

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: P243381

Luminaire Tested: **S123DR-H560D940-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243381
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-H560D940-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1935.0 lumens
Efficiency: N/A
Efficacy: 112.5 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

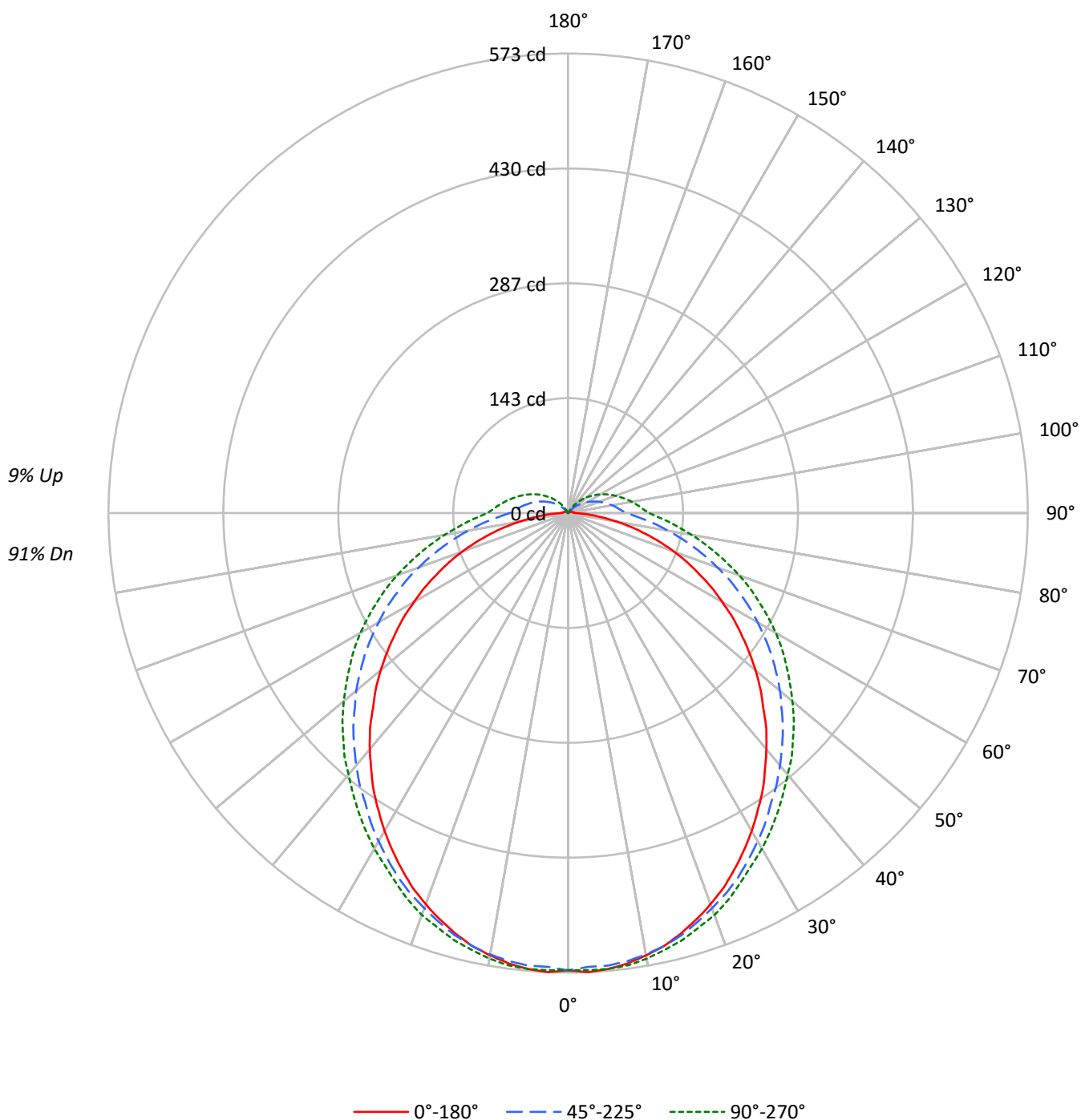
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6910	6910	6910
5°	6931	6732	6730
10°	6867	6563	6526
15°	6772	6375	6302
20°	6643	6153	6075
25°	6495	5948	5813
30°	6329	5716	5591
35°	6162	5482	5371
40°	5978	5291	5161
45°	5776	5102	4984
50°	5608	4909	4802
55°	5400	4712	4622
60°	5182	4495	4447
65°	4954	4262	4235
70°	4695	4014	4026
75°	4305	3742	3779
80°	3808	3473	3563
85°	3383	3256	3399

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.1	2.8
10°-20°	154.3	8.0
20°-30°	231.1	11.9
30°-40°	276.5	14.3
40°-50°	290.0	15.0
50°-60°	272.6	14.1
60°-70°	228.2	11.8
70°-80°	163.7	8.5
80°-90°	98.1	5.1
90°-100°	62.2	3.2
100°-110°	45.8	2.4
110°-120°	30.7	1.6
120°-130°	17.7	0.9
130°-140°	8.2	0.4
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°	439.6	22.7
0°-40°	716.1	37.0
0°-60°	1278.7	66.1
0°-90°	1768.6	91.4
90°-120°	138.7	7.2
90°-150°	166.4	8.6
90°-180°	166.0	8.6
0°-180°	1935.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	570	570	570	570	570	
5°	571	570	566	571	571	54
15°	543	546	545	552	551	153
25°	490	497	501	509	508	226
35°	423	433	441	452	455	264
45°	344	361	379	392	396	266
55°	263	285	310	326	332	236
65°	181	208	235	256	263	179
75°	99	130	161	183	190	105
85°	30	62	96	118	126	31
90°	8	39	72	94	101	6
95°	6	32	63	83	90	5
105°	5	21	48	66	71	5
115°	3	11	34	49	55	3
125°	2	2	21	34	39	2
135°	1	1	9	20	23	1
145°	1	0	0	6	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°	570.1	570.1	570.1	570.1	570.1
2.5°	573.1	571.3	566.5	571.9	570.7
5°	570.7	570.1	566.5	571.3	570.7
7.5°	566.5	566.5	563.6	568.9	568.9
10°	560.0	561.8	558.8	564.8	564.2
12.5°	552.9	555.3	552.9	559.4	557.6
15°	542.8	546.3	545.1	552.3	551.1
17.5°	531.5	535.6	535.0	542.2	541.6
20°	519.0	524.3	524.3	531.5	533.3
22.5°	505.9	511.9	513.6	520.8	522.0
25°	490.5	497.0	501.2	508.9	508.3
27.5°	474.4	482.1	486.9	495.2	495.2
30°	457.8	466.7	472.6	481.5	483.3
32.5°	439.9	450.6	457.8	467.3	469.6
35°	422.7	432.8	441.1	452.4	455.4
37.5°	403.1	415.5	426.8	438.7	440.5
40°	384.6	398.3	410.8	423.3	425.7
42.5°	365.6	379.9	394.7	407.2	412.6
45°	344.2	361.4	378.7	391.8	396.5
47.5°	325.2	342.4	360.9	376.3	381.7
50°	305.0	322.8	344.8	359.7	365.0
52.5°	284.2	303.8	327.0	343.0	348.4
55°	263.4	285.4	309.7	326.4	332.3
57.5°	243.7	265.7	291.3	309.7	316.3
60°	221.7	246.1	272.9	291.9	299.0
62.5°	202.1	227.1	255.0	274.1	281.2
65°	180.7	207.5	235.4	256.2	262.8
67.5°	161.1	187.3	217.6	238.4	245.5
70°	140.3	167.6	198.0	219.4	227.1
72.5°	119.5	148.6	179.5	201.5	208.1
75°	99.3	129.6	161.1	183.1	190.2
77.5°	80.3	110.6	143.3	165.3	173.0
80°	61.2	92.7	126.6	148.6	156.3
82.5°	44.6	76.7	111.2	132.6	139.7
85°	30.3	61.8	96.3	118.3	126.0
87.5°	17.8	49.9	83.2	105.2	111.8
90°	8.3	39.2	72.5	94.5	101.1
92.5°	7.7	35.1	67.2	88.0	94.5
95°	6.5	32.1	63.0	83.2	89.8
97.5°	6.5	29.1	59.4	79.1	85.0
100°	5.9	26.2	55.9	74.3	80.3
102.5°	5.4	23.2	51.7	70.1	76.1
105°	4.8	20.8	48.2	66.0	71.3
107.5°	4.2	17.8	44.6	61.8	67.2
110°	4.2	15.5	41.0	57.7	63.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.6	13.1	37.5	53.5	58.9
115°	3.0	10.7	33.9	49.3	54.7
117.5°	3.0	8.3	30.3	45.8	50.5
120°	3.0	6.5	27.3	41.6	46.4
122.5°	2.4	4.2	24.4	38.0	42.8
125°	2.4	2.4	20.8	33.9	38.6
127.5°	1.8	1.2	17.8	30.3	34.5
130°	1.8	1.2	14.9	26.8	30.9
132.5°	1.2	1.2	11.9	23.2	27.3
135°	1.2	0.6	8.9	19.6	23.2
137.5°	1.2	0.6	5.9	16.1	19.6
140°	0.6	0.6	3.0	12.5	16.1
142.5°	0.6	0.0	0.6	9.5	12.5
145°	0.6	0.0	0.0	5.9	8.3
147.5°	0.6	0.0	0.0	3.0	5.4
150°	0.6	0.0	0.0	0.0	1.8
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)