

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: P242423

Luminaire Tested: S123DRP-S560D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242423
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-11)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-S560D927-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

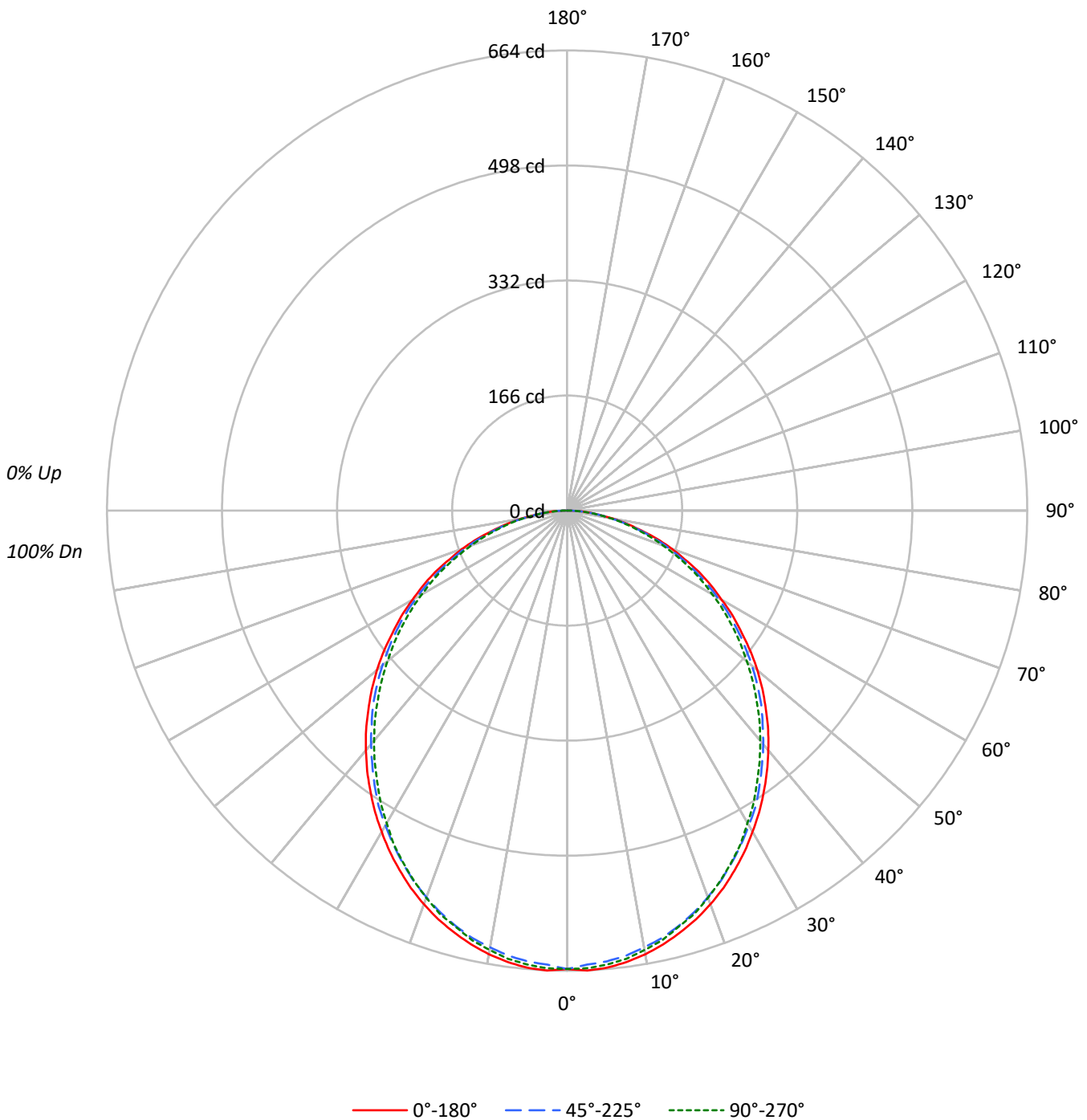
Lumens per Lamp: N/A
Luminaire Lumens: 1721.6 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

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: 24 FT

TEST NUMBER: P242423

CATALOG NUMBER: S123DRP-S560D927-X4F0-XX-UDD-F-W

Luminous Intensity Polar Plot





TEST NUMBER: P242423

CATALOG NUMBER: S123DRP-S560D927-X4F0-XX-UDD-F-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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84				84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70				70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59				59
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51				51
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44				44
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	46	41	39				39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34				34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31				31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28				28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25				25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8018	8018	8018
5°	8056	7945	8000
10°	8002	7876	7925
15°	7908	7788	7802
20°	7799	7660	7667
25°	7653	7508	7494
30°	7491	7340	7285
35°	7323	7163	7070
40°	7146	6967	6858
45°	6953	6787	6620
50°	6757	6564	6381
55°	6503	6336	6143
60°	6247	6068	5874
65°	6020	5776	5596
70°	5685	5444	5203
75°	5194	5006	4796
80°	4684	4488	4446
85°	4117	3950	3797

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6953 cd/sqm



TEST NUMBER: P242423

CATALOG NUMBER: S123DRP-S560D927-X4F0-XX-UDD-F-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.4	3.6
10°-20°	176.1	10.2
20°-30°	260.1	15.1
30°-40°	303.7	17.6
40°-50°	305.4	17.7
50°-60°	268.3	15.6
60°-70°	199.8	11.6
70°-80°	113.7	6.6
80°-90°	32.3	1.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	498.5	29.0
0°-40°	802.3	46.6
0°-60°	1375.9	79.9
0°-90°	1721.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1721.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	662	662	662	662	662	
5°	662	659	653	659	658	63
15°	630	628	621	625	622	178
25°	572	569	561	562	560	264
35°	495	491	484	481	478	310
45°	406	403	396	389	386	313
55°	308	307	300	294	291	276
65°	210	207	201	197	195	207
75°	111	109	107	104	102	118
85°	30	28	28	27	27	34
90°	0	0	0	0	0	



TEST NUMBER: P242423

CATALOG NUMBER: S123DRP-S560D927-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	661.5	661.5	661.5	661.5	661.5
2.5°	664.4	662.1	655.8	661.5	661.0
5°	662.1	659.2	653.0	658.7	657.5
7.5°	657.0	654.1	647.9	653.0	652.4
10°	650.1	647.3	639.9	645.0	643.9
12.5°	641.0	638.8	631.9	635.4	634.8
15°	630.2	628.0	620.6	625.1	621.7
17.5°	618.3	615.4	608.1	611.5	610.3
20°	604.6	601.2	593.8	596.1	594.4
22.5°	589.3	585.9	578.5	580.2	577.9
25°	572.2	568.8	561.4	562.0	560.3
27.5°	554.6	551.2	543.2	543.8	542.1
30°	535.2	532.4	524.4	524.4	520.5
32.5°	515.9	511.9	506.2	502.3	500.6
35°	494.9	491.4	484.1	480.6	477.8
37.5°	473.8	469.3	461.9	457.9	456.2
40°	451.6	448.2	440.3	435.7	433.4
42.5°	429.4	425.5	417.5	413.0	410.7
45°	405.6	403.3	395.9	389.1	386.2
47.5°	382.2	378.8	372.0	365.2	362.9
50°	358.3	355.5	348.1	341.9	338.4
52.5°	333.3	331.6	323.7	318.5	315.1
55°	307.7	307.2	299.8	293.5	290.7
57.5°	283.8	281.6	275.9	270.2	266.8
60°	257.7	257.1	250.3	245.2	242.3
62.5°	234.3	232.6	225.8	220.7	219.0
65°	209.9	207.0	201.4	196.8	195.1
67.5°	183.7	181.4	176.9	172.9	170.6
70°	160.4	157.0	153.6	149.6	146.8
72.5°	135.9	133.7	129.7	126.3	125.1
75°	110.9	108.6	106.9	104.1	102.4
77.5°	88.7	87.6	85.3	83.0	83.0
80°	67.1	65.4	64.3	63.7	63.7
82.5°	46.1	46.1	46.1	44.9	44.4
85°	29.6	28.4	28.4	27.3	27.3
87.5°	14.8	13.1	12.5	11.9	11.9
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242423
 CATALOG NUMBER: S123DRP-S560D927-X4F0-XX-UDD-F-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	18.59	20.21	18.96	20.52	20.84	18.28	19.89	18.64	20.21	20.52
	3H	20.36	21.82	20.74	22.15	22.51	19.99	21.45	20.37	21.78	22.14
	4H	21.02	22.40	21.42	22.74	23.12	20.63	22.01	21.03	22.35	22.73
	6H	21.51	22.78	21.92	23.15	23.54	21.12	22.39	21.53	22.76	23.15
	8H	21.66	22.88	22.08	23.27	23.67	21.27	22.49	21.70	22.88	23.28
	12H	21.77	22.93	22.20	23.32	23.74	21.38	22.55	21.81	22.93	23.36
4H	2H	19.17	20.55	19.57	20.90	21.27	18.92	20.30	19.32	20.65	21.02
	3H	21.16	22.32	21.57	22.71	23.11	20.86	22.01	21.27	22.41	22.81
	4H	21.95	22.99	22.38	23.40	23.84	21.62	22.66	22.05	23.08	23.51
	6H	22.56	23.48	23.02	23.92	24.37	22.23	23.14	22.68	23.58	24.04
	8H	22.77	23.62	23.23	24.06	24.53	22.44	23.29	22.90	23.73	24.20
	12H	22.92	23.69	23.40	24.16	24.63	22.59	23.35	23.07	23.83	24.30
8H	4H	22.23	23.09	22.69	23.53	23.99	21.94	22.79	22.40	23.24	23.70
	6H	22.97	23.68	23.46	24.17	24.64	22.68	23.39	23.17	23.87	24.35
	8H	23.24	23.88	23.75	24.39	24.87	22.96	23.59	23.47	24.10	24.59
	12H	23.47	24.03	23.98	24.52	25.09	23.18	23.74	23.69	24.23	24.79
12H	4H	22.26	23.03	22.74	23.50	23.97	21.98	22.74	22.46	23.22	23.69
	6H	23.02	23.66	23.53	24.16	24.65	22.74	23.37	23.25	23.88	24.37
	8H	23.35	23.92	23.86	24.41	24.97	23.08	23.64	23.58	24.13	24.69