

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: P243008

Luminaire Tested: **S121DR-H490D927-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243008
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-H490D927-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1462.0 lumens
Efficiency: N/A
Efficacy: 85.0 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

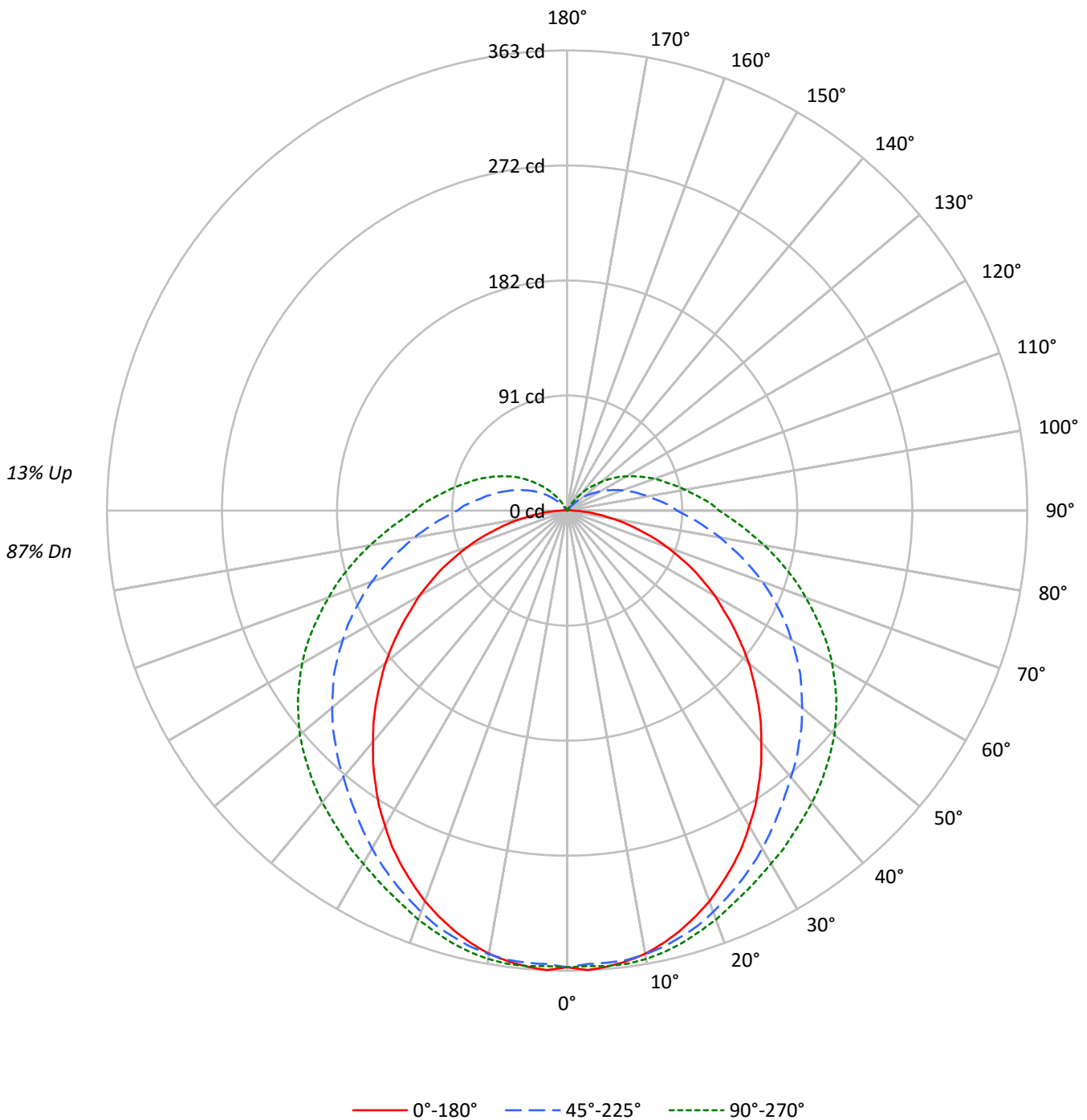
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	10673	10673	10673
5°	10723	10083	9954
10°	10637	9603	9340
15°	10470	9104	8740
20°	10262	8606	8179
25°	10002	8127	7678
30°	9709	7680	7271
35°	9390	7255	6936
40°	9050	6896	6658
45°	8729	6597	6398
50°	8404	6310	6160
55°	8019	6042	5902
60°	7696	5727	5633
65°	7325	5428	5339
70°	6822	5122	5039
75°	6210	4798	4747
80°	5460	4494	4460
85°	4748	4210	4198



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.3	2.3
10°-20°	98.4	6.7
20°-30°	148.9	10.2
30°-40°	182.0	12.4
40°-50°	197.6	13.5
50°-60°	195.0	13.3
60°-70°	174.6	11.9
70°-80°	140.5	9.6
80°-90°	101.5	6.9
90°-100°	72.7	5.0
100°-110°	51.9	3.6
110°-120°	34.4	2.4
120°-130°	19.5	1.3
130°-140°	8.7	0.6
140°-150°	1.9	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	281.6	19.3
0°-40°	463.6	31.7
0°-60°	856.1	58.6
0°-90°	1272.8	87.1
90°-120°	159.0	10.9
90°-150°	189.1	12.9
90°-180°	189.0	12.9
0°-180°	1462.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	360	360	360	360	360	
5°	361	360	358	362	361	34
15°	343	347	348	353	353	97
25°	309	317	323	331	332	142
35°	264	277	291	306	311	165
45°	213	233	259	281	288	164
55°	160	187	224	250	259	143
65°	109	143	184	213	221	108
75°	59	99	143	171	179	63
85°	17	59	104	130	138	18
90°	4	44	87	112	120	3
95°	3	35	76	100	107	2
105°	2	21	56	77	83	2
115°	1	10	38	58	63	1
125°	0	1	23	40	45	0
135°	0	0	9	22	26	0
145°	0	0	0	6	10	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°	360.2	360.2	360.2	360.2	360.2
2.5°	362.8	360.7	358.1	360.7	359.7
5°	361.2	360.2	358.1	361.8	360.7
7.5°	358.6	358.6	357.5	361.2	360.7
10°	354.9	356.0	355.4	359.7	359.1
12.5°	349.6	351.7	352.3	357.0	356.5
15°	343.3	347.0	348.0	352.8	352.8
17.5°	335.9	340.6	343.3	348.0	348.0
20°	328.0	333.3	336.9	342.8	343.3
22.5°	318.5	325.9	330.1	336.9	337.5
25°	309.0	316.9	323.2	330.6	332.2
27.5°	298.9	307.9	315.8	324.3	326.9
30°	287.3	297.3	307.9	317.9	321.6
32.5°	276.2	287.8	299.5	312.1	316.9
35°	263.5	277.3	291.0	306.3	311.1
37.5°	251.4	266.2	282.6	300.0	305.8
40°	238.2	255.1	274.6	294.2	300.5
42.5°	226.0	243.5	267.2	287.3	294.7
45°	212.8	232.9	258.8	281.0	288.4
47.5°	199.6	221.3	250.9	273.6	282.0
50°	187.0	209.7	241.9	266.7	275.2
52.5°	173.2	199.1	232.9	258.3	267.2
55°	160.0	187.0	224.5	250.3	259.3
57.5°	146.3	176.9	214.4	241.9	250.3
60°	134.7	165.3	204.4	232.4	241.4
62.5°	121.5	154.2	194.9	222.3	231.9
65°	109.3	143.1	184.3	212.8	221.3
67.5°	95.6	132.0	174.3	202.3	210.7
70°	83.4	120.9	163.7	191.7	200.2
72.5°	71.3	110.4	153.2	181.7	190.1
75°	58.6	98.8	142.6	170.6	179.0
77.5°	47.5	88.2	132.0	160.0	168.5
80°	35.9	77.6	122.5	150.0	157.9
82.5°	26.4	68.1	112.5	140.0	147.3
85°	17.4	59.2	103.5	129.9	137.8
87.5°	10.0	51.2	94.5	120.9	128.3
90°	4.2	44.4	86.6	112.5	119.9
92.5°	3.2	40.1	81.9	106.7	114.1
95°	3.2	35.4	75.5	99.8	107.2
97.5°	2.6	31.2	69.7	93.5	100.3
100°	2.1	27.5	65.0	87.7	94.5
102.5°	2.1	24.3	59.7	81.9	88.7
105°	1.6	21.1	55.5	76.6	82.9
107.5°	1.6	18.0	50.7	71.8	78.2
110°	1.1	15.3	46.5	67.1	73.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	12.7	42.3	62.3	68.1
115°	1.1	10.0	38.0	57.6	63.4
117.5°	0.5	7.4	34.3	52.8	58.6
120°	0.5	5.3	30.6	48.1	53.9
122.5°	0.5	2.6	26.4	43.8	49.6
125°	0.5	1.1	23.2	39.6	44.9
127.5°	0.0	0.0	19.5	34.9	40.1
130°	0.0	0.0	15.8	30.6	35.4
132.5°	0.0	0.0	12.7	26.4	30.6
135°	0.0	0.0	9.0	22.2	26.4
137.5°	0.0	0.0	5.8	18.0	22.2
140°	0.0	0.0	2.6	13.7	17.4
142.5°	0.0	0.0	0.5	10.0	13.2
145°	0.0	0.0	0.0	5.8	9.5
147.5°	0.0	0.0	0.0	2.1	5.3
150°	0.0	0.0	0.0	0.0	1.6
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)