

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: P242512

Luminaire Tested: S123DRP-S775D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242512  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-S775D930-X4F0-XX-UDD-D-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

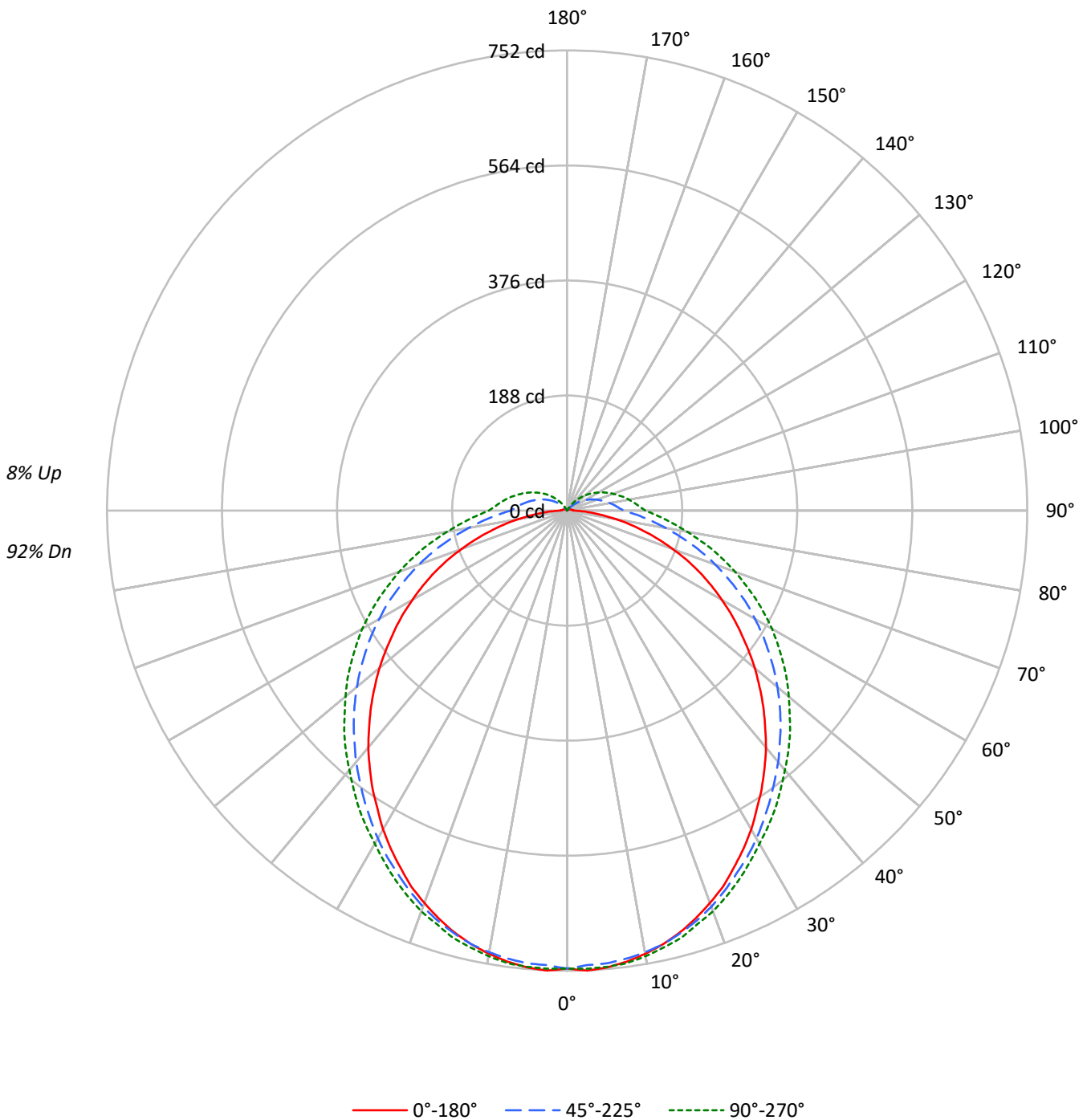
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2515.4 lumens  
Efficiency: N/A  
Efficacy: 95.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')  
CIE Type: Direct  
  
Input Watts (W): 26.4  
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	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	94	92																											
1	105	100	95	90	102	97	92	88	91	87	84	85	82	80	80	78	76	73	73																											
2	95	86	79	72	92	83	77	71	79	73	68	74	69	65	70	66	63	60	60																											
3	86	75	67	60	83	73	65	59	69	62	56	65	59	54	61	56	52	50	50																											
4	79	66	57	50	76	64	56	49	61	54	48	57	51	46	54	49	45	42	42																											
5	72	59	50	43	70	58	49	42	54	47	41	52	45	40	49	43	39	36	36																											
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	38	34	32	32																											
7	62	48	39	33	60	47	38	32	45	37	32	42	36	31	40	35	30	28	28																											
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25	25																											
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22	22																											
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	32	26	22	20	20																											

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9072	9072	9072
5°	9100	8827	8825
10°	9017	8609	8554
15°	8901	8362	8260
20°	8734	8085	7941
25°	8529	7770	7608
30°	8318	7484	7272
35°	8082	7183	7000
40°	7857	6910	6712
45°	7607	6646	6478
50°	7360	6384	6222
55°	7088	6115	5988
60°	6822	5843	5749
65°	6550	5552	5466
70°	6137	5222	5175
75°	5619	4847	4876
80°	5021	4474	4534
85°	4454	4190	4310

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7607 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.0	2.8
10°-20°	202.4	8.0
20°-30°	302.7	12.0
30°-40°	361.4	14.4
40°-50°	378.1	15.0
50°-60°	354.8	14.1
60°-70°	296.4	11.8
70°-80°	211.9	8.4
80°-90°	126.1	5.0
90°-100°	79.2	3.1
100°-110°	58.2	2.3
110°-120°	38.9	1.5
120°-130°	22.2	0.9
130°-140°	9.9	0.4
140°-150°	2.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	576.1	22.9
0°-40°	937.4	37.3
0°-60°	1670.4	66.4
0°-90°	2304.8	91.6
90°-120°	176.4	7.0
90°-150°	210.6	8.4
90°-180°	211.0	8.4
0°-180°	2515.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	748	748	748	748	748	
5°	749	748	743	749	748	71
15°	713	716	715	723	722	201
25°	644	652	655	665	665	297
35°	554	567	578	590	594	347
45°	453	473	493	509	515	350
55°	346	373	402	424	430	309
65°	239	271	307	331	339	236
75°	130	168	209	236	245	138
85°	40	81	124	152	160	41
90°	11	50	92	120	128	8
95°	9	41	81	106	114	7
105°	6	26	61	84	91	7
115°	4	14	43	63	69	4
125°	2	2	26	43	49	2
135°	2	1	10	24	28	1
145°	1	0	0	6	10	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	748.4	748.4	748.4	748.4	748.4
2.5°	752.5	750.1	743.6	750.1	749.3
5°	749.3	747.6	742.7	749.3	748.4
7.5°	743.6	743.6	738.7	746.8	746.0
10°	735.4	737.0	733.0	741.1	739.5
12.5°	725.6	728.1	725.6	733.0	731.3
15°	713.4	715.8	715.0	723.2	722.4
17.5°	698.7	703.6	702.8	710.1	708.5
20°	682.4	687.3	688.9	696.3	697.1
22.5°	665.3	670.2	672.6	682.4	681.6
25°	644.1	652.2	654.7	665.3	665.3
27.5°	623.7	632.7	637.6	646.5	647.3
30°	601.7	612.3	618.8	628.6	628.6
32.5°	577.2	589.5	598.4	609.0	611.5
35°	554.4	567.4	578.0	590.3	593.5
37.5°	529.9	544.6	556.8	570.7	573.2
40°	505.5	520.2	536.5	550.3	553.6
42.5°	478.6	497.3	514.5	529.9	534.8
45°	453.3	472.9	493.3	508.7	515.3
47.5°	426.4	448.4	471.2	488.4	493.3
50°	400.3	423.1	448.4	467.2	472.9
52.5°	372.6	397.1	425.6	445.2	452.5
55°	345.7	372.6	401.9	424.0	430.5
57.5°	319.6	347.3	379.1	401.1	408.5
60°	291.9	321.2	354.7	377.5	386.5
62.5°	265.8	296.0	331.8	354.7	362.8
65°	238.9	270.7	306.6	331.0	339.2
67.5°	212.0	245.4	281.3	308.2	314.7
70°	183.4	218.5	257.6	283.7	291.9
72.5°	157.4	192.4	233.2	260.1	268.2
75°	129.6	168.0	208.7	235.6	245.4
77.5°	106.0	144.3	185.1	213.6	220.9
80°	80.7	120.7	163.1	190.8	198.9
82.5°	58.7	99.5	142.7	170.4	178.6
85°	39.9	80.7	123.9	151.6	159.8
87.5°	24.5	65.2	106.8	134.5	142.7
90°	10.6	50.5	92.1	119.8	128.0
92.5°	9.8	44.8	85.6	112.5	119.8
95°	9.0	40.8	80.7	106.0	114.1
97.5°	8.2	37.5	75.8	100.3	108.4
100°	7.3	33.4	70.9	94.6	102.7
102.5°	6.5	29.4	66.0	88.9	97.0
105°	6.5	26.1	61.1	84.0	91.3
107.5°	5.7	22.8	56.3	78.3	85.6
110°	4.9	19.6	52.2	73.4	79.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	4.9	16.3	47.3	67.7	75.0
115°	4.1	13.9	43.2	62.8	69.3
117.5°	4.1	10.6	38.3	57.9	64.4
120°	3.3	7.3	34.2	53.0	58.7
122.5°	3.3	4.9	30.2	48.1	53.8
125°	2.4	2.4	26.1	43.2	48.9
127.5°	2.4	1.6	22.0	38.3	44.0
130°	2.4	1.6	17.9	33.4	38.3
132.5°	1.6	1.6	13.9	28.5	34.2
135°	1.6	0.8	9.8	24.5	28.5
137.5°	1.6	0.8	6.5	19.6	23.6
140°	0.8	0.8	3.3	15.5	19.6
142.5°	0.8	0.0	0.0	10.6	14.7
145°	0.8	0.0	0.0	6.5	9.8
147.5°	0.0	0.0	0.0	2.4	5.7
150°	0.0	0.0	0.0	0.0	1.6
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	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	16.71	18.22	17.20	18.70	19.22	18.71	20.22	19.20	20.70	21.21
	3H	18.27	19.64	18.77	20.13	20.69	21.09	22.46	21.59	22.95	23.51
	4H	18.79	20.09	19.31	20.60	21.17	22.20	23.50	22.72	24.01	24.58
	6H	19.14	20.35	19.67	20.87	21.45	23.31	24.52	23.84	25.04	25.63
	8H	19.22	20.38	19.77	20.93	21.52	23.86	25.02	24.41	25.57	26.16
	12H	19.27	20.38	19.83	20.92	21.54	24.47	25.58	25.02	26.12	26.74
4H	2H	17.62	18.92	18.14	19.43	20.00	19.17	20.47	19.69	20.98	21.55
	3H	19.42	20.53	19.96	21.08	21.67	21.76	22.87	22.30	23.42	24.01
	4H	20.09	21.10	20.64	21.66	22.28	23.03	24.04	23.59	24.60	25.23
	6H	20.56	21.45	21.14	22.04	22.68	24.31	25.21	24.89	25.79	26.43
	8H	20.70	21.54	21.28	22.12	22.77	24.96	25.81	25.55	26.39	27.04
	12H	20.78	21.55	21.39	22.16	22.81	25.68	26.44	26.28	27.06	27.71
8H	4H	20.72	21.56	21.30	22.15	22.80	23.26	24.10	23.84	24.68	25.33
	6H	21.38	22.09	21.99	22.72	23.37	24.70	25.41	25.31	26.03	26.69
	8H	21.61	22.25	22.23	22.89	23.56	25.47	26.12	26.10	26.75	27.42
	12H	21.78	22.35	22.41	22.98	23.71	26.36	26.93	26.98	27.55	28.29
12H	4H	20.88	21.64	21.48	22.25	22.91	23.27	24.03	23.87	24.64	25.30
	6H	21.62	22.26	22.24	22.90	23.57	24.74	25.38	25.36	26.02	26.68
	8H	21.94	22.51	22.57	23.14	23.87	25.58	26.15	26.21	26.78	27.51