

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: P243027

Luminaire Tested: **S121DR-H490D930-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243027
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-H490D930-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1504.6 lumens
Efficiency: N/A
Efficacy: 87.5 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

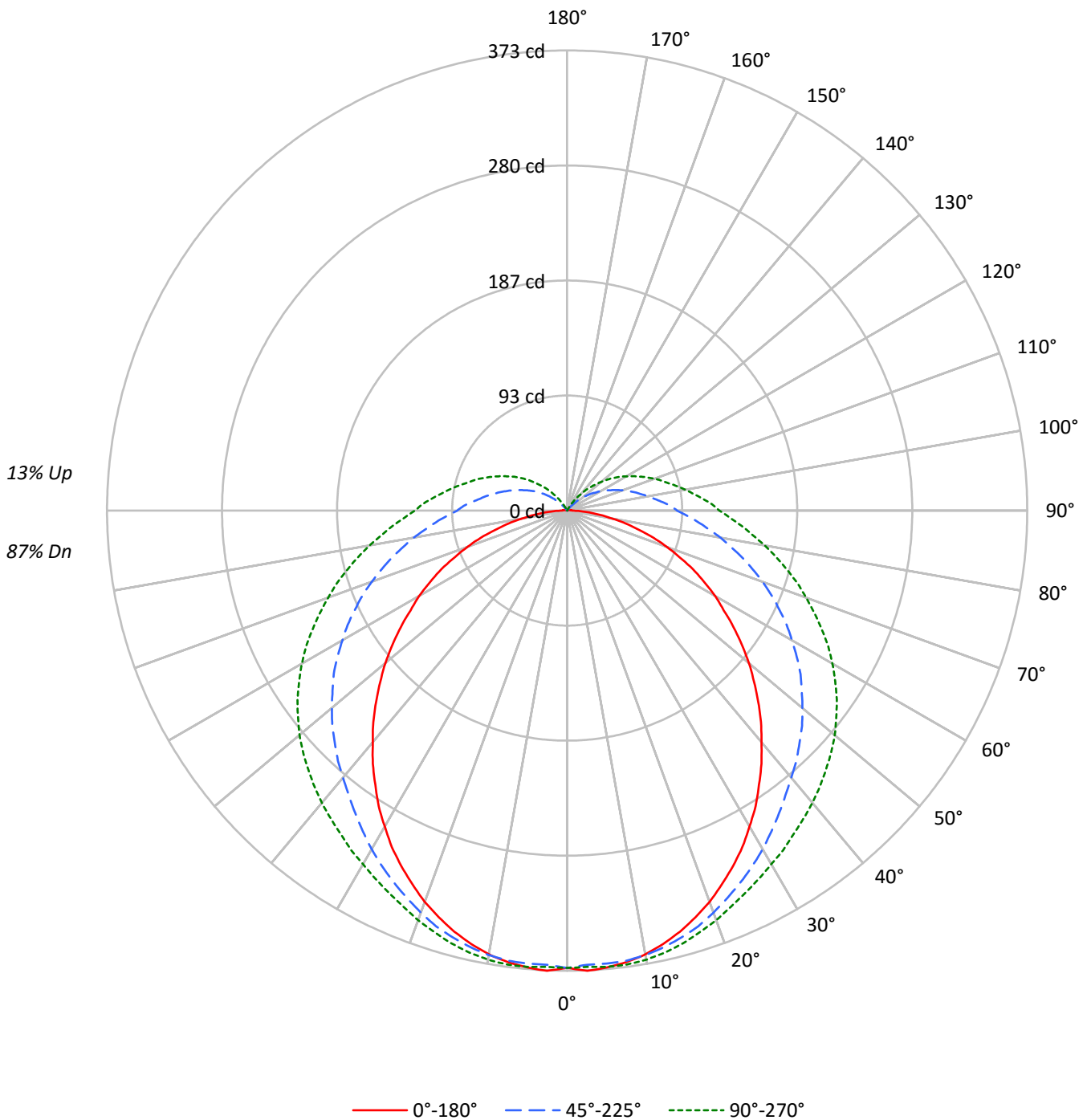
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	10984	10984	10984
5°	11038	10376	10244
10°	10949	9884	9613
15°	10775	9371	8996
20°	10559	8859	8417
25°	10293	8363	7902
30°	9993	7905	7484
35°	9664	7467	7137
40°	9312	7097	6853
45°	8984	6789	6584
50°	8647	6492	6339
55°	8255	6217	6075
60°	7918	5895	5796
65°	7540	5587	5493
70°	7026	5272	5185
75°	6390	4939	4887
80°	5627	4626	4590
85°	4885	4332	4323



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.3	2.3
10°-20°	101.3	6.7
20°-30°	153.2	10.2
30°-40°	187.3	12.4
40°-50°	203.3	13.5
50°-60°	200.7	13.3
60°-70°	179.7	11.9
70°-80°	144.6	9.6
80°-90°	104.5	6.9
90°-100°	74.8	5.0
100°-110°	53.4	3.6
110°-120°	35.3	2.3
120°-130°	20.1	1.3
130°-140°	9.0	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°	289.8	19.3
0°-40°	477.1	31.7
0°-60°	881.1	58.6
0°-90°	1310.0	87.1
90°-120°	163.6	10.9
90°-150°	194.6	12.9
90°-180°	195.0	13.0
0°-180°	1504.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	371	371	371	371	371	
5°	372	371	368	372	371	35
15°	353	357	358	363	363	100
25°	318	326	333	340	342	146
35°	271	285	300	315	320	170
45°	219	240	266	289	297	169
55°	165	192	231	258	267	147
65°	112	147	190	219	228	111
75°	60	102	147	176	184	64
85°	18	61	106	134	142	19
90°	4	46	89	116	123	3
95°	3	36	78	103	110	2
105°	2	22	57	79	85	2
115°	1	10	39	59	65	1
125°	0	1	24	41	46	0
135°	0	0	9	23	27	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°	370.7	370.7	370.7	370.7	370.7
2.5°	373.4	371.2	368.5	371.2	370.2
5°	371.8	370.7	368.5	372.3	371.2
7.5°	369.1	369.1	368.0	371.8	371.2
10°	365.3	366.3	365.8	370.2	369.6
12.5°	359.8	362.0	362.5	367.4	366.9
15°	353.3	357.1	358.2	363.1	363.1
17.5°	345.7	350.6	353.3	358.2	358.2
20°	337.5	343.0	346.8	352.8	353.3
22.5°	327.8	335.4	339.7	346.8	347.3
25°	318.0	326.1	332.6	340.3	341.9
27.5°	307.6	316.9	325.0	333.7	336.5
30°	295.7	306.0	316.9	327.2	331.0
32.5°	284.3	296.2	308.2	321.2	326.1
35°	271.2	285.4	299.5	315.3	320.1
37.5°	258.7	273.9	290.8	308.7	314.7
40°	245.1	262.5	282.6	302.8	309.3
42.5°	232.6	250.6	275.0	295.7	303.3
45°	219.0	239.7	266.3	289.2	296.8
47.5°	205.5	227.7	258.2	281.6	290.3
50°	192.4	215.8	248.9	274.5	283.2
52.5°	178.3	204.9	239.7	265.8	275.0
55°	164.7	192.4	231.0	257.6	266.9
57.5°	150.6	182.1	220.7	248.9	257.6
60°	138.6	170.1	210.4	239.2	248.4
62.5°	125.0	158.7	200.6	228.8	238.6
65°	112.5	147.3	189.7	219.0	227.7
67.5°	98.4	135.9	179.4	208.2	216.9
70°	85.9	124.5	168.5	197.3	206.0
72.5°	73.4	113.6	157.6	187.0	195.7
75°	60.3	101.6	146.8	175.6	184.3
77.5°	48.9	90.8	135.9	164.7	173.4
80°	37.0	79.9	126.1	154.4	162.5
82.5°	27.2	70.1	115.8	144.0	151.6
85°	17.9	60.9	106.5	133.7	141.9
87.5°	10.3	52.7	97.3	124.5	132.1
90°	4.3	45.7	89.1	115.8	123.4
92.5°	3.3	41.3	84.2	109.8	117.4
95°	3.3	36.4	77.7	102.7	110.3
97.5°	2.7	32.1	71.7	96.2	103.3
100°	2.2	28.3	66.9	90.2	97.3
102.5°	2.2	25.0	61.4	84.2	91.3
105°	1.6	21.7	57.1	78.8	85.3
107.5°	1.6	18.5	52.2	73.9	80.4
110°	1.1	15.8	47.8	69.0	75.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	13.0	43.5	64.1	70.1
115°	1.1	10.3	39.1	59.2	65.2
117.5°	0.5	7.6	35.3	54.4	60.3
120°	0.5	5.4	31.5	49.5	55.4
122.5°	0.5	2.7	27.2	45.1	51.1
125°	0.5	1.1	23.9	40.8	46.2
127.5°	0.0	0.0	20.1	35.9	41.3
130°	0.0	0.0	16.3	31.5	36.4
132.5°	0.0	0.0	13.0	27.2	31.5
135°	0.0	0.0	9.2	22.8	27.2
137.5°	0.0	0.0	6.0	18.5	22.8
140°	0.0	0.0	2.7	14.1	17.9
142.5°	0.0	0.0	0.5	10.3	13.6
145°	0.0	0.0	0.0	6.0	9.8
147.5°	0.0	0.0	0.0	2.2	5.4
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)