

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: P242336

Luminaire Tested: S122DRP-S865D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242336
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-14)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-S865D840-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

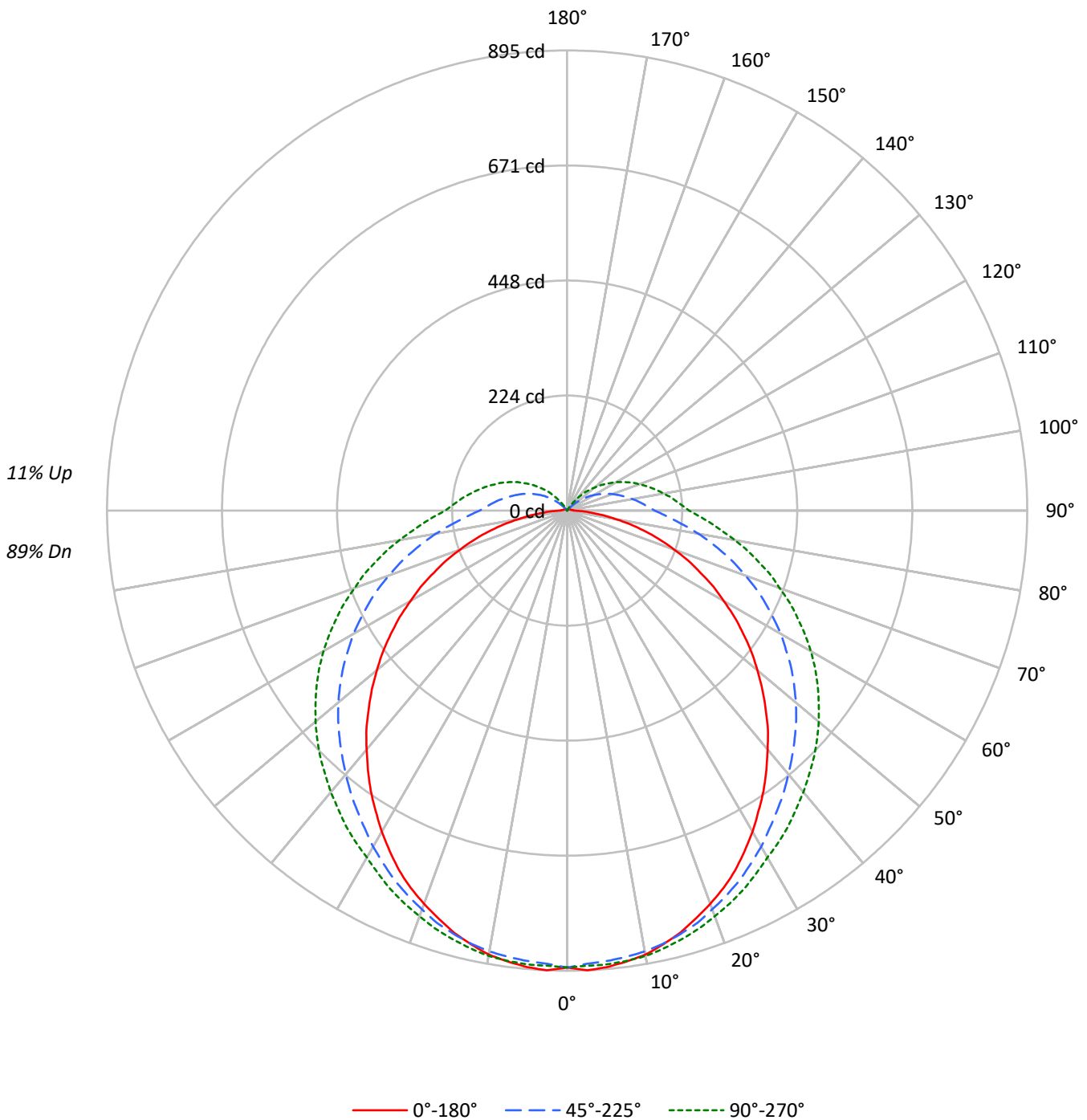
Lumens per Lamp: N/A
Luminaire Lumens: 3390.6 lumens
Efficiency: N/A
Efficacy: 97.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 34.8
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

TEST NUMBER: P242336

CATALOG NUMBER: S122DRP-S865D840-X4F0-XX-UDD-D-W

Luminous Intensity Polar Plot





TEST NUMBER: P242336

CATALOG NUMBER: S122DRP-S865D840-X4F0-XX-UDD-D-W

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	85	81	82	79	77	77	75	72	69
2	94	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	42	39
5	71	57	48	41	68	56	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	42	36	31	29
7	60	46	37	31	58	45	37	31	43	35	30	40	34	29	38	32	28	25
8	56	42	34	28	54	41	33	27	39	32	26	37	30	25	35	29	25	23
9	52	39	30	25	50	38	30	24	36	29	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°	16926	16926	16926
5°	17008	16223	16134
10°	16898	15680	15456
15°	16666	15113	14755
20°	16370	14518	14090
25°	16078	13946	13485
30°	15668	13364	12885
35°	15252	12802	12448
40°	14816	12319	12012
45°	14398	11880	11634
50°	13952	11477	11261
55°	13484	11048	10880
60°	12913	10602	10479
65°	12318	10086	10015
70°	11648	9532	9516
75°	10791	8979	9047
80°	9444	8408	8562
85°	8140	7871	8146

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14398 cd/sqm



TEST NUMBER: P242336

CATALOG NUMBER: S122DRP-S865D840-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.2	2.5
10°-20°	241.6	7.1
20°-30°	366.1	10.8
30°-40°	445.8	13.1
40°-50°	479.6	14.1
50°-60°	465.8	13.7
60°-70°	406.8	12.0
70°-80°	313.1	9.2
80°-90°	209.7	6.2
90°-100°	144.7	4.3
100°-110°	105.6	3.1
110°-120°	69.8	2.1
120°-130°	38.9	1.1
130°-140°	16.3	0.5
140°-150°	2.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	691.9	20.4
0°-40°	1137.7	33.6
0°-60°	2083.1	61.4
0°-90°	3012.6	88.9
90°-120°	320.1	9.4
90°-150°	378.0	11.1
90°-180°	378.0	11.1
0°-180°	3390.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	889	889	889	889	889	
5°	891	887	880	887	886	85
15°	850	852	852	864	863	239
25°	773	782	793	809	813	355
35°	666	688	712	740	750	416
45°	546	581	626	666	679	422
55°	418	465	532	578	595	374
65°	286	349	425	478	494	284
75°	158	230	313	368	385	168
85°	46	126	209	263	281	49
90°	13	88	170	222	237	9
95°	10	71	148	197	212	8
105°	6	44	111	156	170	7
115°	5	19	77	116	130	5
125°	3	3	44	79	90	3
135°	1	1	14	41	52	1
145°	0	0	0	8	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

TEST NUMBER: P242336

CATALOG NUMBER: S122DRP-S865D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	888.6	888.6	888.6	888.6	888.6
2.5°	895.0	891.2	882.2	888.6	886.0
5°	891.2	887.3	879.6	887.3	886.0
7.5°	884.7	882.2	875.7	884.7	883.4
10°	877.0	874.4	870.6	880.9	879.6
12.5°	864.1	865.4	862.8	873.1	871.9
15°	850.0	852.5	852.5	864.1	862.8
17.5°	831.9	837.1	841.0	852.5	852.5
20°	813.9	820.3	825.5	839.7	839.7
22.5°	794.6	802.3	810.0	824.2	826.8
25°	772.7	781.7	793.3	808.8	812.6
27.5°	746.9	761.1	774.0	793.3	795.9
30°	721.2	737.9	754.7	775.3	779.1
32.5°	692.9	712.2	732.8	757.2	765.0
35°	665.8	687.7	712.2	740.5	749.5
37.5°	636.2	660.7	691.6	722.5	731.5
40°	606.6	634.9	669.7	703.2	714.7
42.5°	578.2	606.6	647.8	685.1	696.7
45°	546.0	580.8	625.9	665.8	678.7
47.5°	515.1	552.5	604.0	645.2	659.4
50°	482.9	522.9	580.8	624.6	638.8
52.5°	452.0	494.5	556.3	601.4	616.9
55°	418.5	464.9	531.9	578.2	595.0
57.5°	386.3	437.9	504.8	555.1	571.8
60°	351.6	407.0	480.4	529.3	547.3
62.5°	320.7	378.6	452.0	504.8	521.6
65°	285.9	349.0	425.0	477.8	494.5
67.5°	255.0	320.7	397.9	450.7	468.8
70°	221.5	288.5	368.3	423.7	439.1
72.5°	190.6	260.1	341.3	395.4	414.7
75°	158.4	230.5	312.9	368.3	385.1
77.5°	127.5	202.2	285.9	341.3	359.3
80°	96.6	175.1	258.9	312.9	331.0
82.5°	70.8	148.1	233.1	287.2	303.9
85°	46.4	126.2	208.6	262.7	280.7
87.5°	28.3	105.6	188.0	240.8	257.6
90°	12.9	87.6	170.0	221.5	237.0
92.5°	11.6	79.8	158.4	208.6	224.1
95°	10.3	70.8	148.1	197.0	212.5
97.5°	9.0	64.4	139.1	186.7	202.2
100°	9.0	56.7	128.8	176.4	190.6
102.5°	7.7	50.2	119.8	166.1	180.3
105°	6.4	43.8	110.8	155.8	170.0
107.5°	6.4	37.3	101.7	145.5	159.7
110°	5.2	30.9	94.0	135.2	149.4



TEST NUMBER: P242336

CATALOG NUMBER: S122DRP-S865D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.2	25.8	85.0	126.2	140.4
115°	5.2	19.3	77.3	115.9	130.1
117.5°	3.9	14.2	68.3	106.9	119.8
120°	3.9	9.0	60.5	96.6	110.8
122.5°	3.9	5.2	52.8	87.6	99.2
125°	2.6	2.6	43.8	78.6	90.1
127.5°	2.6	1.3	36.1	68.3	79.8
130°	2.6	1.3	28.3	59.2	69.5
132.5°	2.6	1.3	20.6	50.2	60.5
135°	1.3	1.3	14.2	41.2	51.5
137.5°	1.3	1.3	7.7	32.2	41.2
140°	1.3	0.0	2.6	23.2	30.9
142.5°	1.3	0.0	0.0	15.5	21.9
145°	0.0	0.0	0.0	7.7	14.2
147.5°	0.0	0.0	0.0	1.3	5.2
150°	0.0	0.0	0.0	0.0	0.0
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

TEST NUMBER: P242336
 CATALOG NUMBER: S122DRP-S865D840-X4F0-XX-UDD-D-W

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	18.05	19.53	18.57	20.06	20.64	21.11	22.59	21.64	23.12	23.70
	3H	19.55	20.90	20.09	21.44	22.06	23.74	25.09	24.28	25.63	26.25
	4H	20.05	21.34	20.61	21.89	22.52	25.02	26.30	25.58	26.86	27.49
	6H	20.36	21.56	20.94	22.13	22.77	26.35	27.55	26.92	28.11	28.76
	8H	20.44	21.59	21.02	22.18	22.83	27.03	28.18	27.61	28.77	29.42
	12H	20.48	21.58	21.07	22.16	22.84	27.78	28.89	28.37	29.47	30.15
4H	2H	19.16	20.44	19.72	21.00	21.63	21.50	22.79	22.06	23.34	23.97
	3H	20.92	22.02	21.49	22.61	23.26	24.34	25.44	24.91	26.04	26.69
	4H	21.56	22.57	22.15	23.17	23.85	25.78	26.79	26.37	27.40	28.08
	6H	22.01	22.91	22.62	23.53	24.23	27.29	28.19	27.90	28.81	29.50
	8H	22.14	22.98	22.75	23.61	24.31	28.07	28.91	28.68	29.54	30.24
	12H	22.21	22.98	22.85	23.63	24.34	28.94	29.70	29.57	30.36	31.07
8H	4H	22.40	23.25	23.02	23.87	24.58	25.98	26.82	26.59	27.45	28.15
	6H	23.06	23.78	23.71	24.45	25.16	27.64	28.36	28.28	29.02	29.73
	8H	23.29	23.94	23.95	24.62	25.34	28.54	29.19	29.20	29.86	30.59
	12H	23.46	24.04	24.12	24.70	25.49	29.58	30.16	30.24	30.82	31.61
12H	4H	22.63	23.40	23.27	24.05	24.76	25.98	26.75	26.62	27.40	28.11
	6H	23.41	24.06	24.06	24.73	25.45	27.67	28.32	28.33	28.99	29.72
	8H	23.74	24.32	24.40	24.99	25.77	28.64	29.22	29.30	29.88	30.67