

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: P243189

Luminaire Tested: S122DRP-H290D835-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243189
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-H290D835-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

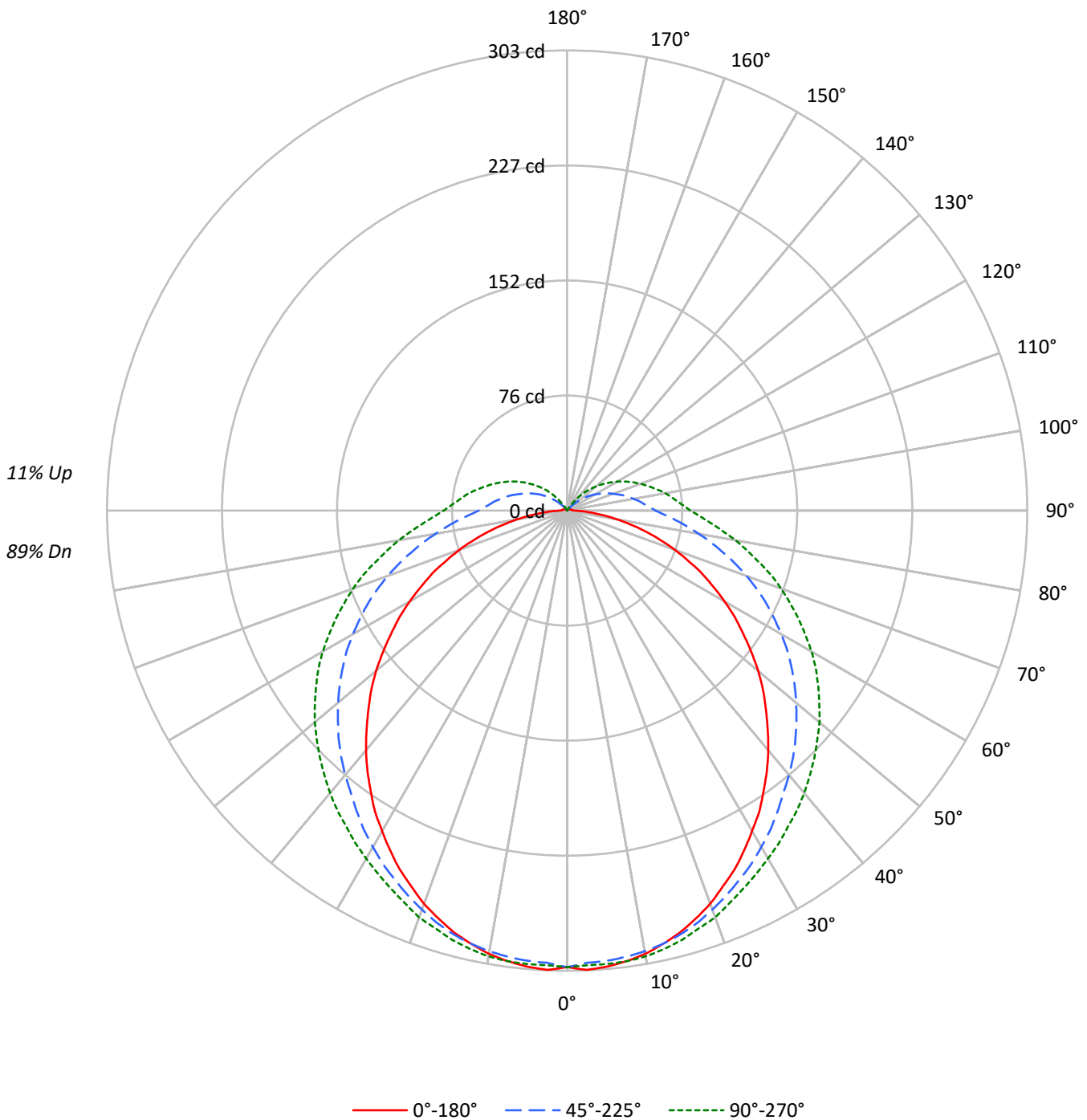
Lumens per Lamp: N/A
Luminaire Lumens: 1153.4 lumens
Efficiency: N/A
Efficacy: 103.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 11.2
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°	5726	5726	5726
5°	5752	5489	5458
10°	5711	5308	5238
15°	5639	5122	5004
20°	5541	4917	4784
25°	5427	4717	4557
30°	5292	4530	4376
35°	5168	4343	4213
40°	5031	4181	4081
45°	4879	4037	3946
50°	4741	3889	3824
55°	4559	3747	3690
60°	4396	3593	3559
65°	4222	3437	3400
70°	3965	3251	3248
75°	3679	3050	3068
80°	3275	2855	2913
85°	2859	2702	2757

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4879 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.5	2.5
10°-20°	81.8	7.1
20°-30°	123.9	10.7
30°-40°	151.2	13.1
40°-50°	162.7	14.1
50°-60°	158.2	13.7
60°-70°	138.3	12.0
70°-80°	106.5	9.2
80°-90°	71.5	6.2
90°-100°	49.5	4.3
100°-110°	36.4	3.2
110°-120°	24.2	2.1
120°-130°	13.7	1.2
130°-140°	5.9	0.5
140°-150°	1.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	234.3	20.3
0°-40°	385.4	33.4
0°-60°	706.3	61.2
0°-90°	1022.6	88.7
90°-120°	110.2	9.6
90°-150°	130.8	11.3
90°-180°	131.0	11.4
0°-180°	1153.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	301	301	301	301	301	
5°	301	300	298	300	300	29
15°	288	289	289	293	293	81
25°	261	265	268	274	275	120
35°	226	233	242	251	254	141
45°	185	196	213	226	230	143
55°	142	158	180	197	202	127
65°	98	119	145	162	168	97
75°	54	79	106	125	131	57
85°	16	43	72	90	95	17
90°	5	30	58	76	81	3
95°	3	24	51	67	72	3
105°	2	15	38	54	58	3
115°	2	7	27	40	45	2
125°	1	1	16	27	31	1
135°	0	0	5	15	18	0
145°	0	0	0	3	5	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°	300.6	300.6	300.6	300.6	300.6
2.5°	302.7	301.4	298.1	300.6	299.7
5°	301.4	300.2	297.6	300.2	299.7
7.5°	299.3	298.5	296.4	299.7	299.3
10°	296.4	296.0	294.7	298.1	298.1
12.5°	292.2	292.6	292.2	296.0	295.6
15°	287.6	288.9	288.9	292.6	292.6
17.5°	281.7	283.8	284.7	288.9	288.4
20°	275.5	278.0	279.6	284.3	285.1
22.5°	267.9	271.7	274.2	279.2	279.6
25°	260.8	265.0	268.3	274.2	274.6
27.5°	252.4	257.5	262.5	268.3	269.6
30°	243.6	249.9	255.8	262.9	264.6
32.5°	235.3	241.6	249.1	256.6	259.6
35°	225.6	233.2	241.6	250.8	253.7
37.5°	216.0	224.0	234.0	244.9	248.7
40°	206.0	215.2	227.3	239.0	242.8
42.5°	195.5	205.5	220.2	232.3	236.5
45°	185.0	196.3	212.7	225.6	230.2
47.5°	175.0	187.1	204.7	219.4	223.5
50°	164.1	177.5	196.8	211.8	216.9
52.5°	152.8	167.9	188.8	204.3	209.3
55°	141.5	158.2	180.4	196.8	201.8
57.5°	131.0	148.6	172.1	188.4	194.2
60°	119.7	138.6	162.8	180.0	185.9
62.5°	108.4	128.9	153.6	171.2	176.7
65°	98.0	118.9	144.8	162.4	167.9
67.5°	86.2	108.4	135.2	153.6	158.7
70°	75.4	98.8	125.6	144.0	149.9
72.5°	64.5	88.3	116.0	134.4	140.7
75°	54.0	78.7	106.3	125.2	130.6
77.5°	43.1	69.1	97.1	116.0	121.4
80°	33.5	59.4	87.9	106.8	112.6
82.5°	23.9	50.7	79.5	98.0	103.4
85°	16.3	43.1	71.6	89.6	95.0
87.5°	9.6	36.0	64.1	82.1	87.5
90°	4.6	30.1	58.2	75.8	81.2
92.5°	3.8	27.2	54.0	71.2	76.6
95°	3.3	24.3	50.7	67.4	72.4
97.5°	3.3	22.2	47.7	64.1	69.1
100°	2.9	19.7	44.4	60.3	65.7
102.5°	2.9	17.2	41.4	56.9	62.0
105°	2.5	15.1	38.5	53.6	58.2
107.5°	2.1	13.0	35.2	50.2	54.8
110°	2.1	10.9	32.2	46.9	51.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	9.2	29.7	43.5	48.1
115°	1.7	7.1	26.8	40.2	44.8
117.5°	1.7	5.0	23.9	36.8	41.4
120°	1.3	3.3	21.4	33.9	38.1
122.5°	1.3	2.1	18.4	30.6	34.7
125°	1.3	0.8	15.9	27.2	31.4
127.5°	0.8	0.8	13.0	24.3	28.0
130°	0.8	0.4	10.5	20.9	24.7
132.5°	0.8	0.4	8.0	18.0	21.4
135°	0.4	0.4	5.4	14.7	18.4
137.5°	0.4	0.4	2.9	11.7	14.7
140°	0.4	0.0	1.3	8.8	11.3
142.5°	0.4	0.0	0.0	5.9	8.4
145°	0.4	0.0	0.0	3.3	5.0
147.5°	0.0	0.0	0.0	0.8	2.5
150°	0.0	0.0	0.0	0.0	0.4
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	14.28	15.76	14.81	16.29	16.87	17.34	18.82	17.87	19.35	19.93
	3H	15.78	17.13	16.32	17.67	18.29	19.98	21.33	20.52	21.87	22.49
	4H	16.28	17.57	16.84	18.12	18.76	21.25	22.54	21.82	23.09	23.73
	6H	16.60	17.80	17.17	18.36	19.01	22.58	23.78	23.16	24.35	25.00
	8H	16.68	17.82	17.26	18.42	19.07	23.27	24.41	23.85	25.01	25.66
	12H	16.72	17.82	17.31	18.40	19.09	24.02	25.12	24.61	25.71	26.39
4H	2H	15.40	16.68	15.96	17.24	17.87	17.74	19.02	18.30	19.58	20.21
	3H	17.16	18.26	17.73	18.85	19.51	20.58	21.68	21.16	22.28	22.93
	4H	17.81	18.82	18.40	19.42	20.10	22.02	23.03	22.61	23.63	24.32
	6H	18.26	19.15	18.87	19.78	20.48	23.53	24.42	24.14	25.05	25.75
	8H	18.38	19.23	19.00	19.85	20.56	24.31	25.15	24.93	25.78	26.49
	12H	18.46	19.23	19.10	19.88	20.60	25.18	25.94	25.81	26.60	27.31
8H	4H	18.65	19.49	19.26	20.12	20.83	22.22	23.06	22.83	23.69	24.40
	6H	19.31	20.02	19.96	20.69	21.41	23.88	24.59	24.53	25.26	25.98
	8H	19.54	20.19	20.20	20.86	21.59	24.79	25.43	25.45	26.11	26.84
	12H	19.71	20.29	20.37	20.95	21.74	25.82	26.40	26.48	27.06	27.85
12H	4H	18.88	19.64	19.52	20.30	21.01	22.22	22.99	22.86	23.64	24.36
	6H	19.65	20.30	20.31	20.98	21.70	23.91	24.56	24.57	25.24	25.96
	8H	19.99	20.57	20.66	21.24	22.03	24.88	25.46	25.54	26.13	26.92