

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: P231716

Luminaire Tested: **S121-RDR-1-30-X-0048-1-U-DD-1-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P231716  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33908)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S121-RDR-1-30-X-0048-1-U-DD-1-W  
Description: DEFINE 1 LED LINEAR REGRESSED DIRECT RECESSED LED LUMINAIRE WITH FLUSH LENS.  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2061.7 lumens  
Efficiency: N/A  
Efficacy: 73.9 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 0.93 / 1.1  
Luminous Opening: Rectangular (W 0.1' x L: 3.92' x H: 0')  
CIE Type: Direct

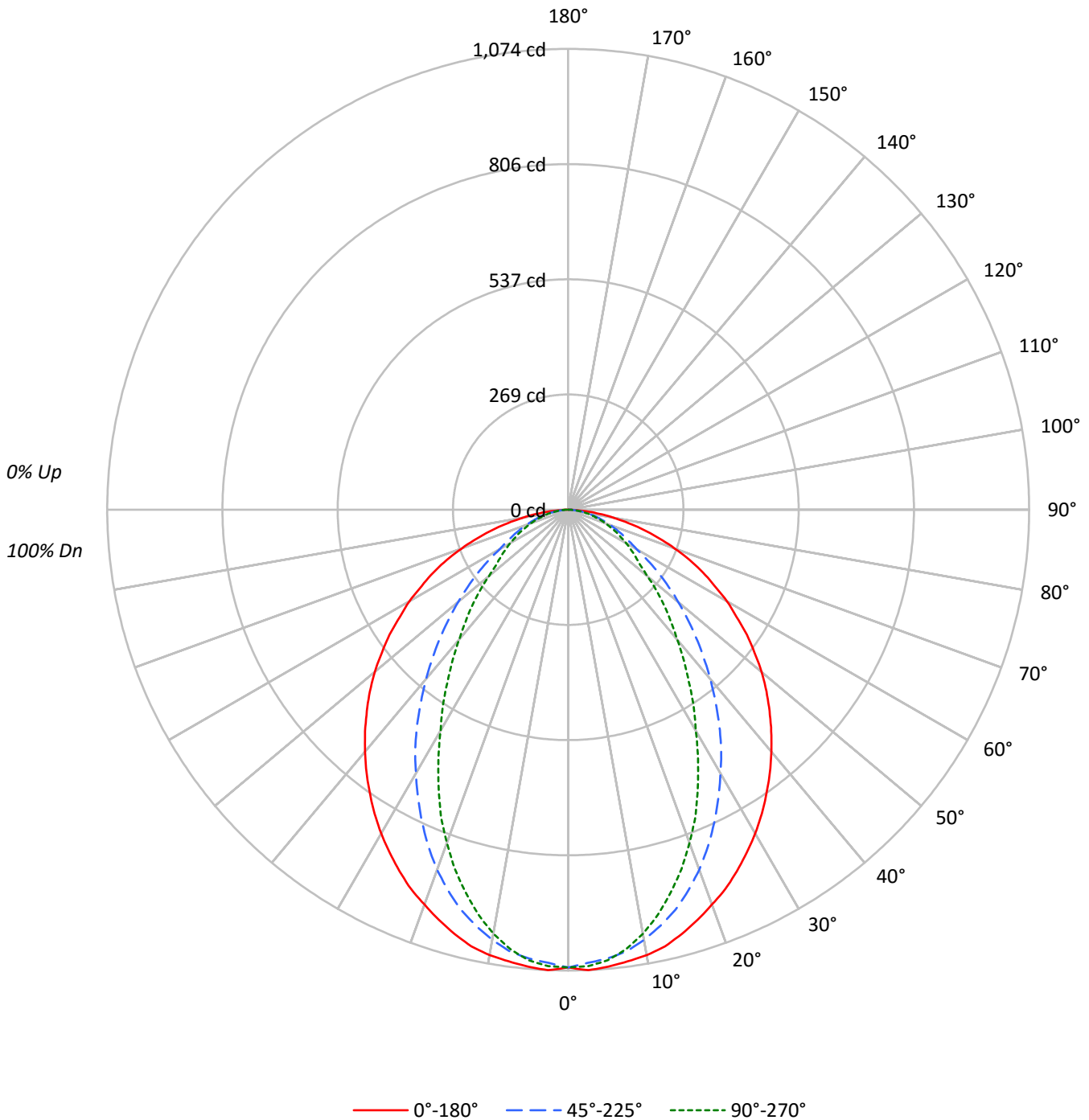
Input Watts (W): 27.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	106	102	99	107	104	100	97	99	97	94		96	93	91		92	90	88	86
2	101	94	88	83	99	92	86	82	89	84	80		85	81	78		82	79	76	74
3	93	84	76	70	91	82	75	70	79	73	69		77	72	67		74	70	66	64
4	86	75	67	61	84	74	66	61	71	65	60		69	64	59		67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53		63	57	52		61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47		57	51	47		56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42		53	47	42		52	46	42	40
8	65	52	44	39	63	51	44	38	50	43	38		49	43	38		48	42	38	36
9	61	48	40	35	59	47	40	35	46	40	35		45	39	35		44	39	35	33
10	57	45	37	32	56	44	37	32	43	37	32		42	36	32		41	36	32	30

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

	0°	45°	90°
0°	29825	29825	29825
5°	30001	29465	29585
10°	29927	28908	28488
15°	29624	27942	26721
20°	29133	26556	24575
25°	28673	24829	22025
30°	28131	22914	19198
35°	27505	20945	16727
40°	26868	18814	14416
45°	26225	16665	12529
50°	25587	14562	10473
55°	24766	12512	9368
60°	23920	10277	8684
65°	22922	9294	8104
70°	21588	8550	7512
75°	19735	7756	6848
80°	17179	6810	6295
85°	13569	5774	5421



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.0	4.8
10°-20°	272.7	13.2
20°-30°	374.2	18.2
30°-40°	394.0	19.1
40°-50°	351.1	17.0
50°-60°	269.8	13.1
60°-70°	180.7	8.8
70°-80°	94.4	4.6
80°-90°	24.8	1.2
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°	746.9	36.2
0°-40°	1140.9	55.3
0°-60°	1761.8	85.5
0°-90°	2061.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2061.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1067	1067	1067	1067	1067	
5°	1069	1063	1050	1057	1054	102
15°	1024	1010	965	941	923	288
25°	930	890	805	744	714	428
35°	806	739	614	522	490	504
45°	663	569	422	339	317	512
55°	508	396	257	199	192	454
65°	346	227	140	126	122	342
75°	183	93	72	66	63	194
85°	42	20	18	17	17	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1066.8	1066.8	1066.8	1066.8	1066.8
2.5°	1074.2	1067.9	1057.3	1066.8	1064.7
5°	1069.0	1062.6	1049.9	1057.3	1054.2
7.5°	1061.6	1053.1	1038.3	1040.4	1033.0
10°	1054.2	1042.5	1018.3	1013.0	1003.5
12.5°	1042.5	1029.9	992.9	978.1	966.5
15°	1023.5	1009.8	965.4	941.1	923.2
17.5°	1002.4	981.3	930.6	896.8	877.8
20°	979.2	953.8	892.6	849.2	826.0
22.5°	957.0	923.2	850.3	798.5	774.3
25°	929.5	890.4	804.9	743.6	714.0
27.5°	901.0	853.5	757.4	688.7	654.9
30°	871.4	816.5	709.8	630.6	594.7
32.5°	839.7	777.4	663.3	575.7	544.0
35°	805.9	739.4	613.7	521.8	490.1
37.5°	772.1	696.1	563.0	471.1	442.6
40°	736.2	654.9	515.5	423.6	395.0
42.5°	700.3	611.6	466.9	380.3	353.9
45°	663.3	569.3	421.5	339.1	316.9
47.5°	626.4	526.0	377.1	300.0	278.9
50°	588.3	482.7	334.8	263.0	240.8
52.5°	547.2	439.4	294.7	226.0	210.2
55°	508.1	396.1	256.7	198.6	192.2
57.5°	464.8	352.8	219.7	179.6	173.2
60°	427.8	309.5	183.8	161.6	155.3
62.5°	384.5	267.2	160.6	143.7	138.4
65°	346.5	227.1	140.5	125.7	122.5
67.5°	306.3	188.0	121.5	109.9	105.6
70°	264.1	151.0	104.6	94.0	91.9
72.5°	222.9	117.2	86.6	79.2	78.2
75°	182.7	93.0	71.8	65.5	63.4
77.5°	143.7	70.8	57.0	52.8	51.8
80°	106.7	51.8	42.3	40.1	39.1
82.5°	72.9	34.9	29.6	27.5	27.5
85°	42.3	20.1	18.0	16.9	16.9
87.5°	15.8	8.5	7.4	7.4	7.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)