

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: P243182

Luminaire Tested: S122DRP-H865D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243182  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-53)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-H865D927-X4F0-XX-UDD-D-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

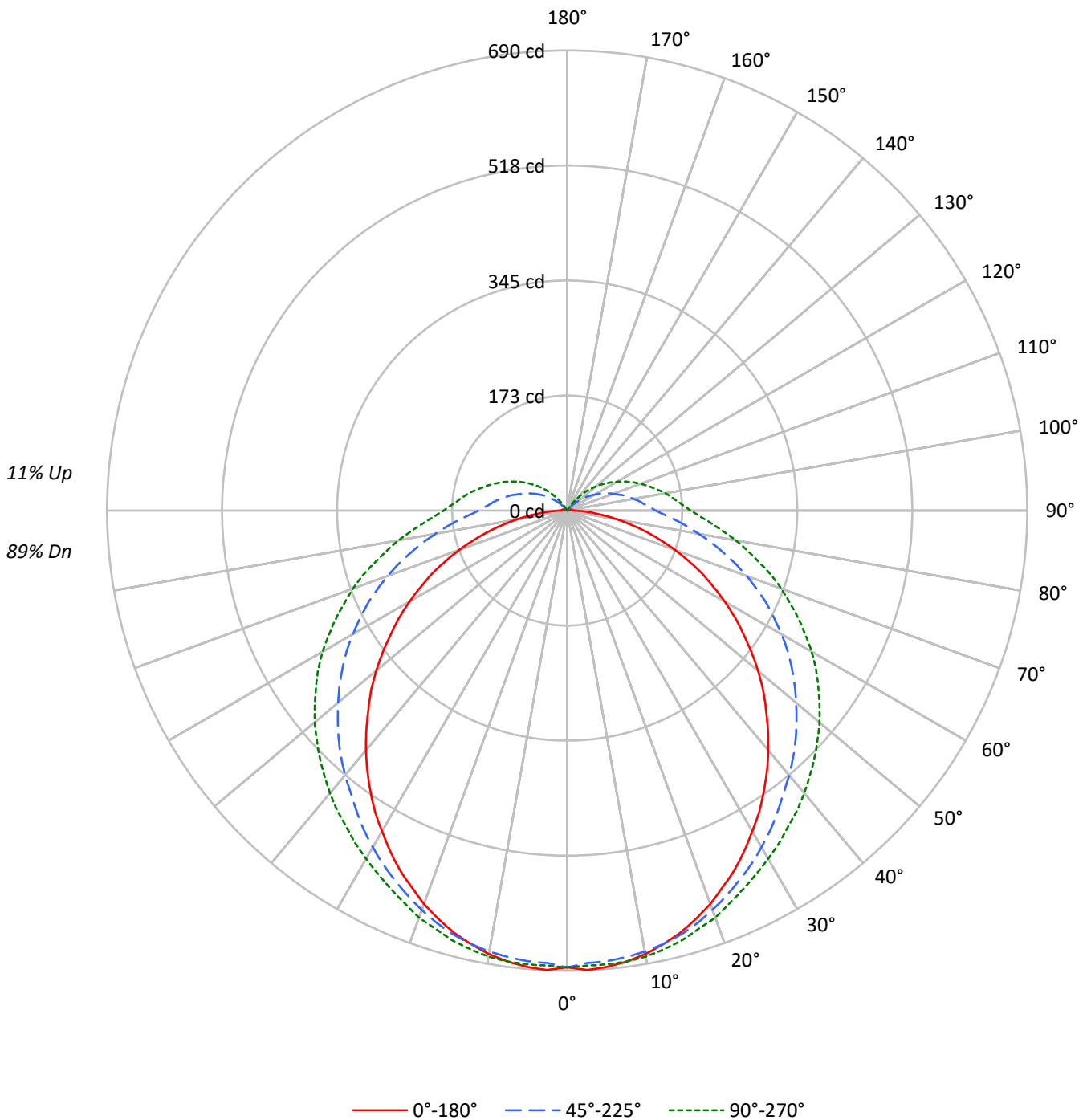
Lumens per Lamp: N/A  
Luminaire Lumens: 2628.1 lumens  
Efficiency: N/A  
Efficacy: 83.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')  
CIE Type: Semi-Direct

Input Watts (W): 31.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	104	98	93	88	100	95	90	86	88	84	81	82	79	76	77	74	72	69
2	93	84	77	70	90	81	74	68	76	70	65	71	66	62	66	62	59	56
3	85	73	64	57	81	71	63	56	66	59	54	62	56	51	58	53	49	46
4	77	64	55	48	74	62	54	47	58	51	45	55	48	43	51	46	41	39
5	71	57	48	41	68	55	47	40	52	44	39	49	42	37	46	40	36	33
6	65	51	42	35	63	50	41	35	47	39	34	44	37	32	41	36	31	29
7	60	46	37	31	58	45	37	30	42	35	29	40	33	28	38	32	28	25
8	56	42	33	27	54	41	33	27	39	31	26	37	30	25	35	29	25	22
9	52	39	30	25	50	38	30	24	36	28	24	34	27	23	32	26	22	20
10	49	36	28	22	47	35	27	22	33	26	21	31	25	21	30	24	20	18

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

	0°	45°	90°
0°	13046	13046	13046
5°	13107	12509	12438
10°	13012	12094	11934
15°	12848	11669	11403
20°	12623	11206	10900
25°	12366	10748	10384
30°	12062	10320	9969
35°	11777	9894	9599
40°	11462	9526	9297
45°	11118	9198	8993
50°	10803	8858	8710
55°	10387	8539	8408
60°	10019	8190	8108
65°	9616	7832	7747
70°	9029	7407	7400
75°	8380	6953	6992
80°	7460	6505	6637
85°	6526	6154	6283

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11118 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.0	2.5
10°-20°	186.4	7.1
20°-30°	282.4	10.7
30°-40°	344.4	13.1
40°-50°	370.7	14.1
50°-60°	360.4	13.7
60°-70°	315.1	12.0
70°-80°	242.5	9.2
80°-90°	163.0	6.2
90°-100°	112.8	4.3
100°-110°	83.0	3.2
110°-120°	55.2	2.1
120°-130°	31.3	1.2
130°-140°	13.4	0.5
140°-150°	2.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	533.8	20.3
0°-40°	878.2	33.4
0°-60°	1609.3	61.2
0°-90°	2329.9	88.7
90°-120°	251.0	9.5
90°-150°	298.1	11.3
90°-180°	298.0	11.3
0°-180°	2628.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	685	685	685	685	685	
5°	687	684	678	684	683	65
15°	655	658	658	667	667	185
25°	594	604	611	625	626	273
35°	514	531	550	571	578	322
45°	422	447	485	514	525	326
55°	322	361	411	448	460	289
65°	223	271	330	370	382	220
75°	123	179	242	285	298	130
85°	37	98	163	204	216	38
90°	10	69	133	173	185	7
95°	8	55	115	154	165	6
105°	6	34	88	122	133	6
115°	4	16	61	92	102	4
125°	3	2	36	62	72	2
135°	1	1	12	33	42	1
145°	1	0	0	8	11	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°	684.9	684.9	684.9	684.9	684.9
2.5°	689.6	686.8	679.2	684.9	683.0
5°	686.8	683.9	678.2	683.9	683.0
7.5°	682.0	680.1	675.3	683.0	682.0
10°	675.3	674.4	671.5	679.2	679.2
12.5°	665.8	666.8	665.8	674.4	673.4
15°	655.3	658.2	658.2	666.8	666.8
17.5°	642.0	646.7	648.6	658.2	657.2
20°	627.6	633.4	637.2	647.7	649.6
22.5°	610.5	619.1	624.8	636.2	637.2
25°	594.3	603.8	611.4	624.8	625.7
27.5°	575.2	586.6	598.1	611.4	614.3
30°	555.2	569.5	582.8	599.0	602.8
32.5°	536.1	550.4	567.6	584.7	591.4
35°	514.1	531.3	550.4	571.4	578.0
37.5°	492.2	510.3	533.2	558.0	566.6
40°	469.3	490.3	517.9	544.7	553.2
42.5°	445.5	468.3	501.7	529.4	538.9
45°	421.6	447.4	484.6	514.1	524.6
47.5°	398.7	426.4	466.4	499.8	509.4
50°	373.9	404.4	448.3	482.7	494.1
52.5°	348.2	382.5	430.2	465.5	476.9
55°	322.4	360.6	411.1	448.3	459.8
57.5°	298.6	338.6	392.0	429.2	442.6
60°	272.8	315.7	371.1	410.2	423.5
62.5°	247.1	293.8	350.1	390.1	402.5
65°	223.2	270.9	330.0	370.1	382.5
67.5°	196.5	247.1	308.1	350.1	361.5
70°	171.7	225.1	286.2	328.1	341.5
72.5°	146.9	201.3	264.2	306.2	320.5
75°	123.0	179.3	242.3	285.2	297.6
77.5°	98.2	157.4	221.3	264.2	276.6
80°	76.3	135.4	200.3	243.2	256.6
82.5°	54.4	115.4	181.2	223.2	235.6
85°	37.2	98.2	163.1	204.1	216.5
87.5°	21.9	82.0	145.9	187.0	199.4
90°	10.5	68.7	132.6	172.6	185.1
92.5°	8.6	62.0	123.0	162.2	174.6
95°	7.6	55.3	115.4	153.6	165.0
97.5°	7.6	50.6	108.7	145.9	157.4
100°	6.7	44.8	101.1	137.4	149.8
102.5°	6.7	39.1	94.4	129.7	141.2
105°	5.7	34.3	87.8	122.1	132.6
107.5°	4.8	29.6	80.1	114.5	125.0
110°	4.8	24.8	73.4	106.8	117.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	3.8	21.0	67.7	99.2	109.7
115°	3.8	16.2	61.0	91.6	102.1
117.5°	3.8	11.4	54.4	83.9	94.4
120°	2.9	7.6	48.6	77.3	86.8
122.5°	2.9	4.8	42.0	69.6	79.2
125°	2.9	1.9	36.2	62.0	71.5
127.5°	1.9	1.9	29.6	55.3	63.9
130°	1.9	1.0	23.8	47.7	56.3
132.5°	1.9	1.0	18.1	41.0	48.6
135°	1.0	1.0	12.4	33.4	42.0
137.5°	1.0	1.0	6.7	26.7	33.4
140°	1.0	0.0	2.9	20.0	25.8
142.5°	1.0	0.0	0.0	13.4	19.1
145°	1.0	0.0	0.0	7.6	11.4
147.5°	0.0	0.0	0.0	1.9	5.7
150°	0.0	0.0	0.0	0.0	1.0
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	17.14	18.62	17.67	19.15	19.73	20.20	21.68	20.73	22.21	22.80
	3H	18.64	19.99	19.18	20.53	21.15	22.84	24.19	23.38	24.73	25.35
	4H	19.15	20.43	19.71	20.98	21.62	24.12	25.40	24.68	25.95	26.59
	6H	19.46	20.66	20.04	21.23	21.88	25.44	26.64	26.02	27.21	27.86
	8H	19.54	20.69	20.12	21.28	21.93	26.13	27.28	26.71	27.87	28.52
	12H	19.58	20.68	20.17	21.26	21.95	26.88	27.98	27.47	28.57	29.25
4H	2H	18.26	19.54	18.82	20.10	20.73	20.60	21.88	21.16	22.44	23.07
	3H	20.02	21.12	20.59	21.71	22.37	23.44	24.54	24.02	25.14	25.79
	4H	20.67	21.68	21.26	22.28	22.97	24.88	25.89	25.48	26.50	27.18
	6H	21.12	22.01	21.73	22.64	23.34	26.39	27.28	27.00	27.91	28.61
	8H	21.25	22.09	21.86	22.72	23.43	27.17	28.01	27.79	28.64	29.35
	12H	21.32	22.09	21.96	22.74	23.46	28.04	28.80	28.68	29.46	30.17
8H	4H	21.51	22.35	22.12	22.98	23.69	25.08	25.92	25.69	26.55	27.26
	6H	22.17	22.89	22.82	23.55	24.27	26.74	27.45	27.39	28.12	28.84
	8H	22.40	23.05	23.06	23.73	24.45	27.65	28.29	28.31	28.97	29.70
	12H	22.57	23.15	23.23	23.81	24.60	28.68	29.26	29.34	29.92	30.71
12H	4H	21.74	22.50	22.38	23.16	23.87	25.08	25.85	25.72	26.50	27.22
	6H	22.51	23.16	23.17	23.84	24.57	26.77	27.42	27.43	28.10	28.82
	8H	22.85	23.43	23.52	24.10	24.89	27.74	28.32	28.40	28.99	29.78