

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: P242516

Luminaire Tested: **S123DR-S560D935-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242516
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-15)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DR-S560D935-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1907.3 lumens
Efficiency: N/A
Efficacy: 101.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

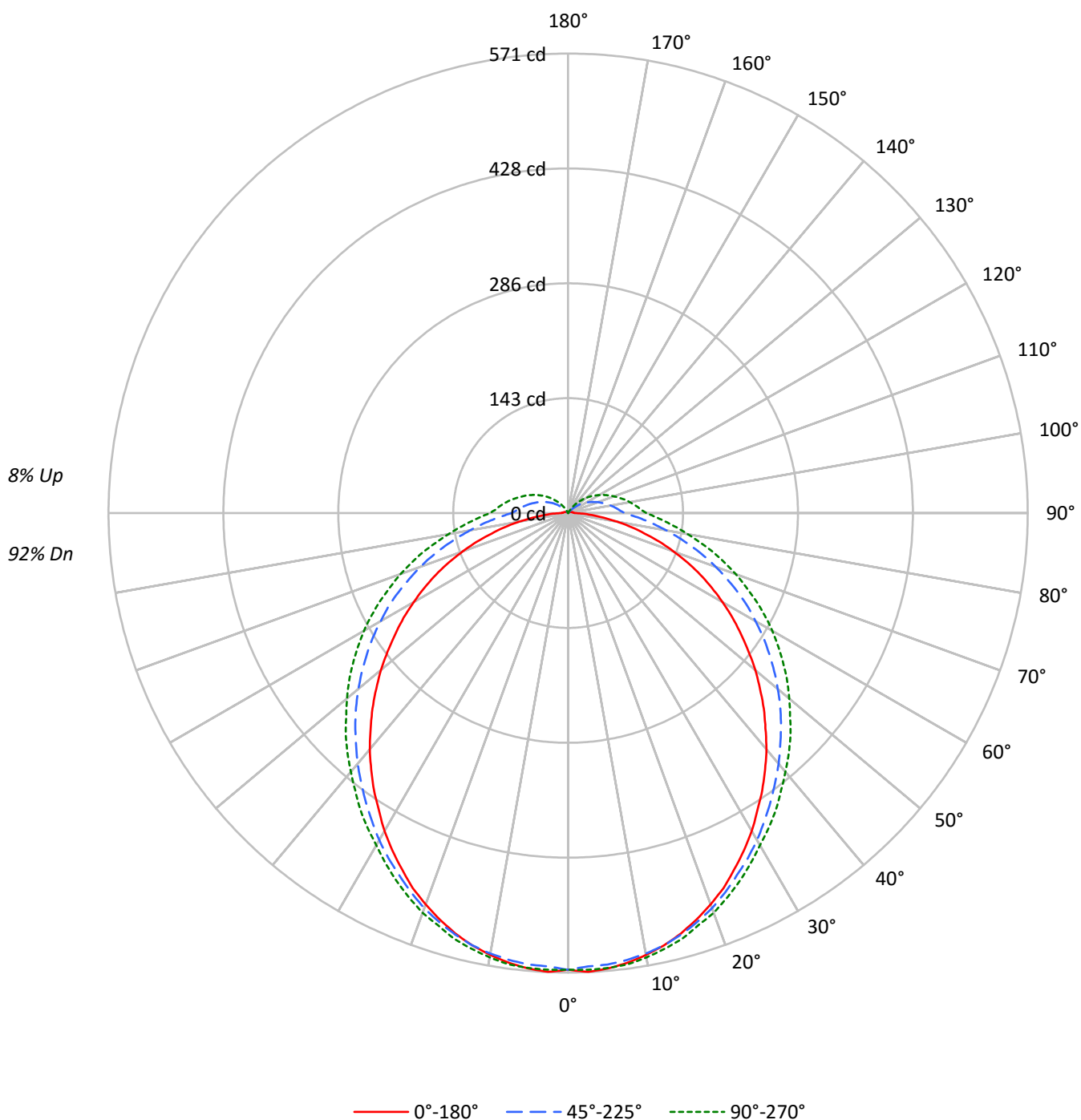
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92		
1	105	100	95	90	102	97	92	88	91	87	84	85	82	80	80	78	76	73		
2	95	86	79	72	92	83	77	71	79	73	68	74	69	65	70	66	63	60		
3	86	75	67	60	83	73	65	59	69	62	56	65	59	54	61	56	52	50		
4	79	66	57	50	76	64	56	49	61	54	48	57	51	46	54	49	45	42		
5	72	59	50	43	70	58	49	42	54	47	41	52	45	40	49	43	39	36		
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	38	34	32		
7	62	48	39	33	60	47	38	32	45	37	32	42	36	31	40	35	30	28		
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	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	24	35	28	23	33	27	23	32	26	22	20		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6879	6879	6879
5°	6899	6693	6692
10°	6837	6527	6485
15°	6749	6341	6263
20°	6623	6131	6022
25°	6467	5891	5769
30°	6307	5675	5513
35°	6128	5447	5309
40°	5958	5240	5090
45°	5768	5039	4911
50°	5580	4841	4718
55°	5374	4638	4540
60°	5172	4429	4358
65°	4965	4210	4145
70°	4655	3961	3923
75°	4262	3677	3698
80°	3808	3391	3438
85°	3383	3179	3269

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.8	2.8
10°-20°	153.5	8.0
20°-30°	229.5	12.0
30°-40°	274.0	14.4
40°-50°	286.7	15.0
50°-60°	269.0	14.1
60°-70°	224.7	11.8
70°-80°	160.7	8.4
80°-90°	95.6	5.0
90°-100°	60.1	3.1
100°-110°	44.2	2.3
110°-120°	29.5	1.5
120°-130°	16.8	0.9
130°-140°	7.5	0.4
140°-150°	1.6	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	436.8	22.9
0°-40°	710.8	37.3
0°-60°	1266.6	66.4
0°-90°	1747.6	91.6
90°-120°	133.7	7.0
90°-150°	159.7	8.4
90°-180°	160.0	8.4
0°-180°	1907.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	568	568	568	568	568	
5°	568	567	563	568	568	54
15°	541	543	542	548	548	152
25°	488	495	496	504	504	225
35°	420	430	438	448	450	263
45°	344	359	374	386	391	265
55°	262	282	305	322	326	235
65°	181	205	232	251	257	179
75°	98	127	158	179	186	105
85°	30	61	94	115	121	31
90°	8	38	70	91	97	6
95°	7	31	61	80	87	5
105°	5	20	46	64	69	5
115°	3	10	33	48	52	3
125°	2	2	20	33	37	2
135°	1	1	7	18	22	1
145°	1	0	0	5	7	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°	567.5	567.5	567.5	567.5	567.5
2.5°	570.6	568.8	563.8	568.8	568.1
5°	568.1	566.9	563.2	568.1	567.5
7.5°	563.8	563.8	560.1	566.3	565.7
10°	557.6	558.9	555.8	562.0	560.7
12.5°	550.2	552.1	550.2	555.8	554.5
15°	540.9	542.8	542.2	548.4	547.7
17.5°	529.8	533.5	532.9	538.5	537.2
20°	517.5	521.2	522.4	528.0	528.6
22.5°	504.5	508.2	510.0	517.5	516.8
25°	488.4	494.6	496.4	504.5	504.5
27.5°	472.9	479.7	483.4	490.2	490.9
30°	456.2	464.3	469.2	476.6	476.6
32.5°	437.7	447.0	453.8	461.8	463.7
35°	420.4	430.3	438.3	447.6	450.1
37.5°	401.8	413.0	422.2	432.8	434.6
40°	383.3	394.4	406.8	417.3	419.8
42.5°	362.9	377.1	390.1	401.8	405.6
45°	343.7	358.6	374.0	385.8	390.7
47.5°	323.3	340.0	357.3	370.3	374.0
50°	303.5	320.9	340.0	354.2	358.6
52.5°	282.5	301.1	322.7	337.5	343.1
55°	262.1	282.5	304.8	321.5	326.4
57.5°	242.3	263.4	287.5	304.2	309.7
60°	221.3	243.6	268.9	286.2	293.0
62.5°	201.5	224.4	251.6	268.9	275.1
65°	181.1	205.2	232.5	251.0	257.2
67.5°	160.7	186.1	213.3	233.7	238.6
70°	139.1	165.7	195.4	215.1	221.3
72.5°	119.3	145.9	176.8	197.2	203.4
75°	98.3	127.4	158.3	178.7	186.1
77.5°	80.4	109.4	140.3	162.0	167.5
80°	61.2	91.5	123.6	144.7	150.8
82.5°	44.5	75.4	108.2	129.2	135.4
85°	30.3	61.2	94.0	115.0	121.2
87.5°	18.5	49.5	81.0	102.0	108.2
90°	8.0	38.3	69.9	90.9	97.1
92.5°	7.4	34.0	64.9	85.3	90.9
95°	6.8	30.9	61.2	80.4	86.6
97.5°	6.2	28.4	57.5	76.0	82.2
100°	5.6	25.3	53.8	71.7	77.9
102.5°	4.9	22.3	50.1	67.4	73.6
105°	4.9	19.8	46.4	63.7	69.2
107.5°	4.3	17.3	42.7	59.3	64.9
110°	3.7	14.8	39.6	55.6	60.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.7	12.4	35.9	51.3	56.9
115°	3.1	10.5	32.8	47.6	52.5
117.5°	3.1	8.0	29.1	43.9	48.8
120°	2.5	5.6	26.0	40.2	44.5
122.5°	2.5	3.7	22.9	36.5	40.8
125°	1.9	1.9	19.8	32.8	37.1
127.5°	1.9	1.2	16.7	29.1	33.4
130°	1.9	1.2	13.6	25.3	29.1
132.5°	1.2	1.2	10.5	21.6	26.0
135°	1.2	0.6	7.4	18.5	21.6
137.5°	1.2	0.6	4.9	14.8	17.9
140°	0.6	0.6	2.5	11.7	14.8
142.5°	0.6	0.0	0.0	8.0	11.1
145°	0.6	0.0	0.0	4.9	7.4
147.5°	0.0	0.0	0.0	1.9	4.3
150°	0.0	0.0	0.0	0.0	1.2
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)