

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: P242442

Luminaire Tested: S123DRP-S560D930-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242442
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-S560D930-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

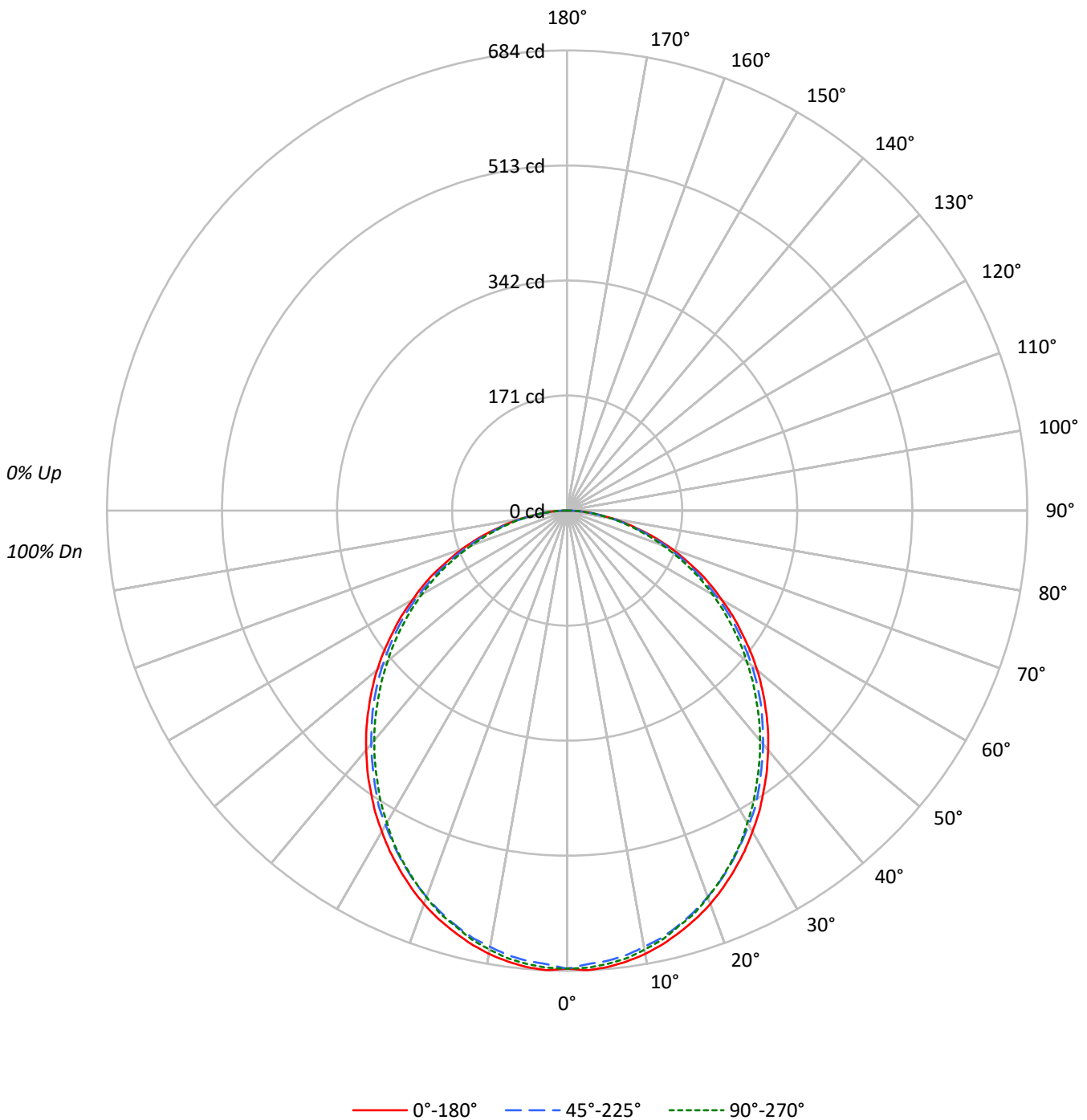
Lumens per Lamp: N/A
Luminaire Lumens: 1771.9 lumens
Efficiency: N/A
Efficacy: 94.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (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

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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									0
RW	70	50	30	10	70	50	30	10	50	30	10	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																												
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°	8252	8252	8252
5°	8291	8177	8234
10°	8235	8106	8157
15°	8139	8015	8029
20°	8027	7884	7890
25°	7876	7728	7712
30°	7711	7554	7496
35°	7536	7372	7276
40°	7355	7169	7059
45°	7155	6984	6814
50°	6955	6757	6568
55°	6693	6519	6321
60°	6429	6245	6046
65°	6195	5943	5759
70°	5851	5603	5351
75°	5348	5156	4936
80°	4823	4621	4579
85°	4228	4075	3908

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7155 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.2	3.6
10°-20°	181.2	10.2
20°-30°	267.7	15.1
30°-40°	312.6	17.6
40°-50°	314.3	17.7
50°-60°	276.1	15.6
60°-70°	205.6	11.6
70°-80°	117.0	6.6
80°-90°	33.3	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°	513.1	29.0
0°-40°	825.7	46.6
0°-60°	1416.0	79.9
0°-90°	1771.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1771.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	681	681	681	681	681	
5°	681	678	672	678	677	65
15°	649	646	639	643	640	183
25°	589	585	578	578	577	271
35°	509	506	498	495	492	319
45°	417	415	407	400	398	322
55°	317	316	308	302	299	284
65°	216	213	207	203	201	213
75°	114	112	110	107	105	122
85°	30	29	29	28	28	35
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	680.8	680.8	680.8	680.8	680.8
2.5°	683.8	681.4	675.0	680.8	680.2
5°	681.4	678.5	672.0	677.9	676.7
7.5°	676.1	673.2	666.8	672.0	671.5
10°	669.1	666.2	658.6	663.8	662.7
12.5°	659.8	657.4	650.4	653.9	653.3
15°	648.6	646.3	638.7	643.4	639.8
17.5°	636.3	633.4	625.8	629.3	628.1
20°	622.3	618.8	611.2	613.5	611.7
22.5°	606.5	603.0	595.4	597.1	594.8
25°	588.9	585.4	577.8	578.4	576.6
27.5°	570.8	567.3	559.1	559.6	557.9
30°	550.9	547.9	539.7	539.7	535.6
32.5°	531.0	526.9	521.0	516.9	515.2
35°	509.3	505.8	498.2	494.7	491.7
37.5°	487.6	483.0	475.3	471.3	469.5
40°	464.8	461.3	453.1	448.4	446.1
42.5°	442.0	437.9	429.7	425.0	422.7
45°	417.4	415.1	407.4	400.4	397.5
47.5°	393.4	389.9	382.9	375.8	373.5
50°	368.8	365.9	358.3	351.8	348.3
52.5°	343.0	341.3	333.1	327.8	324.3
55°	316.7	316.1	308.5	302.1	299.1
57.5°	292.1	289.8	283.9	278.1	274.6
60°	265.2	264.6	257.6	252.3	249.4
62.5°	241.2	239.4	232.4	227.1	225.4
65°	216.0	213.1	207.2	202.6	200.8
67.5°	189.1	186.7	182.1	178.0	175.6
70°	165.1	161.6	158.1	154.0	151.0
72.5°	139.9	137.6	133.5	130.0	128.8
75°	114.2	111.8	110.1	107.1	105.4
77.5°	91.3	90.2	87.8	85.5	85.5
80°	69.1	67.3	66.2	65.6	65.6
82.5°	47.4	47.4	47.4	46.2	45.7
85°	30.4	29.3	29.3	28.1	28.1
87.5°	15.2	13.5	12.9	12.3	12.3
90°	0.0	0.0	0.0	0.0	0.0



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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	18.69	20.31	19.06	20.62	20.94	18.38	19.99	18.74	20.31	20.62
	3H	20.46	21.92	20.84	22.25	22.61	20.09	21.55	20.47	21.88	22.24
	4H	21.12	22.50	21.52	22.84	23.22	20.73	22.11	21.13	22.45	22.83
	6H	21.61	22.88	22.02	23.25	23.64	21.22	22.49	21.63	22.86	23.25
	8H	21.76	22.98	22.18	23.37	23.77	21.38	22.59	21.80	22.98	23.38
	12H	21.87	23.03	22.30	23.42	23.84	21.48	22.65	21.91	23.03	23.46
4H	2H	19.27	20.65	19.67	20.99	21.37	19.02	20.40	19.42	20.74	21.12
	3H	21.26	22.42	21.67	22.81	23.21	20.96	22.11	21.37	22.51	22.91
	4H	22.05	23.09	22.48	23.50	23.94	21.72	22.76	22.15	23.18	23.61
	6H	22.67	23.58	23.12	24.02	24.47	22.33	23.24	22.79	23.68	24.14
	8H	22.87	23.72	23.33	24.16	24.63	22.54	23.39	23.00	23.83	24.30
	12H	23.02	23.79	23.50	24.26	24.73	22.69	23.46	23.17	23.93	24.40
8H	4H	22.33	23.19	22.79	23.63	24.09	22.04	22.89	22.50	23.34	23.80
	6H	23.07	23.78	23.56	24.27	24.74	22.78	23.49	23.27	23.97	24.45
	8H	23.34	23.98	23.85	24.49	24.97	23.06	23.69	23.57	24.20	24.69
	12H	23.57	24.13	24.08	24.62	25.19	23.28	23.84	23.79	24.33	24.90
12H	4H	22.36	23.13	22.84	23.60	24.07	22.08	22.84	22.56	23.32	23.79
	6H	23.12	23.76	23.63	24.26	24.75	22.84	23.48	23.35	23.98	24.47
	8H	23.45	24.02	23.96	24.51	25.07	23.18	23.74	23.68	24.23	24.79