

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: P243021

Luminaire Tested: **S121DR-H305D840-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243021
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-H305D840-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1170.2 lumens
Efficiency: N/A
Efficacy: 104.5 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

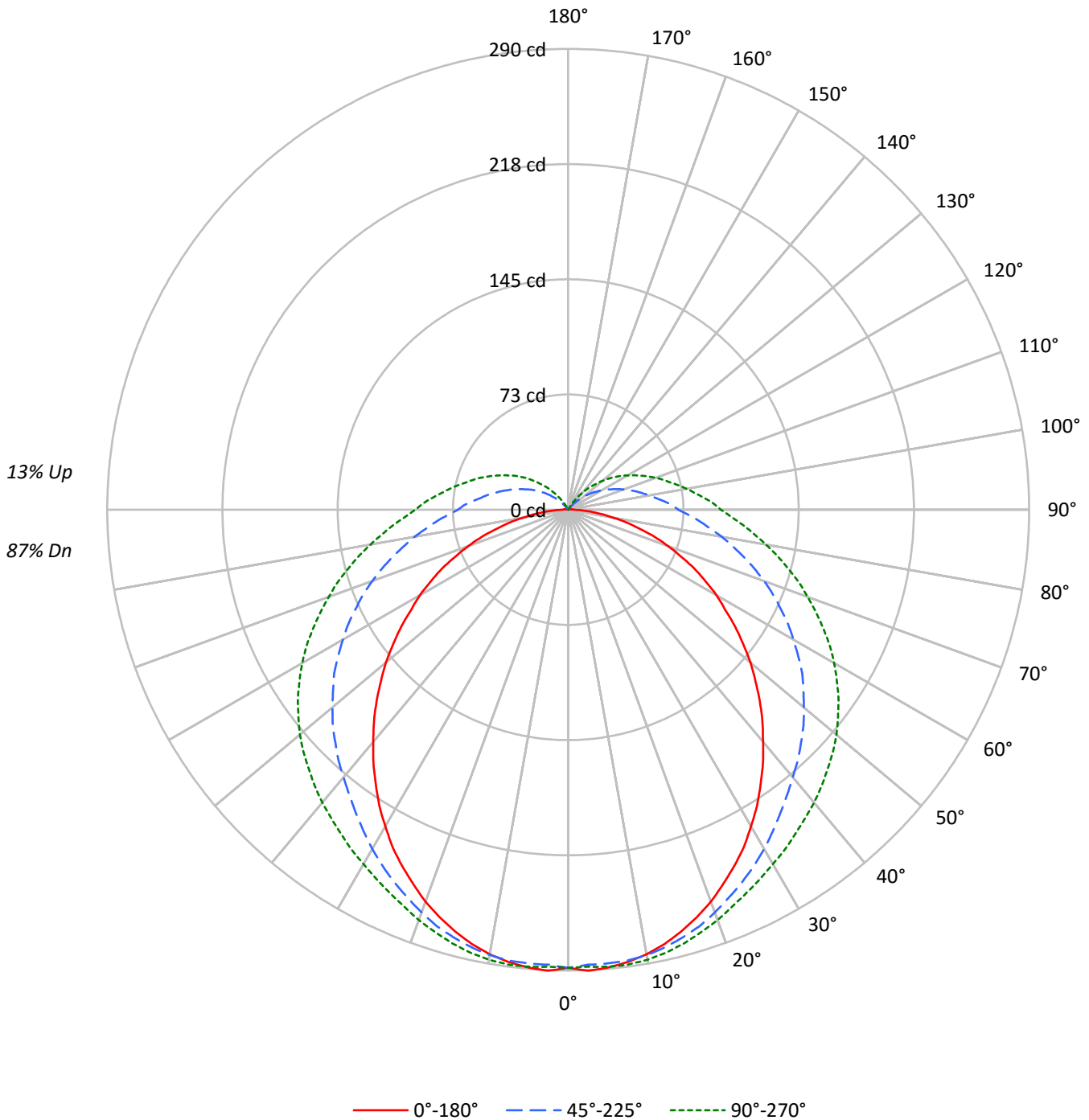
Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	8542	8542	8542
5°	8585	8070	7967
10°	8515	7687	7478
15°	8381	7289	6996
20°	8213	6890	6547
25°	8005	6505	6146
30°	7773	6149	5822
35°	7519	5807	5551
40°	7245	5520	5330
45°	6990	5282	5120
50°	6728	5050	4931
55°	6420	4837	4726
60°	6159	4584	4508
65°	5864	4344	4272
70°	5464	4102	4032
75°	4970	3839	3800
80°	4365	3599	3570
85°	3820	3372	3360



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	27.4	2.3
10°-20°	78.8	6.7
20°-30°	119.2	10.2
30°-40°	145.7	12.4
40°-50°	158.1	13.5
50°-60°	156.1	13.3
60°-70°	139.8	11.9
70°-80°	112.5	9.6
80°-90°	81.3	6.9
90°-100°	58.2	5.0
100°-110°	41.6	3.6
110°-120°	27.5	2.3
120°-130°	15.6	1.3
130°-140°	7.0	0.6
140°-150°	1.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	225.4	19.3
0°-40°	371.1	31.7
0°-60°	685.3	58.6
0°-90°	1018.9	87.1
90°-120°	127.3	10.9
90°-150°	151.4	12.9
90°-180°	151.0	12.9
0°-180°	1170.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	288	288	288	288	288	
5°	289	288	287	290	289	27
15°	275	278	279	282	282	77
25°	247	254	259	265	266	114
35°	211	222	233	245	249	132
45°	170	186	207	225	231	131
55°	128	150	180	200	208	115
65°	88	115	148	170	177	86
75°	47	79	114	137	143	50
85°	14	47	83	104	110	15
90°	3	36	69	90	96	2
95°	2	28	60	80	86	2
105°	1	17	44	61	66	1
115°	1	8	30	46	51	1
125°	0	1	19	32	36	0
135°	0	0	7	18	21	0
145°	0	0	0	5	8	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°	288.3	288.3	288.3	288.3	288.3
2.5°	290.4	288.7	286.6	288.7	287.9
5°	289.2	288.3	286.6	289.6	288.7
7.5°	287.1	287.1	286.2	289.2	288.7
10°	284.1	284.9	284.5	287.9	287.5
12.5°	279.9	281.6	282.0	285.8	285.4
15°	274.8	277.8	278.6	282.4	282.4
17.5°	268.9	272.7	274.8	278.6	278.6
20°	262.5	266.8	269.7	274.4	274.8
22.5°	254.9	260.8	264.2	269.7	270.1
25°	247.3	253.7	258.7	264.6	265.9
27.5°	239.3	246.5	252.8	259.6	261.7
30°	230.0	238.0	246.5	254.5	257.5
32.5°	221.1	230.4	239.7	249.9	253.7
35°	211.0	221.9	232.9	245.2	249.0
37.5°	201.2	213.1	226.2	240.1	244.8
40°	190.7	204.2	219.8	235.5	240.6
42.5°	180.9	194.9	213.9	230.0	235.9
45°	170.4	186.4	207.2	224.9	230.8
47.5°	159.8	177.1	200.8	219.0	225.8
50°	149.7	167.8	193.6	213.5	220.3
52.5°	138.7	159.4	186.4	206.7	213.9
55°	128.1	149.7	179.7	200.4	207.6
57.5°	117.1	141.6	171.6	193.6	200.4
60°	107.8	132.3	163.6	186.0	193.2
62.5°	97.2	123.4	156.0	178.0	185.6
65°	87.5	114.6	147.5	170.4	177.1
67.5°	76.5	105.7	139.5	161.9	168.7
70°	66.8	96.8	131.1	153.5	160.2
72.5°	57.1	88.4	122.6	145.4	152.2
75°	46.9	79.1	114.1	136.6	143.3
77.5°	38.0	70.6	105.7	128.1	134.9
80°	28.7	62.1	98.1	120.1	126.4
82.5°	21.1	54.5	90.0	112.0	118.0
85°	14.0	47.3	82.9	104.0	110.3
87.5°	8.0	41.0	75.7	96.8	102.7
90°	3.4	35.5	69.3	90.0	96.0
92.5°	2.5	32.1	65.5	85.4	91.3
95°	2.5	28.3	60.5	79.9	85.8
97.5°	2.1	24.9	55.8	74.8	80.3
100°	1.7	22.0	52.0	70.2	75.7
102.5°	1.7	19.4	47.8	65.5	71.0
105°	1.3	16.9	44.4	61.3	66.4
107.5°	1.3	14.4	40.6	57.5	62.6
110°	0.8	12.3	37.2	53.7	58.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	10.1	33.8	49.9	54.5
115°	0.8	8.0	30.4	46.1	50.7
117.5°	0.4	5.9	27.5	42.3	46.9
120°	0.4	4.2	24.5	38.5	43.1
122.5°	0.4	2.1	21.1	35.1	39.7
125°	0.4	0.8	18.6	31.7	35.9
127.5°	0.0	0.0	15.6	27.9	32.1
130°	0.0	0.0	12.7	24.5	28.3
132.5°	0.0	0.0	10.1	21.1	24.5
135°	0.0	0.0	7.2	17.8	21.1
137.5°	0.0	0.0	4.7	14.4	17.8
140°	0.0	0.0	2.1	11.0	14.0
142.5°	0.0	0.0	0.4	8.0	10.6
145°	0.0	0.0	0.0	4.7	7.6
147.5°	0.0	0.0	0.0	1.7	4.2
150°	0.0	0.0	0.0	0.0	1.3
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)