

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: P243283

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243283
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H560D927-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

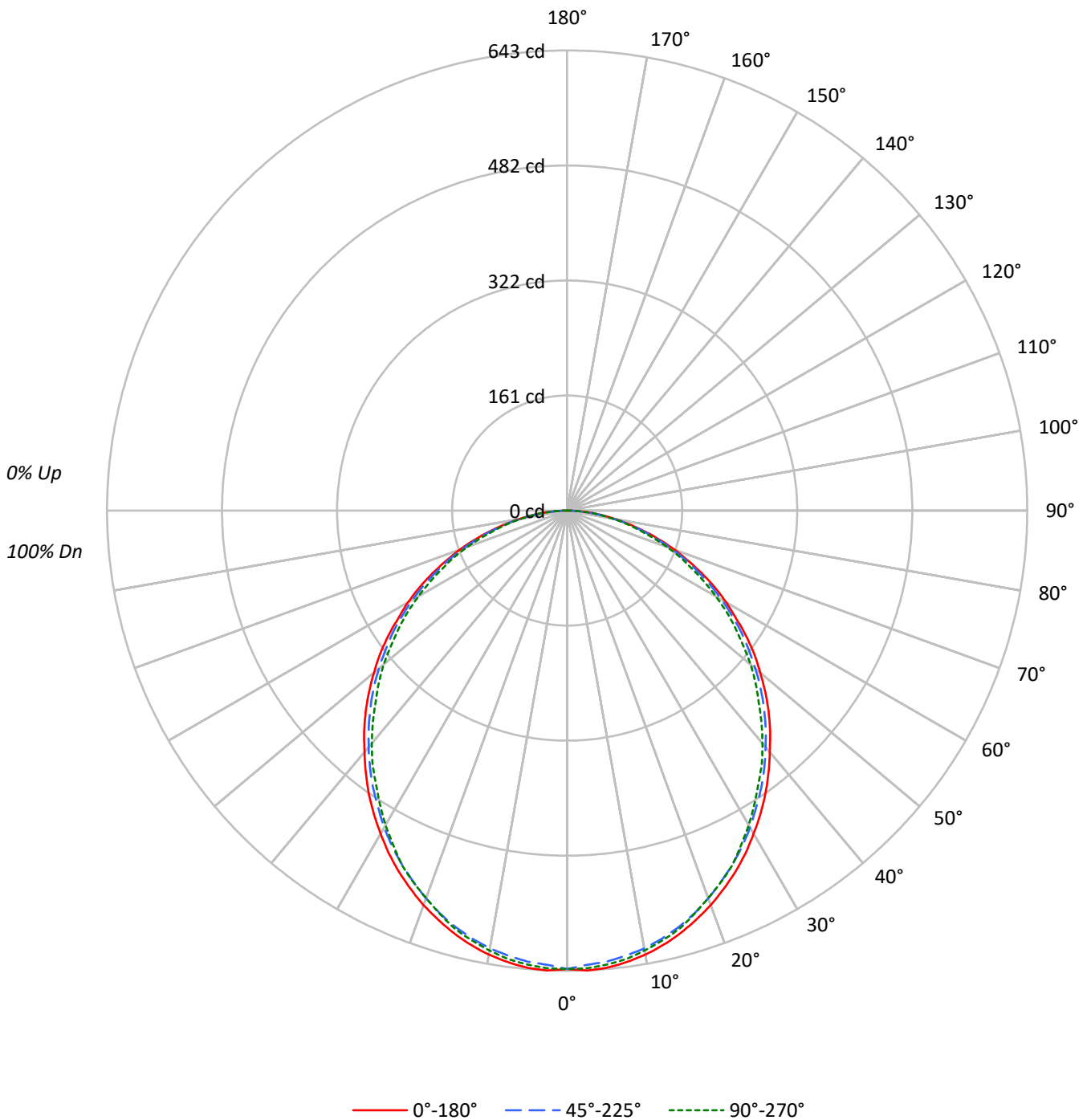
Lumens per Lamp: N/A
Luminaire Lumens: 1694.7 lumens
Efficiency: N/A
Efficacy: 98.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 17.2
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

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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	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	94	97	94	91	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7765	7765	7765
5°	7802	7698	7749
10°	7755	7645	7684
15°	7675	7562	7595
20°	7569	7439	7432
25°	7445	7304	7310
30°	7296	7155	7103
35°	7150	6995	6893
40°	6970	6828	6719
45°	6826	6663	6492
50°	6643	6474	6313
55°	6452	6283	6071
60°	6223	6056	5813
65°	5954	5771	5530
70°	5653	5465	5242
75°	5245	5095	4824
80°	4719	4607	4460
85°	4409	4186	4033

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6826 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.4	3.6
10°-20°	170.9	10.1
20°-30°	253.0	14.9
30°-40°	296.8	17.5
40°-50°	300.0	17.7
50°-60°	265.3	15.7
60°-70°	199.3	11.8
70°-80°	114.8	6.8
80°-90°	34.1	2.0
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°	484.4	28.6
0°-40°	781.2	46.1
0°-60°	1346.5	79.5
0°-90°	1694.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1694.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	641	641	641	641	641	
5°	641	638	633	638	637	61
15°	612	608	603	607	605	172
25°	557	552	546	549	547	256
35°	483	479	473	471	466	302
45°	398	395	389	383	379	307
55°	305	303	297	292	287	273
65°	208	206	201	196	193	206
75°	112	111	109	106	103	119
85°	32	31	30	30	29	36
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	640.6	640.6	640.6	640.6	640.6
2.5°	643.3	641.2	635.3	641.2	640.1
5°	641.2	638.5	632.7	638.0	636.9
7.5°	636.4	633.8	627.4	633.2	632.2
10°	630.1	627.4	621.1	625.8	624.3
12.5°	621.6	619.0	612.6	616.3	615.3
15°	611.6	608.4	602.6	606.8	605.2
17.5°	599.4	596.8	590.5	595.7	591.0
20°	586.8	584.1	576.7	581.5	576.2
22.5°	572.0	568.8	561.4	564.6	561.9
25°	556.7	552.4	546.1	548.7	546.6
27.5°	539.8	535.5	529.2	530.2	526.5
30°	521.3	517.6	511.2	512.3	507.5
32.5°	502.8	499.6	491.7	491.7	486.9
35°	483.2	479.0	472.7	471.1	465.8
37.5°	462.1	458.4	452.6	450.0	446.8
40°	440.5	438.4	431.5	428.3	424.6
42.5°	419.9	416.2	410.4	406.1	401.9
45°	398.2	395.0	388.7	383.4	378.7
47.5°	375.5	372.9	366.5	360.7	357.0
50°	352.3	350.2	343.3	336.9	334.8
52.5°	329.6	326.9	320.0	314.2	310.0
55°	305.3	303.1	297.3	291.5	287.3
57.5°	279.4	279.4	273.0	267.8	264.6
60°	256.7	254.0	249.8	244.0	239.8
62.5°	232.9	231.3	225.5	219.7	216.5
65°	207.6	206.0	201.2	195.9	192.8
67.5°	182.7	182.2	178.0	173.8	171.6
70°	159.5	158.4	154.2	150.0	147.9
72.5°	135.7	134.7	131.0	127.3	124.6
75°	112.0	110.9	108.8	105.6	103.0
77.5°	88.7	88.7	86.1	85.0	84.0
80°	67.6	67.1	66.0	65.0	63.9
82.5°	48.6	48.1	47.0	46.5	46.5
85°	31.7	31.2	30.1	29.6	29.0
87.5°	16.4	15.3	14.8	13.7	13.2
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	18.57	20.20	18.94	20.51	20.83	18.26	19.89	18.63	20.20	20.52
	3H	20.37	21.84	20.75	22.17	22.53	20.02	21.49	20.39	21.81	22.17
	4H	21.05	22.43	21.45	22.78	23.15	20.67	22.05	21.06	22.40	22.77
	6H	21.54	22.83	21.95	23.19	23.58	21.17	22.45	21.58	22.82	23.21
	8H	21.71	22.94	22.14	23.33	23.73	21.34	22.56	21.76	22.95	23.35
	12H	21.84	23.01	22.26	23.39	23.82	21.46	22.63	21.89	23.02	23.44
4H	2H	19.16	20.55	19.56	20.89	21.27	18.92	20.30	19.32	20.65	21.03
	3H	21.19	22.35	21.60	22.75	23.15	20.89	22.05	21.30	22.45	22.85
	4H	22.00	23.05	22.43	23.46	23.90	21.67	22.72	22.10	23.14	23.57
	6H	22.63	23.55	23.08	23.99	24.44	22.30	23.22	22.75	23.66	24.12
	8H	22.85	23.71	23.31	24.15	24.61	22.52	23.38	22.98	23.82	24.29
	12H	23.02	23.79	23.50	24.27	24.74	22.69	23.46	23.17	23.94	24.41
8H	4H	22.29	23.15	22.75	23.59	24.06	22.00	22.87	22.46	23.31	23.77
	6H	23.05	23.76	23.54	24.25	24.73	22.76	23.48	23.25	23.96	24.44
	8H	23.34	23.99	23.85	24.49	24.98	23.06	23.70	23.57	24.21	24.69
	12H	23.60	24.17	24.11	24.66	25.22	23.31	23.88	23.81	24.37	24.93
12H	4H	22.32	23.10	22.80	23.57	24.04	22.04	22.82	22.52	23.29	23.76
	6H	23.10	23.75	23.61	24.25	24.74	22.83	23.47	23.33	23.98	24.46
	8H	23.46	24.03	23.96	24.52	25.08	23.19	23.75	23.69	24.24	24.81