

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: P242428

Luminaire Tested: S123DRP-S560D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242428
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-S560D830-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

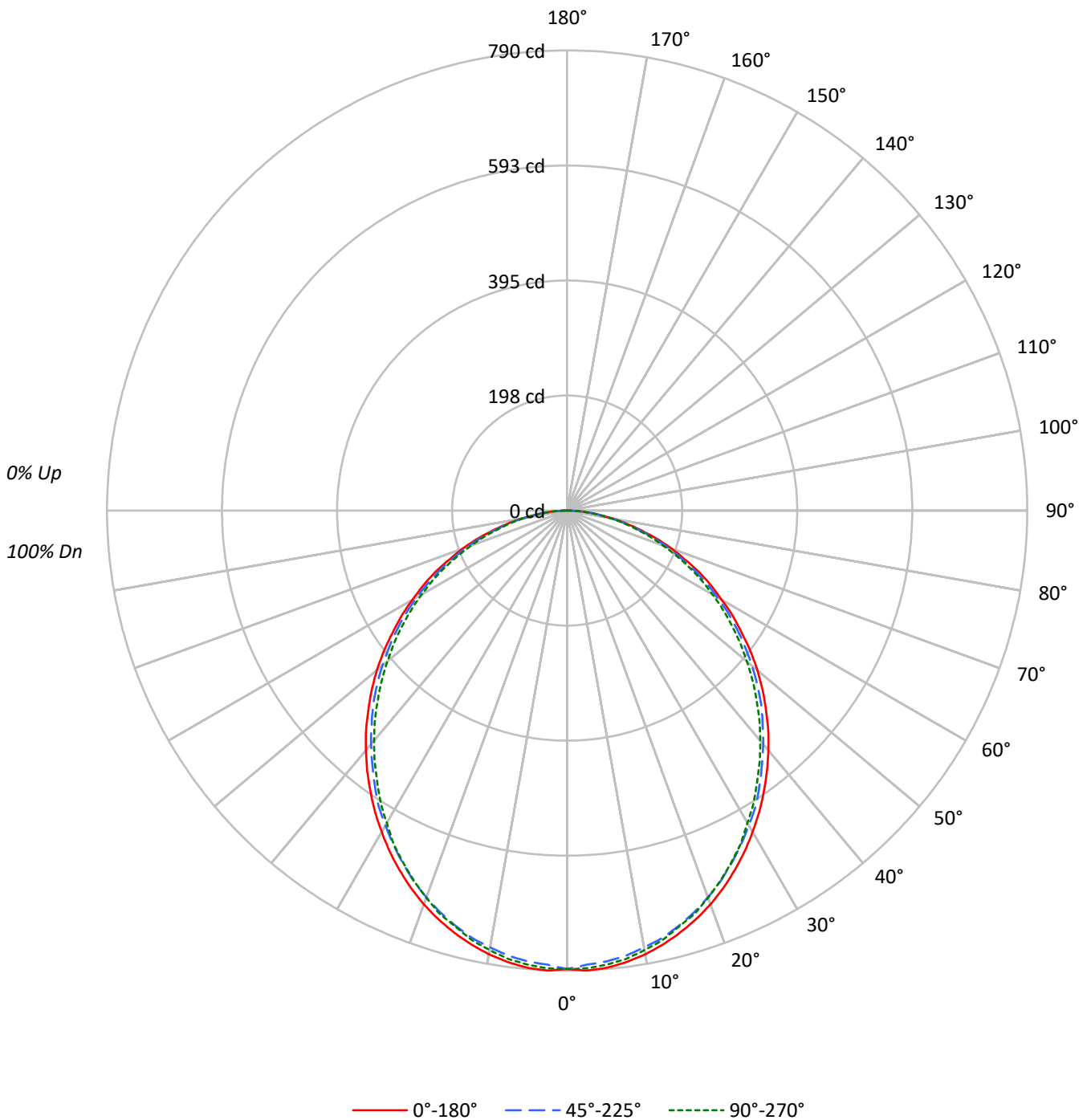
Lumens per Lamp: N/A
Luminaire Lumens: 2048.4 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

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: P242428

CATALOG NUMBER: S123DRP-S560D830-X4F0-XX-UDD-F-W

Luminous Intensity Polar Plot





TEST NUMBER: P242428

CATALOG NUMBER: S123DRP-S560D830-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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9541	9541	9541
5°	9586	9453	9519
10°	9520	9371	9429
15°	9410	9266	9282
20°	9280	9113	9122
25°	9105	8934	8915
30°	8913	8734	8667
35°	8713	8522	8412
40°	8503	8288	8160
45°	8271	8074	7877
50°	8041	7811	7594
55°	7737	7538	7308
60°	7433	7219	6989
65°	7162	6872	6657
70°	6762	6475	6188
75°	6182	5957	5704
80°	5577	5340	5291
85°	4895	4701	4520

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8271 cd/sqm



TEST NUMBER: P242428

CATALOG NUMBER: S123DRP-S560D830-X4F0-XX-UDD-F-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.2	3.6
10°-20°	209.5	10.2
20°-30°	309.4	15.1
30°-40°	361.4	17.6
40°-50°	363.3	17.7
50°-60°	319.2	15.6
60°-70°	237.7	11.6
70°-80°	135.3	6.6
80°-90°	38.5	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°	593.2	29.0
0°-40°	954.6	46.6
0°-60°	1637.0	79.9
0°-90°	2048.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2048.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	787	787	787	787	787	
5°	788	784	777	784	782	75
15°	750	747	738	744	740	211
25°	681	677	668	669	667	314
35°	589	585	576	572	568	368
45°	482	480	471	463	460	373
55°	366	366	357	349	346	328
65°	250	246	240	234	232	246
75°	132	129	127	124	122	141
85°	35	34	34	32	32	40
90°	0	0	0	0	0	

TEST NUMBER: P242428

CATALOG NUMBER: S123DRP-S560D830-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	787.1	787.1	787.1	787.1	787.1
2.5°	790.5	787.8	780.3	787.1	786.4
5°	787.8	784.4	776.9	783.7	782.3
7.5°	781.7	778.3	770.8	776.9	776.3
10°	773.5	770.2	761.4	767.5	766.1
12.5°	762.7	760.0	751.9	756.0	755.3
15°	749.9	747.2	738.4	743.8	739.7
17.5°	735.6	732.3	723.5	727.5	726.2
20°	719.4	715.3	706.5	709.3	707.2
22.5°	701.1	697.1	688.3	690.3	687.6
25°	680.8	676.8	668.0	668.6	666.6
27.5°	659.9	655.8	646.3	647.0	645.0
30°	636.8	633.5	624.0	624.0	619.2
32.5°	613.8	609.1	602.3	597.6	595.6
35°	588.8	584.7	575.9	571.9	568.5
37.5°	563.7	558.3	549.5	544.8	542.8
40°	537.4	533.3	523.8	518.4	515.7
42.5°	511.0	506.2	496.7	491.3	488.6
45°	482.5	479.8	471.0	462.9	459.5
47.5°	454.8	450.7	442.6	434.5	431.8
50°	426.4	423.0	414.2	406.7	402.7
52.5°	396.6	394.6	385.1	379.0	374.9
55°	366.1	365.5	356.7	349.2	345.8
57.5°	337.7	335.0	328.2	321.5	317.4
60°	306.6	305.9	297.8	291.7	288.3
62.5°	278.8	276.8	268.7	262.6	260.6
65°	249.7	246.3	239.6	234.2	232.1
67.5°	218.6	215.9	210.5	205.7	203.0
70°	190.8	186.8	182.7	178.0	174.6
72.5°	161.7	159.0	154.3	150.2	148.9
75°	132.0	129.3	127.2	123.8	121.8
77.5°	105.6	104.2	101.5	98.8	98.8
80°	79.9	77.8	76.5	75.8	75.8
82.5°	54.8	54.8	54.8	53.5	52.8
85°	35.2	33.8	33.8	32.5	32.5
87.5°	17.6	15.6	14.9	14.2	14.2
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242428
 CATALOG NUMBER: S123DRP-S560D830-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	19.19	20.81	19.56	21.13	21.44	18.88	20.50	19.25	20.81	21.13
	3H	20.96	22.43	21.34	22.75	23.11	20.60	22.06	20.97	22.38	22.74
	4H	21.62	23.00	22.02	23.35	23.72	21.23	22.61	21.63	22.96	23.33
	6H	22.11	23.39	22.52	23.75	24.14	21.72	23.00	22.13	23.36	23.75
	8H	22.26	23.48	22.69	23.87	24.27	21.88	23.10	22.30	23.49	23.89
	12H	22.37	23.54	22.80	23.92	24.35	21.98	23.15	22.41	23.53	23.96
4H	2H	19.77	21.15	20.17	21.50	21.87	19.52	20.90	19.92	21.25	21.62
	3H	21.77	22.92	22.18	23.32	23.72	21.46	22.61	21.87	23.01	23.41
	4H	22.55	23.59	22.98	24.01	24.44	22.22	23.27	22.65	23.68	24.11
	6H	23.17	24.08	23.62	24.52	24.98	22.83	23.75	23.29	24.19	24.64
	8H	23.37	24.22	23.83	24.67	25.13	23.04	23.89	23.50	24.34	24.80
	12H	23.52	24.29	24.00	24.76	25.23	23.19	23.96	23.67	24.43	24.90
8H	4H	22.84	23.69	23.30	24.13	24.60	22.54	23.40	23.00	23.84	24.31
	6H	23.57	24.28	24.07	24.77	25.25	23.28	23.99	23.77	24.48	24.95
	8H	23.85	24.48	24.36	24.99	25.48	23.56	24.20	24.07	24.70	25.19
	12H	24.07	24.64	24.58	25.13	25.69	23.78	24.35	24.29	24.84	25.40
12H	4H	22.86	23.63	23.34	24.11	24.58	22.58	23.35	23.06	23.82	24.29
	6H	23.62	24.26	24.13	24.77	25.25	23.34	23.98	23.85	24.48	24.97
	8H	23.96	24.52	24.46	25.01	25.57	23.68	24.24	24.19	24.73	25.29