

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: P243036

Luminaire Tested: **S121DR-H305D940-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243036  
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-H305D940-X4F0-XX-UDD-D-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1033.4 lumens  
Efficiency: N/A  
Efficacy: 92.3 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

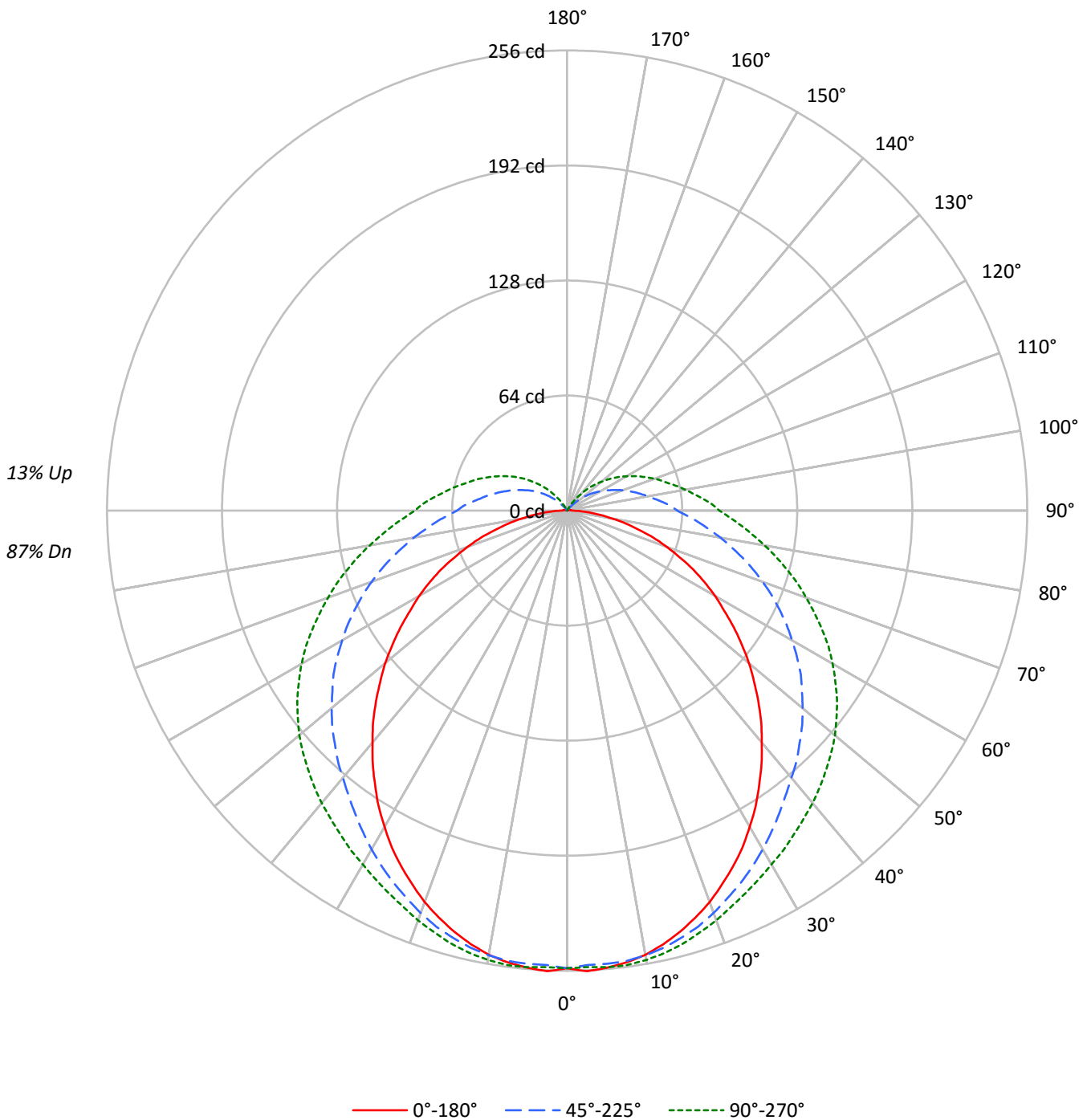
Input Watts (W): 11.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	7544	7544	7544
5°	7579	7127	7037
10°	7520	6787	6601
15°	7399	6436	6179
20°	7252	6085	5780
25°	7069	5746	5427
30°	6864	5428	5139
35°	6639	5129	4903
40°	6398	4875	4706
45°	6169	4663	4521
50°	5937	4460	4354
55°	5668	4271	4172
60°	5439	4049	3981
65°	5181	3838	3773
70°	4826	3620	3561
75°	4387	3392	3354
80°	3863	3177	3152
85°	3357	2978	2967



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	24.2	2.3
10°-20°	69.6	6.7
20°-30°	105.2	10.2
30°-40°	128.6	12.4
40°-50°	139.6	13.5
50°-60°	137.8	13.3
60°-70°	123.5	11.9
70°-80°	99.3	9.6
80°-90°	71.8	6.9
90°-100°	51.4	5.0
100°-110°	36.7	3.6
110°-120°	24.3	2.4
120°-130°	13.8	1.3
130°-140°	6.2	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°	199.1	19.3
0°-40°	327.7	31.7
0°-60°	605.1	58.6
0°-90°	899.7	87.1
90°-120°	112.4	10.9
90°-150°	133.7	12.9
90°-180°	134.0	13.0
0°-180°	1033.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	255	255	255	255	255	
5°	255	255	253	256	255	24
15°	243	245	246	249	249	68
25°	218	224	228	234	235	101
35°	186	196	206	216	220	117
45°	150	165	183	199	204	116
55°	113	132	159	177	183	101
65°	77	101	130	150	156	76
75°	41	70	101	121	126	44
85°	12	42	73	92	97	13
90°	3	31	61	80	85	2
95°	2	25	53	71	76	2
105°	1	15	39	54	59	1
115°	1	7	27	41	45	1
125°	0	1	16	28	32	0
135°	0	0	6	16	19	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°	254.6	254.6	254.6	254.6	254.6
2.5°	256.5	255.0	253.1	255.0	254.2
5°	255.3	254.6	253.1	255.7	255.0
7.5°	253.5	253.5	252.7	255.3	255.0
10°	250.9	251.6	251.2	254.2	253.8
12.5°	247.1	248.6	249.0	252.3	252.0
15°	242.6	245.3	246.0	249.4	249.4
17.5°	237.4	240.8	242.6	246.0	246.0
20°	231.8	235.6	238.2	242.3	242.6
22.5°	225.1	230.3	233.3	238.2	238.5
25°	218.4	224.0	228.5	233.7	234.8
27.5°	211.3	217.6	223.2	229.2	231.1
30°	203.1	210.2	217.6	224.7	227.3
32.5°	195.2	203.4	211.7	220.6	224.0
35°	186.3	196.0	205.7	216.5	219.9
37.5°	177.7	188.1	199.7	212.0	216.1
40°	168.4	180.3	194.1	207.9	212.4
42.5°	159.8	172.1	188.9	203.1	208.3
45°	150.4	164.6	182.9	198.6	203.8
47.5°	141.1	156.4	177.3	193.4	199.3
50°	132.1	148.2	171.0	188.5	194.5
52.5°	122.4	140.7	164.6	182.5	188.9
55°	113.1	132.1	158.7	176.9	183.3
57.5°	103.4	125.1	151.6	171.0	176.9
60°	95.2	116.8	144.5	164.3	170.6
62.5°	85.9	109.0	137.7	157.2	163.9
65°	77.3	101.2	130.3	150.4	156.4
67.5°	67.6	93.3	123.2	143.0	148.9
70°	59.0	85.5	115.7	135.5	141.5
72.5°	50.4	78.0	108.3	128.4	134.4
75°	41.4	69.8	100.8	120.6	126.5
77.5°	33.6	62.3	93.3	113.1	119.1
80°	25.4	54.9	86.6	106.0	111.6
82.5°	18.7	48.2	79.5	98.9	104.2
85°	12.3	41.8	73.2	91.8	97.4
87.5°	7.1	36.2	66.8	85.5	90.7
90°	3.0	31.4	61.2	79.5	84.7
92.5°	2.2	28.4	57.9	75.4	80.6
95°	2.2	25.0	53.4	70.6	75.8
97.5°	1.9	22.0	49.3	66.1	70.9
100°	1.5	19.4	45.9	62.0	66.8
102.5°	1.5	17.2	42.2	57.9	62.7
105°	1.1	14.9	39.2	54.1	58.6
107.5°	1.1	12.7	35.8	50.8	55.2
110°	0.7	10.8	32.9	47.4	51.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	9.0	29.9	44.0	48.2
115°	0.7	7.1	26.9	40.7	44.8
117.5°	0.4	5.2	24.3	37.3	41.4
120°	0.4	3.7	21.7	34.0	38.1
122.5°	0.4	1.9	18.7	31.0	35.1
125°	0.4	0.7	16.4	28.0	31.7
127.5°	0.0	0.0	13.8	24.6	28.4
130°	0.0	0.0	11.2	21.7	25.0
132.5°	0.0	0.0	9.0	18.7	21.7
135°	0.0	0.0	6.3	15.7	18.7
137.5°	0.0	0.0	4.1	12.7	15.7
140°	0.0	0.0	1.9	9.7	12.3
142.5°	0.0	0.0	0.4	7.1	9.3
145°	0.0	0.0	0.0	4.1	6.7
147.5°	0.0	0.0	0.0	1.5	3.7
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)