

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P243352

Luminaire Tested: S123DRP-H560D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243352
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
Product Line: NEO-RAY
Catalog Number: S123DRP-H560D927-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

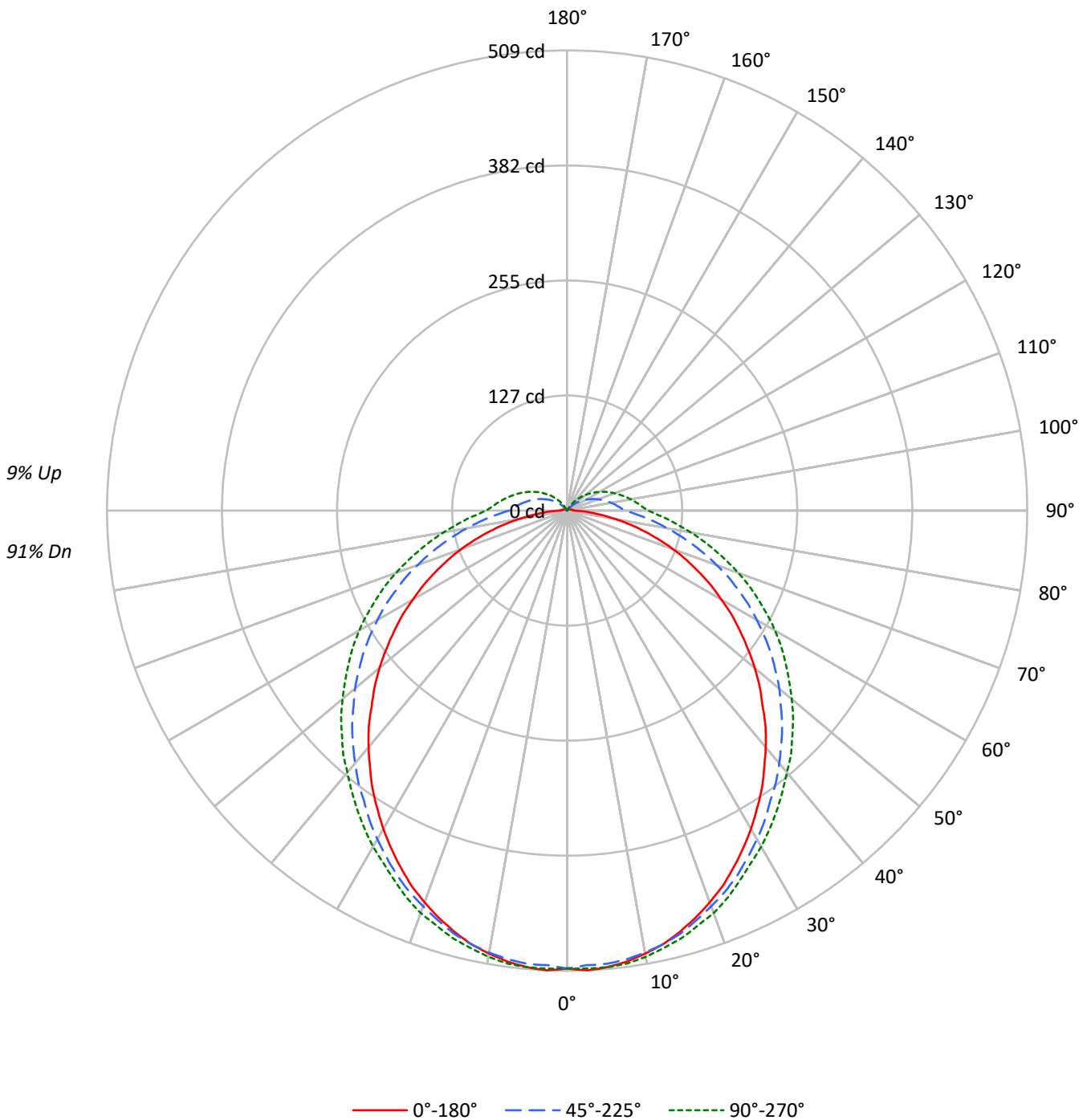
Lumens per Lamp: N/A
Luminaire Lumens: 1719.0 lumens
Efficiency: N/A
Efficacy: 99.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (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: 24 FT

TEST NUMBER: P243352

CATALOG NUMBER: S123DRP-H560D927-X4F0-XX-UDD-D-W

Luminous Intensity Polar Plot





TEST NUMBER: P243352

CATALOG NUMBER: S123DRP-H560D927-X4F0-XX-UDD-D-W

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	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°	6139	6139	6139
5°	6157	5981	5979
10°	6100	5830	5797
15°	6016	5664	5598
20°	5902	5467	5396
25°	5769	5283	5164
30°	5623	5079	4967
35°	5474	4870	4771
40°	5311	4700	4584
45°	5132	4532	4429
50°	4981	4361	4267
55°	4798	4187	4106
60°	4604	3993	3952
65°	4403	3786	3761
70°	4169	3566	3576
75°	3824	3324	3358
80°	3385	3086	3166
85°	3003	2895	3021

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5132 cd/sqm



TEST NUMBER: P243352

CATALOG NUMBER: S123DRP-H560D927-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.1	2.8
10°-20°	137.1	8.0
20°-30°	205.3	11.9
30°-40°	245.7	14.3
40°-50°	257.6	15.0
50°-60°	242.2	14.1
60°-70°	202.7	11.8
70°-80°	145.4	8.5
80°-90°	87.1	5.1
90°-100°	55.2	3.2
100°-110°	40.7	2.4
110°-120°	27.2	1.6
120°-130°	15.7	0.9
130°-140°	7.3	0.4
140°-150°	1.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	390.5	22.7
0°-40°	636.2	37.0
0°-60°	1136.0	66.1
0°-90°	1571.2	91.4
90°-120°	123.2	7.2
90°-150°	147.8	8.6
90°-180°	148.0	8.6
0°-180°	1719.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	506	506	506	506	506	
5°	507	506	503	508	507	48
15°	482	485	484	491	490	136
25°	436	442	445	452	452	201
35°	376	384	392	402	404	235
45°	306	321	336	348	352	237
55°	234	254	275	290	295	210
65°	161	184	209	228	233	159
75°	88	115	143	163	169	94
85°	27	55	86	105	112	28
90°	7	35	64	84	90	5
95°	6	28	56	74	80	5
105°	4	18	43	59	63	5
115°	3	10	30	44	49	3
125°	2	2	18	30	34	2
135°	1	0	8	17	21	1
145°	0	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

TEST NUMBER: P243352

CATALOG NUMBER: S123DRP-H560D927-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	506.5	506.5	506.5	506.5	506.5
2.5°	509.1	507.5	503.3	508.1	507.0
5°	507.0	506.5	503.3	507.5	507.0
7.5°	503.3	503.3	500.7	505.4	505.4
10°	497.5	499.1	496.4	501.7	501.2
12.5°	491.2	493.3	491.2	497.0	495.4
15°	482.2	485.4	484.3	490.6	489.6
17.5°	472.2	475.8	475.3	481.7	481.1
20°	461.1	465.8	465.8	472.2	473.7
22.5°	449.4	454.7	456.3	462.6	463.7
25°	435.7	441.5	445.2	452.1	451.6
27.5°	421.4	428.3	432.5	439.9	439.9
30°	406.7	414.6	419.9	427.8	429.4
32.5°	390.8	400.3	406.7	415.1	417.2
35°	375.5	384.5	391.9	401.9	404.5
37.5°	358.1	369.2	379.2	389.8	391.3
40°	341.7	353.8	364.9	376.0	378.1
42.5°	324.8	337.5	350.7	361.8	366.5
45°	305.8	321.1	336.4	348.0	352.3
47.5°	288.9	304.2	320.6	334.3	339.1
50°	270.9	286.8	306.3	319.5	324.3
52.5°	252.4	269.9	290.5	304.7	309.5
55°	234.0	253.5	275.2	289.9	295.2
57.5°	216.5	236.1	258.8	275.2	281.0
60°	197.0	218.6	242.4	259.3	265.7
62.5°	179.6	201.7	226.6	243.5	249.8
65°	160.6	184.3	209.1	227.6	233.4
67.5°	143.1	166.4	193.3	211.8	218.1
70°	124.6	148.9	175.9	194.9	201.7
72.5°	106.2	132.0	159.5	179.0	184.8
75°	88.2	115.1	143.1	162.7	169.0
77.5°	71.3	98.2	127.3	146.8	153.7
80°	54.4	82.4	112.5	132.0	138.9
82.5°	39.6	68.1	98.8	117.8	124.1
85°	26.9	54.9	85.6	105.1	112.0
87.5°	15.8	44.4	73.9	93.5	99.3
90°	7.4	34.9	64.4	84.0	89.8
92.5°	6.9	31.2	59.7	78.2	84.0
95°	5.8	28.5	56.0	73.9	79.7
97.5°	5.8	25.9	52.8	70.2	75.5
100°	5.3	23.2	49.6	66.0	71.3
102.5°	4.8	20.6	45.9	62.3	67.6
105°	4.2	18.5	42.8	58.6	63.4
107.5°	3.7	15.8	39.6	54.9	59.7
110°	3.7	13.7	36.4	51.2	56.0



TEST NUMBER: P243352

CATALOG NUMBER: S123DRP-H560D927-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.2	11.6	33.3	47.5	52.3
115°	2.6	9.5	30.1	43.8	48.6
117.5°	2.6	7.4	26.9	40.7	44.9
120°	2.6	5.8	24.3	37.0	41.2
122.5°	2.1	3.7	21.7	33.8	38.0
125°	2.1	2.1	18.5	30.1	34.3
127.5°	1.6	1.1	15.8	26.9	30.6
130°	1.6	1.1	13.2	23.8	27.5
132.5°	1.1	1.1	10.6	20.6	24.3
135°	1.1	0.5	7.9	17.4	20.6
137.5°	1.1	0.5	5.3	14.3	17.4
140°	0.5	0.5	2.6	11.1	14.3
142.5°	0.5	0.0	0.5	8.5	11.1
145°	0.5	0.0	0.0	5.3	7.4
147.5°	0.5	0.0	0.0	2.6	4.8
150°	0.5	0.0	0.0	0.0	1.6
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

TEST NUMBER: P243352

CATALOG NUMBER: S123DRP-H560D927-X4F0-XX-UDD-D-W

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	15.34	16.84	15.83	17.33	17.85	17.41	18.91	17.90	19.40	19.92
	3H	16.89	18.26	17.40	18.76	19.32	19.80	21.17	20.31	21.67	22.23
	4H	17.42	18.72	17.94	19.23	19.80	20.92	22.22	21.44	22.73	23.30
	6H	17.76	18.97	18.30	19.49	20.08	22.05	23.25	22.58	23.78	24.37
	8H	17.84	19.00	18.40	19.55	20.15	22.61	23.77	23.16	24.31	24.91
	12H	17.89	19.00	18.45	19.54	20.17	23.23	24.34	23.78	24.88	25.50
4H	2H	16.25	17.55	16.78	18.06	18.64	17.86	19.16	18.39	19.67	20.24
	3H	18.06	19.16	18.60	19.72	20.31	20.47	21.58	21.01	22.13	22.73
	4H	18.73	19.74	19.28	20.30	20.93	21.74	22.76	22.30	23.32	23.95
	6H	19.20	20.09	19.77	20.68	21.32	23.05	23.94	23.62	24.53	25.17
	8H	19.33	20.17	19.91	20.76	21.41	23.70	24.54	24.29	25.13	25.79
	12H	19.42	20.18	20.02	20.79	21.45	24.43	25.20	25.04	25.81	26.47
8H	4H	19.37	20.21	19.95	20.80	21.45	21.97	22.81	22.55	23.40	24.05
	6H	20.03	20.74	20.64	21.37	22.03	23.43	24.14	24.04	24.77	25.43
	8H	20.26	20.90	20.89	21.54	22.21	24.21	24.85	24.84	25.49	26.17
	12H	20.43	21.00	21.06	21.63	22.37	25.11	25.68	25.74	26.31	27.05
12H	4H	19.53	20.29	20.14	20.91	21.57	21.98	22.74	22.58	23.36	24.02
	6H	20.28	20.92	20.90	21.56	22.23	23.47	24.11	24.10	24.75	25.42
	8H	20.60	21.17	21.23	21.80	22.54	24.32	24.89	24.95	25.52	26.26