

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: P243191

Luminaire Tested: S122DRP-H865D835-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243191
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-H865D835-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

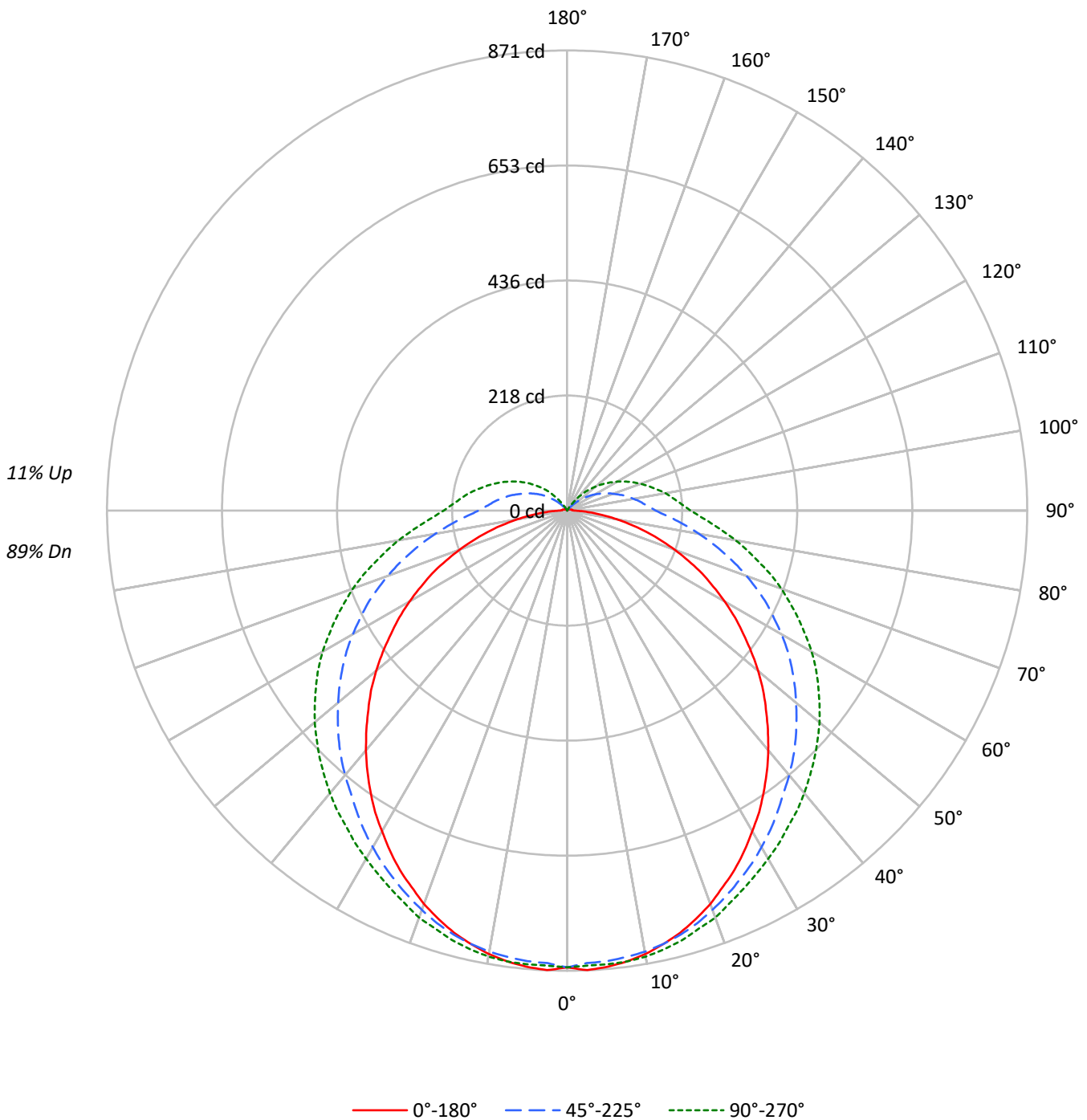
Lumens per Lamp: N/A
Luminaire Lumens: 3317.5 lumens
Efficiency: N/A
Efficacy: 105.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (A_{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	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°	16467	16467	16467
5°	16546	15790	15699
10°	16426	15267	15064
15°	16219	14729	14394
20°	15935	14145	13760
25°	15610	13568	13108
30°	15225	13028	12586
35°	14867	12490	12119
40°	14469	12026	11738
45°	14034	11610	11353
50°	13637	11182	10995
55°	13113	10780	10613
60°	12649	10337	10236
65°	12141	9887	9778
70°	11395	9348	9342
75°	10580	8775	8827
80°	9415	8213	8378
85°	8245	7769	7931

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14034 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.0	2.5
10°-20°	235.4	7.1
20°-30°	356.5	10.7
30°-40°	434.8	13.1
40°-50°	467.9	14.1
50°-60°	454.9	13.7
60°-70°	397.7	12.0
70°-80°	306.2	9.2
80°-90°	205.7	6.2
90°-100°	142.4	4.3
100°-110°	104.7	3.2
110°-120°	69.7	2.1
120°-130°	39.4	1.2
130°-140°	17.0	0.5
140°-150°	3.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	673.8	20.3
0°-40°	1108.6	33.4
0°-60°	2031.5	61.2
0°-90°	2941.1	88.7
90°-120°	316.8	9.5
90°-150°	376.3	11.3
90°-180°	376.0	11.3
0°-180°	3317.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	864	864	864	864	864	
5°	867	863	856	863	862	82
15°	827	831	831	842	842	233
25°	750	762	772	789	790	345
35°	649	671	695	721	730	406
45°	532	565	612	649	662	411
55°	407	455	519	566	580	365
65°	282	342	417	467	483	278
75°	155	226	306	360	376	164
85°	47	124	206	258	273	48
90°	13	87	167	218	234	9
95°	10	70	146	194	208	8
105°	7	43	111	154	167	8
115°	5	20	77	116	129	5
125°	4	2	46	78	90	3
135°	1	1	16	42	53	1
145°	1	0	0	10	14	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°	864.5	864.5	864.5	864.5	864.5
2.5°	870.6	867.0	857.3	864.5	862.1
5°	867.0	863.3	856.1	863.3	862.1
7.5°	860.9	858.5	852.5	862.1	860.9
10°	852.5	851.3	847.7	857.3	857.3
12.5°	840.5	841.7	840.5	851.3	850.1
15°	827.2	830.8	830.8	841.7	841.7
17.5°	810.4	816.4	818.8	830.8	829.6
20°	792.3	799.5	804.3	817.6	820.0
22.5°	770.6	781.5	788.7	803.1	804.3
25°	750.2	762.2	771.8	788.7	789.9
27.5°	726.1	740.5	755.0	771.8	775.4
30°	700.8	718.8	735.7	756.2	761.0
32.5°	676.7	694.8	716.4	738.1	746.5
35°	649.0	670.7	694.8	721.3	729.7
37.5°	621.3	644.2	673.1	704.4	715.2
40°	592.4	618.9	653.8	687.5	698.4
42.5°	562.3	591.2	633.4	668.3	680.3
45°	532.2	564.7	611.7	649.0	662.3
47.5°	503.3	538.2	588.8	630.9	643.0
50°	472.0	510.5	565.9	609.3	623.7
52.5°	439.5	482.8	543.0	587.6	602.1
55°	407.0	455.2	519.0	565.9	580.4
57.5°	376.9	427.5	494.9	541.8	558.7
60°	344.4	398.6	468.4	517.8	534.6
62.5°	311.9	370.9	441.9	492.5	508.1
65°	281.8	342.0	416.6	467.2	482.8
67.5°	248.0	311.9	388.9	441.9	456.4
70°	216.7	284.2	361.2	414.2	431.1
72.5°	185.4	254.1	333.5	386.5	404.6
75°	155.3	226.4	305.8	360.0	375.7
77.5°	124.0	198.7	279.4	333.5	349.2
80°	96.3	171.0	252.9	307.0	323.9
82.5°	68.6	145.7	228.8	281.8	297.4
85°	47.0	124.0	205.9	257.7	273.3
87.5°	27.7	103.6	184.2	236.0	251.7
90°	13.2	86.7	167.4	217.9	233.6
92.5°	10.8	78.3	155.3	204.7	220.4
95°	9.6	69.8	145.7	193.9	208.3
97.5°	9.6	63.8	137.3	184.2	198.7
100°	8.4	56.6	127.6	173.4	189.0
102.5°	8.4	49.4	119.2	163.8	178.2
105°	7.2	43.3	110.8	154.1	167.4
107.5°	6.0	37.3	101.1	144.5	157.7
110°	6.0	31.3	92.7	134.9	148.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.8	26.5	85.5	125.2	138.5
115°	4.8	20.5	77.1	115.6	128.8
117.5°	4.8	14.4	68.6	106.0	119.2
120°	3.6	9.6	61.4	97.5	109.6
122.5°	3.6	6.0	53.0	87.9	99.9
125°	3.6	2.4	45.8	78.3	90.3
127.5°	2.4	2.4	37.3	69.8	80.7
130°	2.4	1.2	30.1	60.2	71.0
132.5°	2.4	1.2	22.9	51.8	61.4
135°	1.2	1.2	15.7	42.1	53.0
137.5°	1.2	1.2	8.4	33.7	42.1
140°	1.2	0.0	3.6	25.3	32.5
142.5°	1.2	0.0	0.0	16.9	24.1
145°	1.2	0.0	0.0	9.6	14.4
147.5°	0.0	0.0	0.0	2.4	7.2
150°	0.0	0.0	0.0	0.0	1.2
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	17.95	19.43	18.48	19.96	20.54	21.01	22.49	21.54	23.02	23.60
	3H	19.45	20.80	19.99	21.34	21.96	23.65	25.00	24.19	25.54	26.16
	4H	19.95	21.24	20.52	21.79	22.43	24.93	26.21	25.49	26.76	27.40
	6H	20.27	21.47	20.85	22.04	22.69	26.25	27.45	26.83	28.02	28.67
	8H	20.35	21.50	20.93	22.09	22.74	26.94	28.08	27.52	28.68	29.33
	12H	20.39	21.49	20.98	22.07	22.76	27.69	28.79	28.28	29.38	30.06
4H	2H	19.07	20.35	19.63	20.91	21.54	21.41	22.69	21.97	23.25	23.88
	3H	20.83	21.93	21.40	22.52	23.18	24.25	25.35	24.83	25.95	26.60
	4H	21.48	22.49	22.07	23.09	23.78	25.69	26.70	26.28	27.30	27.99
	6H	21.93	22.82	22.54	23.45	24.15	27.20	28.09	27.81	28.72	29.42
	8H	22.06	22.90	22.67	23.53	24.24	27.98	28.82	28.60	29.45	30.16
	12H	22.13	22.90	22.77	23.55	24.27	28.85	29.61	29.49	30.27	30.98
8H	4H	22.32	23.16	22.93	23.79	24.50	25.89	26.73	26.50	27.36	28.07
	6H	22.98	23.70	23.63	24.36	25.08	27.55	28.26	28.20	28.93	29.65
	8H	23.21	23.86	23.87	24.54	25.26	28.46	29.10	29.12	29.78	30.51
	12H	23.38	23.96	24.04	24.62	25.41	29.49	30.07	30.15	30.73	31.52
12H	4H	22.55	23.31	23.19	23.97	24.68	25.89	26.66	26.53	27.31	28.03
	6H	23.32	23.97	23.98	24.65	25.38	27.58	28.23	28.24	28.90	29.63
	8H	23.66	24.24	24.33	24.91	25.70	28.55	29.13	29.21	29.80	30.59