

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: P243022

Luminaire Tested: **S121DR-H490D840-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243022
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-H490D840-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: 1863.7 lumens
Efficiency: N/A
Efficacy: 108.4 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

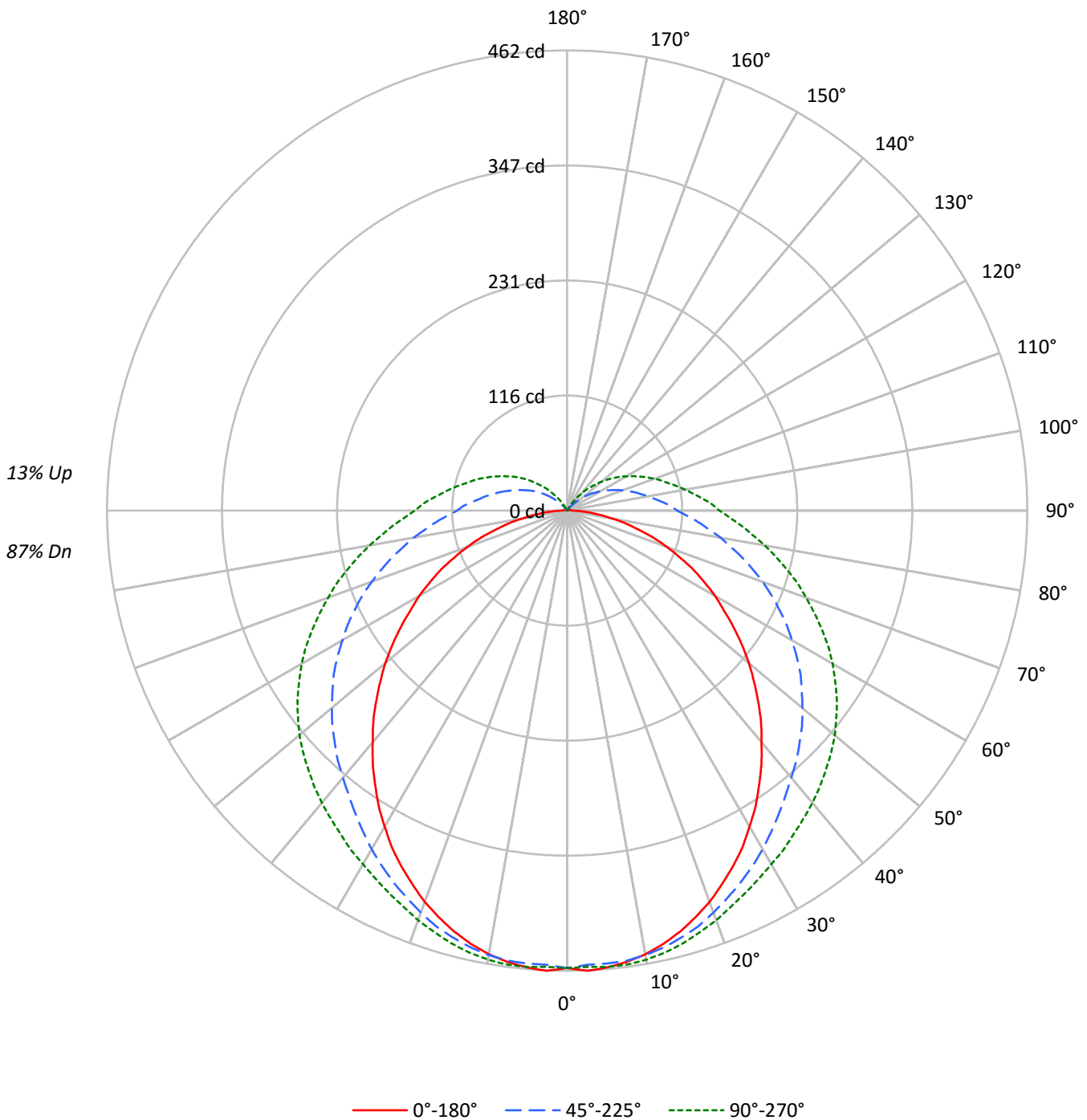
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	13606	13606	13606
5°	13671	12854	12689
10°	13560	12243	11907
15°	13346	11608	11141
20°	13081	10972	10425
25°	12750	10360	9788
30°	12379	9790	9270
35°	11973	9250	8840
40°	11535	8792	8488
45°	11129	8410	8155
50°	10710	8045	7852
55°	10224	7700	7525
60°	9809	7302	7180
65°	9342	6921	6806
70°	8703	6530	6423
75°	7916	6117	6051
80°	6965	5731	5686
85°	6058	5369	5352



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.7	2.3
10°-20°	125.5	6.7
20°-30°	189.8	10.2
30°-40°	232.0	12.4
40°-50°	251.9	13.5
50°-60°	248.5	13.3
60°-70°	222.6	11.9
70°-80°	179.1	9.6
80°-90°	129.5	6.9
90°-100°	92.7	5.0
100°-110°	66.2	3.6
110°-120°	43.8	2.4
120°-130°	24.9	1.3
130°-140°	11.1	0.6
140°-150°	2.4	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	359.0	19.3
0°-40°	591.0	31.7
0°-60°	1091.4	58.6
0°-90°	1622.6	87.1
90°-120°	202.7	10.9
90°-150°	241.1	12.9
90°-180°	241.0	12.9
0°-180°	1863.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	459	459	459	459	459	
5°	460	459	456	461	460	44
15°	438	442	444	450	450	123
25°	394	404	412	422	424	181
35°	336	354	371	390	396	210
45°	271	297	330	358	368	209
55°	204	238	286	319	331	183
65°	139	182	235	271	282	137
75°	75	126	182	218	228	80
85°	22	75	132	166	176	23
90°	5	57	110	143	153	4
95°	4	45	96	127	137	3
105°	2	27	71	98	106	2
115°	1	13	48	73	81	1
125°	1	1	30	50	57	0
135°	0	0	11	28	34	0
145°	0	0	0	7	12	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°	459.2	459.2	459.2	459.2	459.2
2.5°	462.5	459.8	456.5	459.8	458.5
5°	460.5	459.2	456.5	461.2	459.8
7.5°	457.1	457.1	455.8	460.5	459.8
10°	452.4	453.8	453.1	458.5	457.8
12.5°	445.7	448.4	449.1	455.1	454.4
15°	437.6	442.3	443.7	449.7	449.7
17.5°	428.2	434.3	437.6	443.7	443.7
20°	418.1	424.8	429.5	436.9	437.6
22.5°	406.0	415.4	420.8	429.5	430.2
25°	393.9	404.0	412.0	421.5	423.5
27.5°	381.1	392.5	402.6	413.4	416.7
30°	366.3	379.0	392.5	405.3	410.0
32.5°	352.1	366.9	381.7	397.9	404.0
35°	336.0	353.5	371.0	390.5	396.5
37.5°	320.5	339.3	360.2	382.4	389.8
40°	303.6	325.2	350.1	375.0	383.1
42.5°	288.2	310.4	340.7	366.3	375.7
45°	271.3	296.9	329.9	358.2	367.6
47.5°	254.5	282.1	319.8	348.7	359.5
50°	238.3	267.3	308.4	340.0	350.8
52.5°	220.8	253.8	296.9	329.2	340.7
55°	204.0	238.3	286.1	319.1	330.6
57.5°	186.5	225.5	273.3	308.4	319.1
60°	171.7	210.7	260.6	296.2	307.7
62.5°	154.8	196.6	248.4	283.4	295.6
65°	139.4	182.5	235.0	271.3	282.1
67.5°	121.9	168.3	222.2	257.9	268.6
70°	106.4	154.2	208.7	244.4	255.2
72.5°	90.9	140.7	195.2	231.6	242.4
75°	74.7	125.9	181.8	217.5	228.2
77.5°	60.6	112.4	168.3	204.0	214.8
80°	45.8	99.0	156.2	191.2	201.3
82.5°	33.7	86.9	143.4	178.4	187.8
85°	22.2	75.4	132.0	165.6	175.7
87.5°	12.8	65.3	120.5	154.2	163.6
90°	5.4	56.6	110.4	143.4	152.8
92.5°	4.0	51.2	104.4	136.0	145.4
95°	4.0	45.1	96.3	127.2	136.7
97.5°	3.4	39.7	88.9	119.2	127.9
100°	2.7	35.0	82.8	111.8	120.5
102.5°	2.7	31.0	76.1	104.4	113.1
105°	2.0	26.9	70.7	97.6	105.7
107.5°	2.0	22.9	64.6	91.6	99.6
110°	1.3	19.5	59.2	85.5	93.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	16.2	53.9	79.4	86.9
115°	1.3	12.8	48.5	73.4	80.8
117.5°	0.7	9.4	43.8	67.3	74.7
120°	0.7	6.7	39.0	61.3	68.7
122.5°	0.7	3.4	33.7	55.9	63.3
125°	0.7	1.3	29.6	50.5	57.2
127.5°	0.0	0.0	24.9	44.4	51.2
130°	0.0	0.0	20.2	39.0	45.1
132.5°	0.0	0.0	16.2	33.7	39.0
135°	0.0	0.0	11.4	28.3	33.7
137.5°	0.0	0.0	7.4	22.9	28.3
140°	0.0	0.0	3.4	17.5	22.2
142.5°	0.0	0.0	0.7	12.8	16.8
145°	0.0	0.0	0.0	7.4	12.1
147.5°	0.0	0.0	0.0	2.7	6.7
150°	0.0	0.0	0.0	0.0	2.0
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)