

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: P242084

Luminaire Tested: **S121DR-S490D830-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242084  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S121DR-S490D830-X4F0-XX-UDD-F-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1861.3 lumens  
Efficiency: N/A  
Efficacy: 99.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.09' x L: 3.88' x H: 0')  
CIE Type: Direct

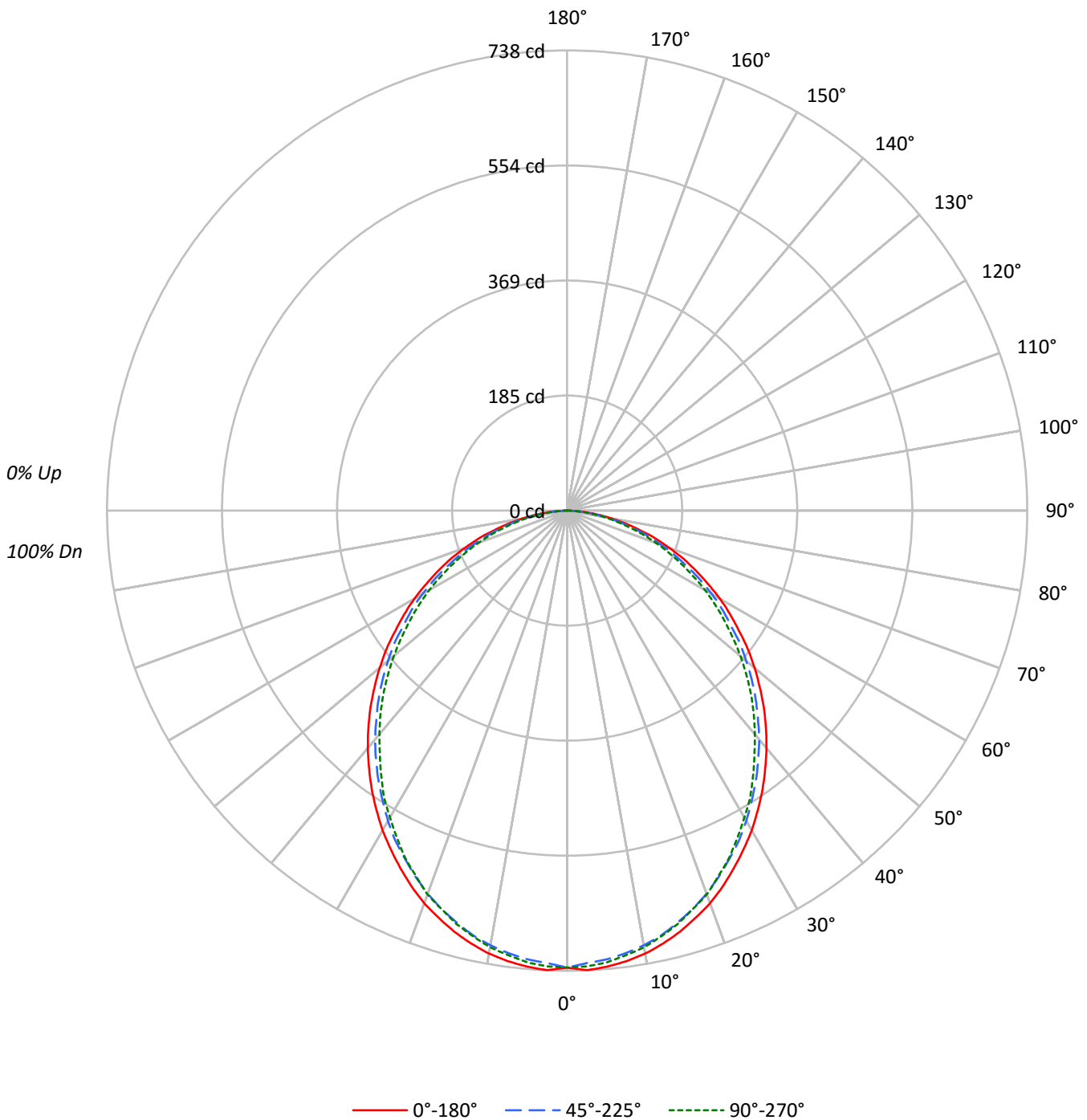
Input Watts (W): 18.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	75	80	76	73	71
3	91	80	72	66	88	79	71	66	76	70	64	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52
5	77	64	55	49	75	63	55	48	61	54	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	42	55	48	42	53	47	42	52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	34	45	38	33	44	38	33	31
9	57	44	36	31	56	44	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28	38	32	27	37	32	27	26

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

	0°	45°	90°
0°	21716	21716	21716
5°	21840	21498	21638
10°	21705	21298	21401
15°	21445	20988	21049
20°	21126	20615	20656
25°	20688	20135	20090
30°	20261	19659	19450
35°	19757	19095	18802
40°	19239	18535	18113
45°	18689	17922	17469
50°	18093	17281	16719
55°	17378	16500	15905
60°	16764	15882	15159
65°	15943	14898	14141
70°	15013	13896	13133
75°	13795	12627	11780
80°	12234	11091	10272
85°	10131	8295	7377



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.0	3.7
10°-20°	194.3	10.4
20°-30°	285.8	15.4
30°-40°	331.9	17.8
40°-50°	331.1	17.8
50°-60°	288.2	15.5
60°-70°	212.2	11.4
70°-80°	118.2	6.4
80°-90°	30.5	1.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	549.2	29.5
0°-40°	881.1	47.3
0°-60°	1500.4	80.6
0°-90°	1861.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1861.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	733	733	733	733	733	
5°	734	731	723	729	728	70
15°	699	694	684	689	686	197
25°	633	626	616	617	614	292
35°	546	539	528	522	520	342
45°	446	438	428	420	417	344
55°	336	332	319	313	308	302
65°	227	223	212	206	202	226
75°	120	117	110	106	103	128
85°	30	28	24	23	22	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	732.9	732.9	732.9	732.9	732.9
2.5°	737.7	733.6	726.2	732.3	731.6
5°	734.3	730.9	722.8	728.9	727.5
7.5°	728.9	724.8	716.0	721.4	719.4
10°	721.4	717.4	707.9	712.0	711.3
12.5°	711.3	706.5	697.7	701.1	699.1
15°	699.1	693.7	684.2	689.0	686.2
17.5°	684.9	678.8	670.0	672.7	670.0
20°	670.0	663.2	653.8	656.5	655.1
22.5°	652.4	646.3	635.5	636.8	634.1
25°	632.8	626.0	615.9	617.2	614.5
27.5°	612.5	606.4	596.9	594.9	591.5
30°	592.2	584.7	574.6	571.9	568.5
32.5°	569.2	562.4	550.9	548.2	546.2
35°	546.2	539.4	527.9	522.5	519.8
37.5°	521.8	515.0	503.5	497.4	493.4
40°	497.4	490.0	479.2	473.1	468.3
42.5°	471.7	464.9	452.8	446.7	443.3
45°	446.0	438.5	427.7	419.6	416.9
47.5°	418.9	412.2	401.3	392.5	389.8
50°	392.5	385.1	374.9	366.1	362.7
52.5°	365.5	358.7	349.2	340.4	335.0
55°	336.4	332.3	319.4	313.3	307.9
57.5°	310.0	305.2	295.1	284.9	281.5
60°	282.9	277.5	268.0	259.2	255.8
62.5°	254.5	250.4	240.9	232.8	228.1
65°	227.4	222.7	212.5	205.7	201.7
67.5°	202.4	196.3	186.1	179.3	176.0
70°	173.3	168.5	160.4	155.0	151.6
72.5°	148.2	142.8	135.4	129.9	126.6
75°	120.5	117.1	110.3	105.6	102.9
77.5°	96.1	91.4	86.6	83.2	81.2
80°	71.7	68.4	65.0	61.6	60.2
82.5°	50.1	47.4	44.0	42.0	39.9
85°	29.8	28.4	24.4	23.0	21.7
87.5°	14.2	12.2	8.1	7.4	6.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)