

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: P243190

Luminaire Tested: S122DRP-H485D835-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243190
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-H485D835-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

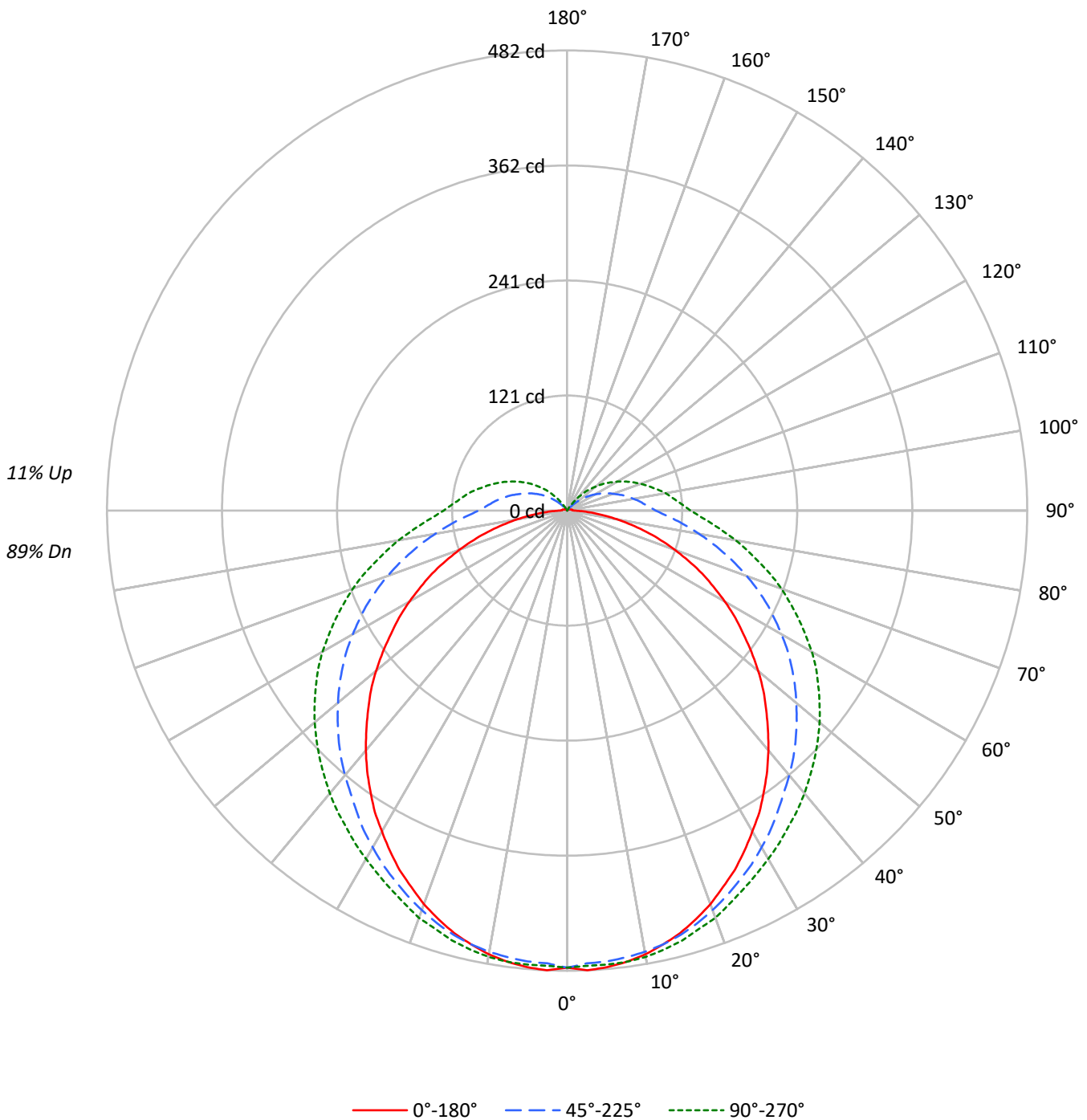
Lumens per Lamp: N/A
Luminaire Lumens: 1836.8 lumens
Efficiency: N/A
Efficacy: 106.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 17.2
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°	9118	9118	9118
5°	9161	8742	8692
10°	9095	8452	8341
15°	8980	8155	7969
20°	8823	7831	7618
25°	8642	7512	7257
30°	8429	7212	6968
35°	8231	6915	6710
40°	8011	6659	6499
45°	7771	6429	6286
50°	7550	6191	6087
55°	7259	5968	5875
60°	7004	5723	5667
65°	6721	5475	5414
70°	6310	5176	5173
75°	5859	4858	4887
80°	5211	4547	4638
85°	4561	4301	4391

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7771 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	2.5
10°-20°	130.3	7.1
20°-30°	197.4	10.7
30°-40°	240.7	13.1
40°-50°	259.1	14.1
50°-60°	251.9	13.7
60°-70°	220.2	12.0
70°-80°	169.5	9.2
80°-90°	113.9	6.2
90°-100°	78.8	4.3
100°-110°	58.0	3.2
110°-120°	38.6	2.1
120°-130°	21.8	1.2
130°-140°	9.4	0.5
140°-150°	1.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	373.1	20.3
0°-40°	613.8	33.4
0°-60°	1124.8	61.2
0°-90°	1628.4	88.7
90°-120°	175.4	9.5
90°-150°	208.4	11.3
90°-180°	208.0	11.3
0°-180°	1836.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	479	479	479	479	479	
5°	480	478	474	478	477	46
15°	458	460	460	466	466	129
25°	415	422	427	437	437	191
35°	359	371	385	399	404	225
45°	295	313	339	359	367	228
55°	225	252	287	313	321	202
65°	156	189	231	259	267	154
75°	86	125	169	199	208	91
85°	26	69	114	143	151	27
90°	7	48	93	121	129	5
95°	5	39	81	107	115	4
105°	4	24	61	85	93	4
115°	3	11	43	64	71	3
125°	2	1	25	43	50	2
135°	1	1	9	23	29	1
145°	1	0	0	5	8	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°	478.7	478.7	478.7	478.7	478.7
2.5°	482.0	480.0	474.7	478.7	477.3
5°	480.0	478.0	474.0	478.0	477.3
7.5°	476.7	475.3	472.0	477.3	476.7
10°	472.0	471.3	469.3	474.7	474.7
12.5°	465.3	466.0	465.3	471.3	470.7
15°	458.0	460.0	460.0	466.0	466.0
17.5°	448.7	452.0	453.3	460.0	459.3
20°	438.7	442.7	445.3	452.7	454.0
22.5°	426.7	432.7	436.7	444.7	445.3
25°	415.3	422.0	427.3	436.7	437.3
27.5°	402.0	410.0	418.0	427.3	429.3
30°	388.0	398.0	407.3	418.7	421.3
32.5°	374.7	384.7	396.7	408.7	413.3
35°	359.3	371.3	384.7	399.3	404.0
37.5°	344.0	356.7	372.7	390.0	396.0
40°	328.0	342.7	362.0	380.7	386.7
42.5°	311.3	327.3	350.7	370.0	376.7
45°	294.7	312.7	338.7	359.3	366.7
47.5°	278.7	298.0	326.0	349.3	356.0
50°	261.3	282.7	313.3	337.3	345.3
52.5°	243.3	267.3	300.7	325.3	333.3
55°	225.3	252.0	287.3	313.3	321.3
57.5°	208.7	236.7	274.0	300.0	309.3
60°	190.7	220.7	259.3	286.7	296.0
62.5°	172.7	205.3	244.7	272.7	281.3
65°	156.0	189.3	230.7	258.7	267.3
67.5°	137.3	172.7	215.3	244.7	252.7
70°	120.0	157.3	200.0	229.3	238.7
72.5°	102.7	140.7	184.7	214.0	224.0
75°	86.0	125.3	169.3	199.3	208.0
77.5°	68.7	110.0	154.7	184.7	193.3
80°	53.3	94.7	140.0	170.0	179.3
82.5°	38.0	80.7	126.7	156.0	164.7
85°	26.0	68.7	114.0	142.7	151.3
87.5°	15.3	57.3	102.0	130.7	139.3
90°	7.3	48.0	92.7	120.7	129.3
92.5°	6.0	43.3	86.0	113.3	122.0
95°	5.3	38.7	80.7	107.3	115.3
97.5°	5.3	35.3	76.0	102.0	110.0
100°	4.7	31.3	70.7	96.0	104.7
102.5°	4.7	27.3	66.0	90.7	98.7
105°	4.0	24.0	61.3	85.3	92.7
107.5°	3.3	20.7	56.0	80.0	87.3
110°	3.3	17.3	51.3	74.7	82.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.7	14.7	47.3	69.3	76.7
115°	2.7	11.3	42.7	64.0	71.3
117.5°	2.7	8.0	38.0	58.7	66.0
120°	2.0	5.3	34.0	54.0	60.7
122.5°	2.0	3.3	29.3	48.7	55.3
125°	2.0	1.3	25.3	43.3	50.0
127.5°	1.3	1.3	20.7	38.7	44.7
130°	1.3	0.7	16.7	33.3	39.3
132.5°	1.3	0.7	12.7	28.7	34.0
135°	0.7	0.7	8.7	23.3	29.3
137.5°	0.7	0.7	4.7	18.7	23.3
140°	0.7	0.0	2.0	14.0	18.0
142.5°	0.7	0.0	0.0	9.3	13.3
145°	0.7	0.0	0.0	5.3	8.0
147.5°	0.0	0.0	0.0	1.3	4.0
150°	0.0	0.0	0.0	0.0	0.7
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	15.90	17.38	16.43	17.91	18.49	18.96	20.44	19.49	20.97	21.55
	3H	17.40	18.75	17.94	19.29	19.91	21.59	22.94	22.13	23.49	24.11
	4H	17.90	19.18	18.46	19.74	20.37	22.87	24.15	23.43	24.71	25.34
	6H	18.22	19.41	18.79	19.98	20.63	24.20	25.40	24.77	25.96	26.61
	8H	18.29	19.44	18.88	20.03	20.69	24.88	26.03	25.47	26.62	27.28
	12H	18.33	19.43	18.93	20.02	20.70	25.64	26.74	26.23	27.32	28.01
4H	2H	17.02	18.30	17.58	18.86	19.49	19.35	20.64	19.92	21.19	21.83
	3H	18.77	19.87	19.35	20.47	21.12	22.20	23.30	22.77	23.89	24.55
	4H	19.42	20.43	20.02	21.04	21.72	23.64	24.65	24.23	25.25	25.94
	6H	19.88	20.77	20.49	21.40	22.09	25.14	26.04	25.76	26.67	27.36
	8H	20.00	20.84	20.62	21.47	22.18	25.92	26.77	26.54	27.40	28.11
	12H	20.08	20.84	20.72	21.50	22.22	26.79	27.56	27.43	28.21	28.93
8H	4H	20.26	21.10	20.88	21.73	22.44	23.83	24.67	24.45	25.30	26.01
	6H	20.93	21.64	21.57	22.31	23.03	25.49	26.21	26.14	26.88	27.59
	8H	21.16	21.81	21.82	22.48	23.21	26.40	27.05	27.06	27.72	28.45
	12H	21.33	21.91	21.99	22.57	23.36	27.43	28.01	28.10	28.68	29.47
12H	4H	20.49	21.26	21.13	21.91	22.63	23.84	24.60	24.48	25.26	25.97
	6H	21.27	21.92	21.93	22.59	23.32	25.53	26.18	26.19	26.85	27.58
	8H	21.61	22.19	22.27	22.85	23.64	26.50	27.08	27.16	27.74	28.53