9	224.2	224.9	228.0	228.0
17.5°	217.1	220.1	221.9	224.9	224.9
20°	212.0	215.4	217.8	221.5	221.9
22.5°	205.8	210.6	213.3	217.8	218.1
25°	199.7	204.8	208.9	213.7	214.7
27.5°	193.2	199.0	204.1	209.6	211.3
30°	185.7	192.2	199.0	205.5	207.9
32.5°	178.5	186.0	193.5	201.7	204.8
35°	170.3	179.2	188.1	198.0	201.0
37.5°	162.5	172.0	182.6	193.9	197.6
40°	153.9	164.9	177.5	190.1	194.2
42.5°	146.1	157.3	172.7	185.7	190.5
45°	137.5	150.5	167.2	181.6	186.4
47.5°	129.0	143.0	162.1	176.8	182.3
50°	120.8	135.5	156.3	172.4	177.8
52.5°	111.9	128.7	150.5	166.9	172.7
55°	103.4	120.8	145.1	161.8	167.6
57.5°	94.5	114.3	138.6	156.3	161.8
60°	87.0	106.8	132.1	150.2	156.0
62.5°	78.5	99.7	125.9	143.7	149.8
65°	70.7	92.5	119.1	137.5	143.0
67.5°	61.8	85.3	112.6	130.7	136.2
70°	53.9	78.2	105.8	123.9	129.4
72.5°	46.1	71.3	99.0	117.4	122.9
75°	37.9	63.8	92.2	110.2	115.7
77.5°	30.7	57.0	85.3	103.4	108.9
80°	23.2	50.2	79.2	96.9	102.1
82.5°	17.1	44.0	72.7	90.4	95.2
85°	11.3	38.2	66.9	84.0	89.1
87.5°	6.5	33.1	61.1	78.2	82.9
90°	2.7	28.7	56.0	72.7	77.5
92.5°	2.0	25.9	52.9	68.9	73.7
95°	2.0	22.9	48.8	64.5	69.3
97.5°	1.7	20.1	45.1	60.4	64.8
100°	1.4	17.7	42.0	56.7	61.1
102.5°	1.4	15.7	38.6	52.9	57.3
105°	1.0	13.7	35.8	49.5	53.6
107.5°	1.0	11.6	32.8	46.4	50.5
110°	0.7	9.9	30.0	43.3	47.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	8.2	27.3	40.3	44.0
115°	0.7	6.5	24.6	37.2	41.0
117.5°	0.3	4.8	22.2	34.1	37.9
120°	0.3	3.4	19.8	31.1	34.8
122.5°	0.3	1.7	17.1	28.3	32.1
125°	0.3	0.7	15.0	25.6	29.0
127.5°	0.0	0.0	12.6	22.5	25.9
130°	0.0	0.0	10.2	19.8	22.9
132.5°	0.0	0.0	8.2	17.1	19.8
135°	0.0	0.0	5.8	14.3	17.1
137.5°	0.0	0.0	3.8	11.6	14.3
140°	0.0	0.0	1.7	8.9	11.3
142.5°	0.0	0.0	0.3	6.5	8.5
145°	0.0	0.0	0.0	3.8	6.1
147.5°	0.0	0.0	0.0	1.4	3.4
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)