

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: P243366

Luminaire Tested: **S123DR-H560D840-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243366
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-54)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DR-H560D840-X4F0-XX-UDD-D-W
Description: DEFINE 3 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: 2191.5 lumens
Efficiency: N/A
Efficacy: 127.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

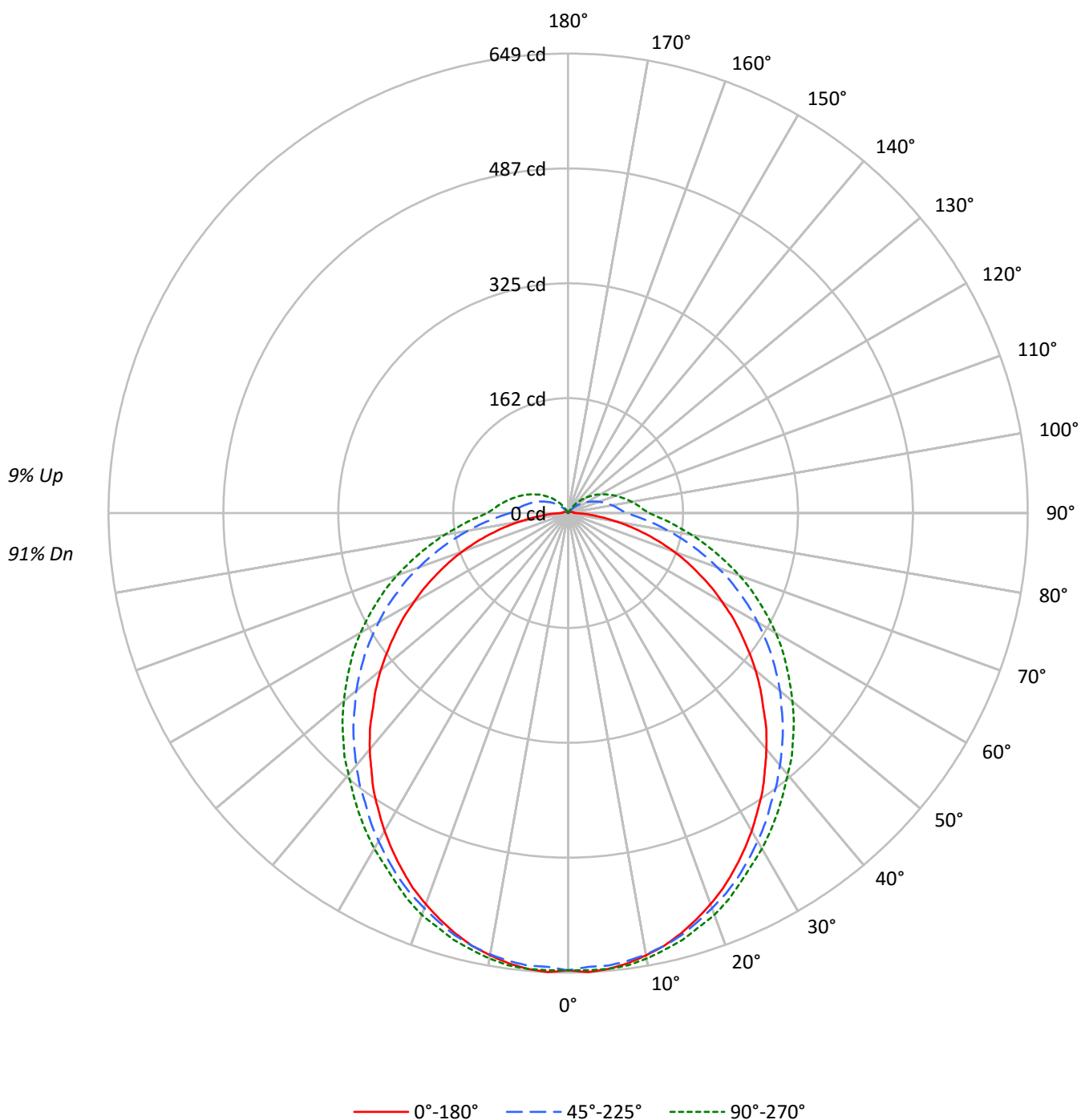
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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			
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																				
0	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	91		
1	105	100	95	90	101	96	92	88	91	87	84	85	82	80	80	78	76	73		
2	95	86	79	72	91	83	77	71	78	73	68	74	69	65	69	66	62	60		
3	86	75	66	60	83	73	65	58	69	62	56	65	59	54	61	56	52	50		
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	45	42		
5	72	59	50	43	70	57	49	42	54	47	41	51	45	40	49	43	39	36		
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31		
7	62	48	39	33	60	47	38	32	44	37	32	42	36	31	40	34	30	28		
8	57	44	35	29	55	43	34	29	41	33	28	39	32	27	37	31	27	25		
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22		
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7827	7827	7827
5°	7849	7625	7621
10°	7776	7433	7390
15°	7670	7221	7136
20°	7523	6969	6879
25°	7354	6736	6582
30°	7167	6473	6332
35°	6978	6209	6082
40°	6770	5992	5845
45°	6541	5779	5646
50°	6351	5559	5439
55°	6116	5337	5236
60°	5869	5090	5036
65°	5612	4827	4796
70°	5317	4545	4560
75°	4873	4239	4280
80°	4312	3934	4037
85°	3829	3689	3849

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.3	2.8
10°-20°	174.8	8.0
20°-30°	261.7	11.9
30°-40°	313.2	14.3
40°-50°	328.4	15.0
50°-60°	308.7	14.1
60°-70°	258.4	11.8
70°-80°	185.4	8.5
80°-90°	111.1	5.1
90°-100°	70.4	3.2
100°-110°	51.9	2.4
110°-120°	34.7	1.6
120°-130°	20.0	0.9
130°-140°	9.2	0.4
140°-150°	2.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	497.8	22.7
0°-40°	811.0	37.0
0°-60°	1448.1	66.1
0°-90°	2003.0	91.4
90°-120°	157.0	7.2
90°-150°	188.4	8.6
90°-180°	188.0	8.6
0°-180°	2191.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	646	646	646	646	646	
5°	646	646	642	647	646	61
15°	615	619	617	626	624	173
25°	555	563	568	576	576	256
35°	479	490	500	512	516	299
45°	390	409	429	444	449	302
55°	298	323	351	370	376	267
65°	205	235	267	290	298	203
75°	112	147	182	207	215	119
85°	34	70	109	134	143	35
90°	9	44	82	107	114	7
95°	7	36	71	94	102	6
105°	5	24	54	75	81	6
115°	3	12	38	56	62	4
125°	3	3	24	38	44	2
135°	1	1	10	22	26	1
145°	1	0	0	7	9	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°	645.7	645.7	645.7	645.7	645.7
2.5°	649.0	647.0	641.6	647.7	646.3
5°	646.3	645.7	641.6	647.0	646.3
7.5°	641.6	641.6	638.2	644.3	644.3
10°	634.2	636.2	632.9	639.6	638.9
12.5°	626.1	628.8	626.1	633.5	631.5
15°	614.7	618.7	617.4	625.5	624.1
17.5°	601.9	606.6	605.9	614.0	613.3
20°	587.8	593.8	593.8	601.9	603.9
22.5°	572.9	579.7	581.7	589.8	591.1
25°	555.4	562.8	567.6	576.3	575.6
27.5°	537.3	546.0	551.4	560.8	560.8
30°	518.4	528.5	535.2	545.3	547.4
32.5°	498.2	510.3	518.4	529.2	531.9
35°	478.7	490.1	499.6	512.3	515.7
37.5°	456.5	470.6	483.4	496.9	498.9
40°	435.6	451.1	465.2	479.4	482.1
42.5°	414.1	430.2	447.0	461.2	467.2
45°	389.8	409.3	428.9	443.7	449.1
47.5°	368.3	387.8	408.7	426.2	432.2
50°	345.4	365.6	390.5	407.3	413.4
52.5°	321.8	344.0	370.3	388.5	394.5
55°	298.3	323.2	350.8	369.6	376.4
57.5°	276.0	300.9	329.9	350.8	358.2
60°	251.1	278.7	309.0	330.6	338.6
62.5°	228.9	257.2	288.8	310.4	318.5
65°	204.7	235.0	266.6	290.2	297.6
67.5°	182.5	212.1	246.4	270.0	278.1
70°	158.9	189.9	224.2	248.4	257.2
72.5°	135.3	168.3	203.3	228.2	235.6
75°	112.4	146.8	182.5	207.4	215.4
77.5°	90.9	125.2	162.3	187.2	195.9
80°	69.3	105.0	143.4	168.3	177.1
82.5°	50.5	86.9	125.9	150.1	158.2
85°	34.3	70.0	109.1	134.0	142.7
87.5°	20.2	56.6	94.3	119.2	126.6
90°	9.4	44.4	82.1	107.0	114.5
92.5°	8.8	39.7	76.1	99.6	107.0
95°	7.4	36.4	71.4	94.3	101.7
97.5°	7.4	33.0	67.3	89.5	96.3
100°	6.7	29.6	63.3	84.2	90.9
102.5°	6.1	26.3	58.6	79.4	86.2
105°	5.4	23.6	54.5	74.7	80.8
107.5°	4.7	20.2	50.5	70.0	76.1
110°	4.7	17.5	46.5	65.3	71.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.0	14.8	42.4	60.6	66.7
115°	3.4	12.1	38.4	55.9	61.9
117.5°	3.4	9.4	34.3	51.8	57.2
120°	3.4	7.4	31.0	47.1	52.5
122.5°	2.7	4.7	27.6	43.1	48.5
125°	2.7	2.7	23.6	38.4	43.8
127.5°	2.0	1.3	20.2	34.3	39.0
130°	2.0	1.3	16.8	30.3	35.0
132.5°	1.3	1.3	13.5	26.3	31.0
135°	1.3	0.7	10.1	22.2	26.3
137.5°	1.3	0.7	6.7	18.2	22.2
140°	0.7	0.7	3.4	14.1	18.2
142.5°	0.7	0.0	0.7	10.8	14.1
145°	0.7	0.0	0.0	6.7	9.4
147.5°	0.7	0.0	0.0	3.4	6.1
150°	0.7	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)