

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: P243302

Luminaire Tested: S123DRP-H560D930-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243302  
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-H560D930-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

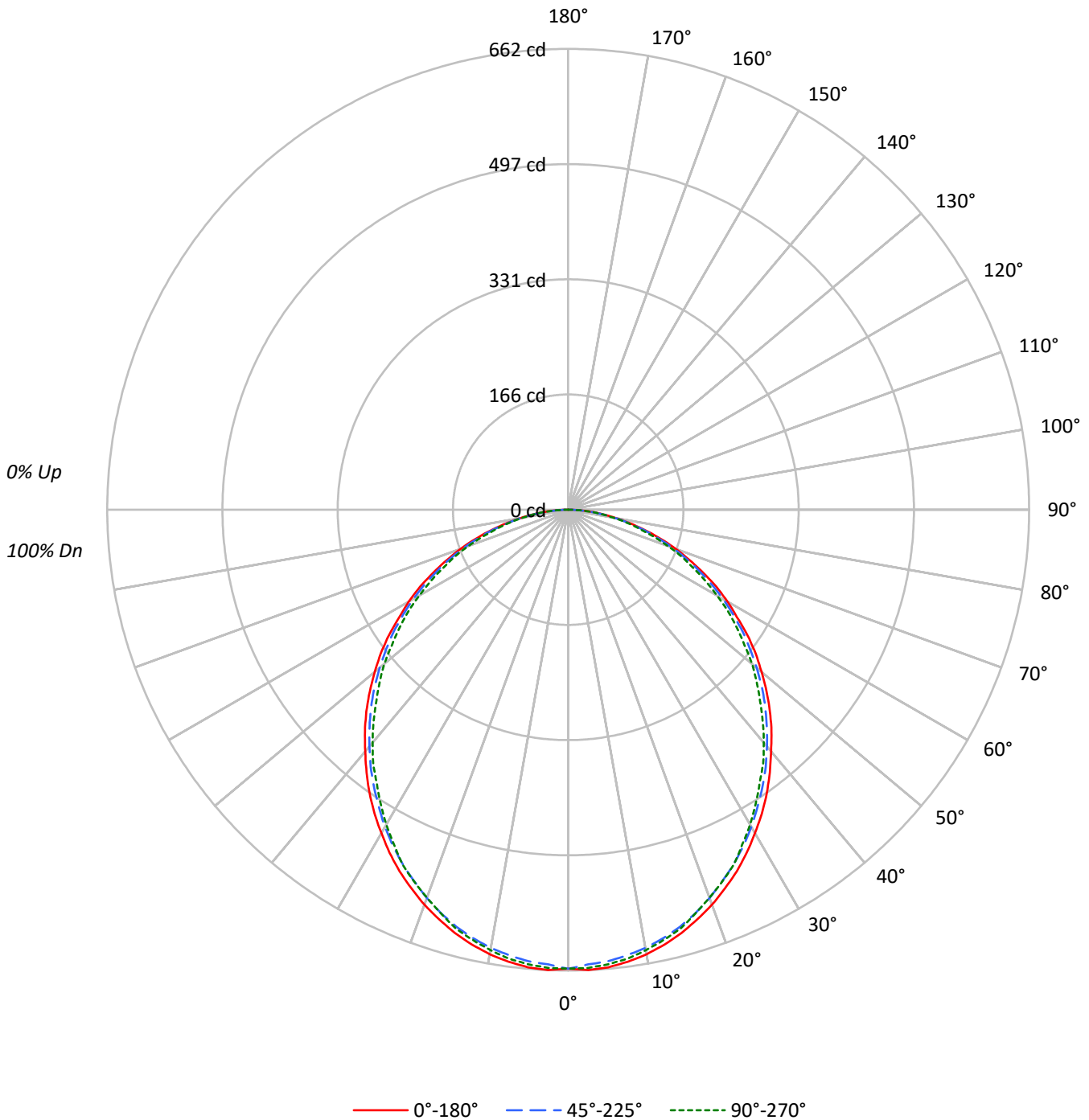
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1744.2 lumens  
Efficiency: N/A  
Efficacy: 101.4 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°	7992	7992	7992
5°	8029	7923	7976
10°	7981	7867	7908
15°	7898	7783	7817
20°	7790	7657	7649
25°	7662	7516	7524
30°	7509	7365	7310
35°	7359	7199	7094
40°	7173	7027	6915
45°	7025	6857	6680
50°	6836	6662	6498
55°	6640	6467	6249
60°	6405	6233	5983
65°	6126	5940	5690
70°	5819	5624	5394
75°	5395	5245	4964
80°	4858	4740	4593
85°	4534	4311	4158

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7025 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.2	3.6
10°-20°	175.9	10.1
20°-30°	260.4	14.9
30°-40°	305.4	17.5
40°-50°	308.8	17.7
50°-60°	273.1	15.7
60°-70°	205.1	11.8
70°-80°	118.2	6.8
80°-90°	35.1	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°	498.5	28.6
0°-40°	803.9	46.1
0°-60°	1385.8	79.5
0°-90°	1744.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1744.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	659	659	659	659	659	
5°	660	657	651	657	656	63
15°	629	626	620	624	623	177
25°	573	568	562	565	563	264
35°	497	493	486	485	479	311
45°	410	407	400	395	390	316
55°	314	312	306	300	296	280
65°	214	212	207	202	198	212
75°	115	114	112	109	106	122
85°	33	32	31	30	30	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	659.3	659.3	659.3	659.3	659.3
2.5°	662.0	659.9	653.9	659.9	658.8
5°	659.9	657.1	651.2	656.6	655.5
7.5°	655.0	652.3	645.7	651.7	650.6
10°	648.4	645.7	639.2	644.1	642.5
12.5°	639.8	637.0	630.5	634.3	633.2
15°	629.4	626.2	620.2	624.5	622.9
17.5°	616.9	614.2	607.7	613.1	608.2
20°	603.9	601.2	593.6	598.4	593.0
22.5°	588.7	585.4	577.8	581.0	578.3
25°	572.9	568.5	562.0	564.7	562.6
27.5°	555.5	551.2	544.6	545.7	541.9
30°	536.5	532.7	526.2	527.2	522.3
32.5°	517.5	514.2	506.0	506.0	501.1
35°	497.3	493.0	486.5	484.8	479.4
37.5°	475.6	471.8	465.8	463.1	459.8
40°	453.3	451.1	444.1	440.8	437.0
42.5°	432.1	428.3	422.3	418.0	413.6
45°	409.8	406.6	400.0	394.6	389.7
47.5°	386.5	383.7	377.2	371.2	367.4
50°	362.5	360.4	353.3	346.8	344.6
52.5°	339.2	336.5	329.4	323.4	319.1
55°	314.2	312.0	306.0	300.0	295.7
57.5°	287.5	287.5	281.0	275.6	272.3
60°	264.2	261.4	257.1	251.1	246.8
62.5°	239.7	238.1	232.1	226.1	222.9
65°	213.6	212.0	207.1	201.7	198.4
67.5°	188.1	187.5	183.2	178.8	176.7
70°	164.2	163.1	158.7	154.4	152.2
72.5°	139.7	138.6	134.8	131.0	128.3
75°	115.2	114.1	112.0	108.7	106.0
77.5°	91.3	91.3	88.6	87.5	86.4
80°	69.6	69.0	67.9	66.9	65.8
82.5°	50.0	49.5	48.4	47.8	47.8
85°	32.6	32.1	31.0	30.4	29.9
87.5°	16.8	15.8	15.2	14.1	13.6
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	18.67	20.30	19.04	20.61	20.92	18.36	19.99	18.73	20.30	20.62
	3H	20.47	21.94	20.85	22.27	22.63	20.12	21.59	20.49	21.91	22.27
	4H	21.15	22.53	21.54	22.88	23.25	20.77	22.15	21.16	22.50	22.87
	6H	21.64	22.93	22.05	23.29	23.68	21.27	22.55	21.68	22.92	23.31
	8H	21.81	23.04	22.24	23.43	23.82	21.44	22.66	21.86	23.05	23.45
	12H	21.93	23.11	22.36	23.49	23.92	21.56	22.73	21.99	23.12	23.54
4H	2H	19.26	20.65	19.66	20.99	21.37	19.02	20.40	19.42	20.75	21.13
	3H	21.29	22.45	21.70	22.85	23.25	20.99	22.15	21.40	22.55	22.95
	4H	22.10	23.15	22.53	23.56	24.00	21.77	22.82	22.20	23.24	23.67
	6H	22.73	23.65	23.18	24.09	24.54	22.40	23.32	22.86	23.76	24.22
	8H	22.95	23.81	23.41	24.25	24.71	22.62	23.48	23.08	23.92	24.39
	12H	23.12	23.89	23.60	24.37	24.84	22.79	23.56	23.27	24.04	24.51
8H	4H	22.39	23.25	22.85	23.69	24.16	22.10	22.97	22.57	23.41	23.87
	6H	23.15	23.86	23.64	24.35	24.83	22.86	23.58	23.35	24.06	24.54
	8H	23.44	24.09	23.95	24.59	25.08	23.16	23.80	23.67	24.31	24.79
	12H	23.70	24.27	24.21	24.76	25.32	23.41	23.98	23.91	24.47	25.03
12H	4H	22.42	23.20	22.90	23.67	24.14	22.14	22.92	22.62	23.39	23.86
	6H	23.20	23.85	23.71	24.35	24.84	22.93	23.57	23.43	24.08	24.56
	8H	23.56	24.13	24.06	24.62	25.18	23.29	23.85	23.79	24.34	24.90