

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: P242093

Luminaire Tested: **S121DR-S490D840-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242093  
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-S490D840-X4F0-XX-UDD-F-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1994.3 lumens  
Efficiency: N/A  
Efficacy: 106.1 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

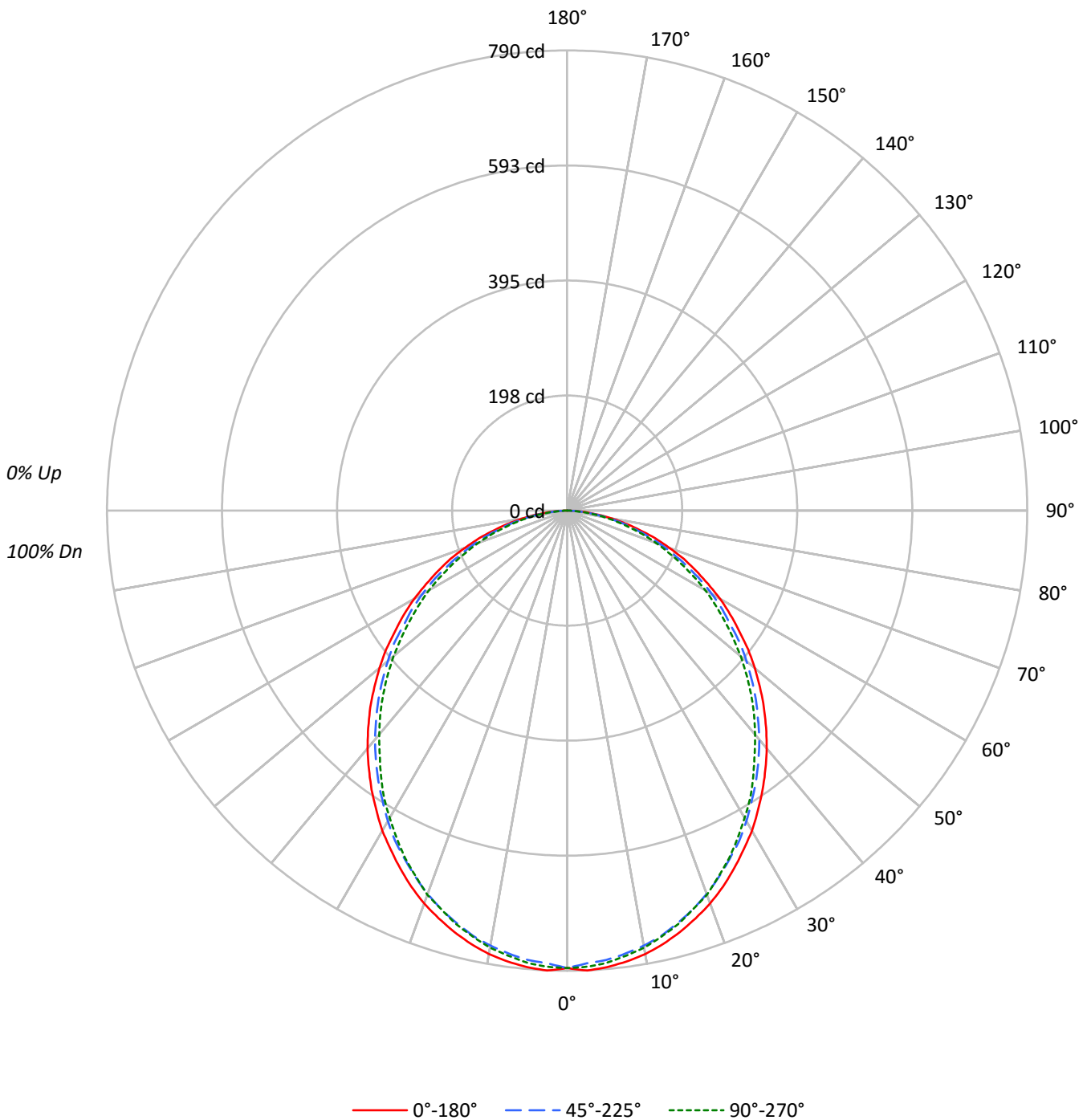
Input Watts (W): 18.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	23268	23268	23268
5°	23399	23033	23185
10°	23257	22821	22929
15°	22976	22488	22555
20°	22636	22088	22132
25°	22166	21571	21525
30°	21708	21062	20839
35°	21167	20458	20144
40°	20616	19858	19409
45°	20021	19204	18718
50°	19388	18517	17917
55°	18617	17682	17042
60°	17962	17013	16243
65°	17079	15964	15151
70°	16079	14892	14069
75°	14779	13532	12616
80°	13121	11876	11006
85°	10845	8873	7887



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.0	3.7
10°-20°	208.2	10.4
20°-30°	306.3	15.4
30°-40°	355.6	17.8
40°-50°	354.8	17.8
50°-60°	308.7	15.5
60°-70°	227.4	11.4
70°-80°	126.7	6.4
80°-90°	32.7	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°	588.4	29.5
0°-40°	944.0	47.3
0°-60°	1607.6	80.6
0°-90°	1994.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1994.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	785	785	785	785	785	
5°	787	783	774	781	780	75
15°	749	743	733	738	735	211
25°	678	671	660	661	658	312
35°	585	578	566	560	557	366
45°	478	470	458	450	447	368
55°	360	356	342	336	330	323
65°	244	239	228	220	216	242
75°	129	125	118	113	110	138
85°	32	30	26	25	23	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	785.3	785.3	785.3	785.3	785.3
2.5°	790.4	786.0	778.0	784.6	783.8
5°	786.7	783.1	774.4	780.9	779.5
7.5°	780.9	776.6	767.2	773.0	770.8
10°	773.0	768.6	758.5	762.8	762.1
12.5°	762.1	757.0	747.6	751.2	749.0
15°	749.0	743.2	733.1	738.2	735.3
17.5°	733.8	727.3	717.9	720.8	717.9
20°	717.9	710.6	700.5	703.4	701.9
22.5°	699.0	692.5	680.9	682.3	679.4
25°	678.0	670.7	659.8	661.3	658.4
27.5°	656.2	649.7	639.5	637.4	633.7
30°	634.5	626.5	615.6	612.7	609.1
32.5°	609.8	602.6	590.2	587.3	585.2
35°	585.2	577.9	565.6	559.8	556.9
37.5°	559.1	551.8	539.5	533.0	528.6
40°	533.0	525.0	513.4	506.9	501.8
42.5°	505.4	498.2	485.1	478.6	474.9
45°	477.8	469.9	458.3	449.6	446.7
47.5°	448.8	441.6	430.0	420.6	417.7
50°	420.6	412.6	401.7	392.3	388.7
52.5°	391.6	384.3	374.2	364.7	358.9
55°	360.4	356.0	342.3	335.7	329.9
57.5°	332.1	327.0	316.1	305.3	301.6
60°	303.1	297.3	287.1	277.7	274.1
62.5°	272.6	268.3	258.1	249.4	244.4
65°	243.6	238.6	227.7	220.4	216.1
67.5°	216.8	210.3	199.4	192.2	188.5
70°	185.6	180.6	171.9	166.1	162.4
72.5°	158.8	153.0	145.0	139.2	135.6
75°	129.1	125.4	118.2	113.1	110.2
77.5°	103.0	97.9	92.8	89.2	87.0
80°	76.9	73.2	69.6	66.0	64.5
82.5°	53.7	50.8	47.1	45.0	42.8
85°	31.9	30.5	26.1	24.7	23.2
87.5°	15.2	13.1	8.7	8.0	7.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)