

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: P243012

Luminaire Tested: **S121DR-H305D830-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243012  
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-H305D830-X4F0-XX-UDD-D-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1092.2 lumens  
Efficiency: N/A  
Efficacy: 97.5 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

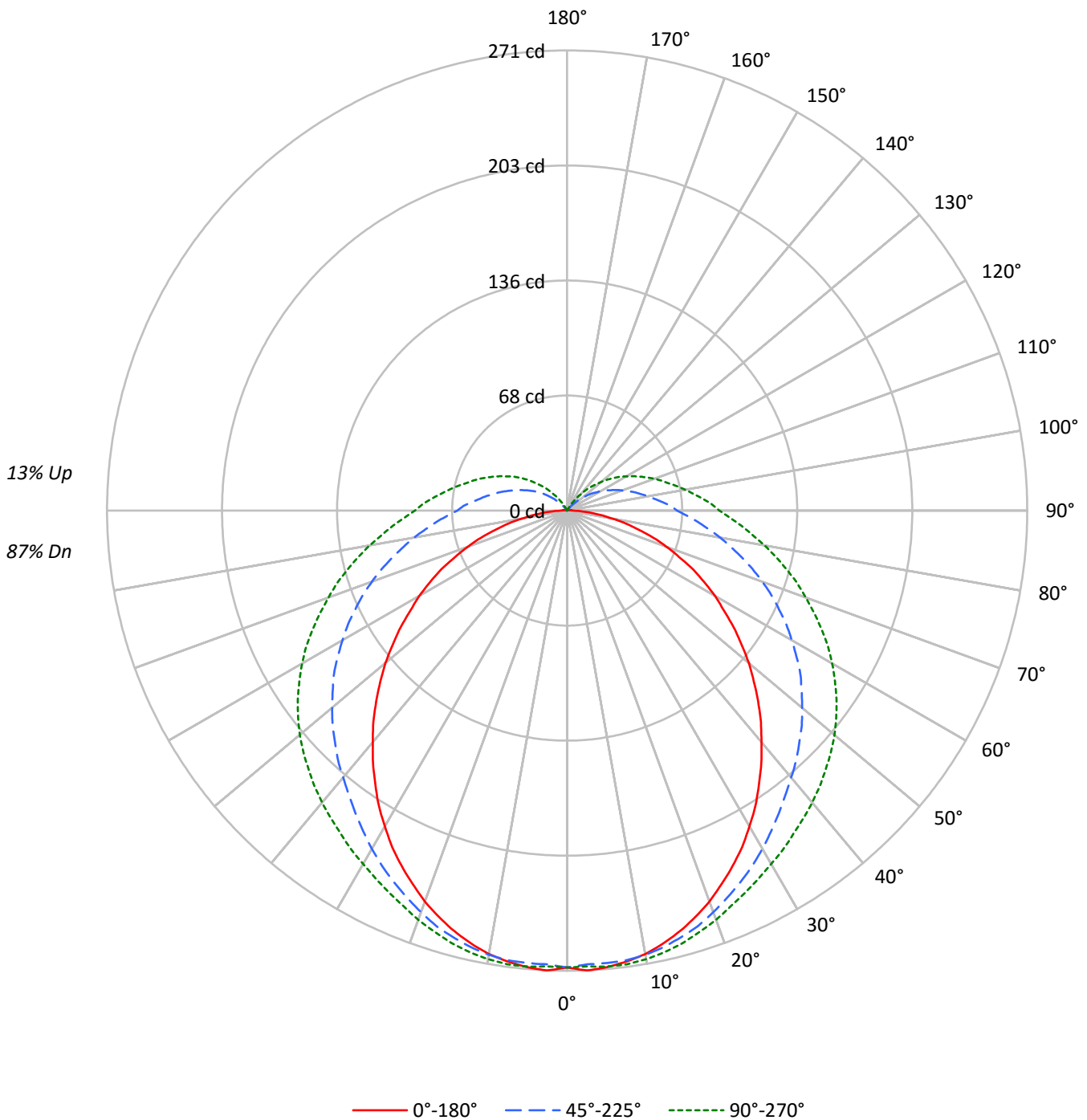
Input Watts (W): 11.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	7973	7973	7973
5°	8013	7532	7437
10°	7949	7176	6979
15°	7823	6802	6531
20°	7665	6430	6111
25°	7471	6073	5737
30°	7256	5737	5433
35°	7016	5420	5181
40°	6763	5153	4974
45°	6522	4928	4778
50°	6279	4713	4602
55°	5994	4514	4409
60°	5747	4279	4207
65°	5475	4056	3988
70°	5096	3827	3763
75°	4642	3583	3548
80°	4076	3357	3333
85°	3548	3144	3138



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	25.6	2.3
10°-20°	73.5	6.7
20°-30°	111.2	10.2
30°-40°	136.0	12.4
40°-50°	147.6	13.5
50°-60°	145.7	13.3
60°-70°	130.5	11.9
70°-80°	105.0	9.6
80°-90°	75.9	6.9
90°-100°	54.3	5.0
100°-110°	38.8	3.6
110°-120°	25.7	2.4
120°-130°	14.6	1.3
130°-140°	6.5	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°	210.4	19.3
0°-40°	346.4	31.7
0°-60°	639.6	58.6
0°-90°	950.9	87.1
90°-120°	118.8	10.9
90°-150°	141.3	12.9
90°-180°	141.0	12.9
0°-180°	1092.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	269	269	269	269	269	
5°	270	269	268	270	270	26
15°	256	259	260	264	264	72
25°	231	237	242	247	248	106
35°	197	207	217	229	232	123
45°	159	174	193	210	215	123
55°	120	140	168	187	194	107
65°	82	107	138	159	165	80
75°	44	74	106	127	134	47
85°	13	44	77	97	103	14
90°	3	33	65	84	90	2
95°	2	26	56	75	80	2
105°	1	16	41	57	62	1
115°	1	8	28	43	47	1
125°	0	1	17	30	34	0
135°	0	0	7	17	20	0
145°	0	0	0	4	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°	269.1	269.1	269.1	269.1	269.1
2.5°	271.1	269.5	267.5	269.5	268.7
5°	269.9	269.1	267.5	270.3	269.5
7.5°	267.9	267.9	267.1	269.9	269.5
10°	265.2	265.9	265.6	268.7	268.3
12.5°	261.2	262.8	263.2	266.7	266.3
15°	256.5	259.2	260.0	263.6	263.6
17.5°	251.0	254.5	256.5	260.0	260.0
20°	245.0	249.0	251.7	256.1	256.5
22.5°	237.9	243.5	246.6	251.7	252.1
25°	230.8	236.7	241.5	247.0	248.2
27.5°	223.3	230.0	236.0	242.3	244.2
30°	214.7	222.1	230.0	237.5	240.3
32.5°	206.4	215.0	223.7	233.2	236.7
35°	196.9	207.2	217.4	228.9	232.4
37.5°	187.8	198.9	211.1	224.1	228.5
40°	178.0	190.6	205.2	219.8	224.5
42.5°	168.9	181.9	199.7	214.7	220.2
45°	159.0	174.0	193.3	209.9	215.4
47.5°	149.2	165.3	187.4	204.4	210.7
50°	139.7	156.6	180.7	199.3	205.6
52.5°	129.4	148.8	174.0	192.9	199.7
55°	119.6	139.7	167.7	187.0	193.7
57.5°	109.3	132.2	160.2	180.7	187.0
60°	100.6	123.5	152.7	173.6	180.3
62.5°	90.8	115.2	145.6	166.1	173.2
65°	81.7	106.9	137.7	159.0	165.3
67.5°	71.4	98.6	130.2	151.1	157.4
70°	62.3	90.4	122.3	143.2	149.5
72.5°	53.3	82.5	114.4	135.7	142.0
75°	43.8	73.8	106.5	127.4	133.8
77.5°	35.5	65.9	98.6	119.6	125.9
80°	26.8	58.0	91.5	112.1	118.0
82.5°	19.7	50.9	84.0	104.6	110.1
85°	13.0	44.2	77.3	97.1	103.0
87.5°	7.5	38.3	70.6	90.4	95.9
90°	3.2	33.1	64.7	84.0	89.6
92.5°	2.4	30.0	61.2	79.7	85.2
95°	2.4	26.4	56.4	74.6	80.1
97.5°	2.0	23.3	52.1	69.8	75.0
100°	1.6	20.5	48.5	65.5	70.6
102.5°	1.6	18.2	44.6	61.2	66.3
105°	1.2	15.8	41.4	57.2	61.9
107.5°	1.2	13.4	37.9	53.7	58.4
110°	0.8	11.4	34.7	50.1	54.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	9.5	31.6	46.6	50.9
115°	0.8	7.5	28.4	43.0	47.3
117.5°	0.4	5.5	25.6	39.5	43.8
120°	0.4	3.9	22.9	35.9	40.2
122.5°	0.4	2.0	19.7	32.7	37.1
125°	0.4	0.8	17.4	29.6	33.5
127.5°	0.0	0.0	14.6	26.0	30.0
130°	0.0	0.0	11.8	22.9	26.4
132.5°	0.0	0.0	9.5	19.7	22.9
135°	0.0	0.0	6.7	16.6	19.7
137.5°	0.0	0.0	4.3	13.4	16.6
140°	0.0	0.0	2.0	10.3	13.0
142.5°	0.0	0.0	0.4	7.5	9.9
145°	0.0	0.0	0.0	4.3	7.1
147.5°	0.0	0.0	0.0	1.6	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)