

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: P242327

Luminaire Tested: S122DRP-S865D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242327
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-S865D830-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

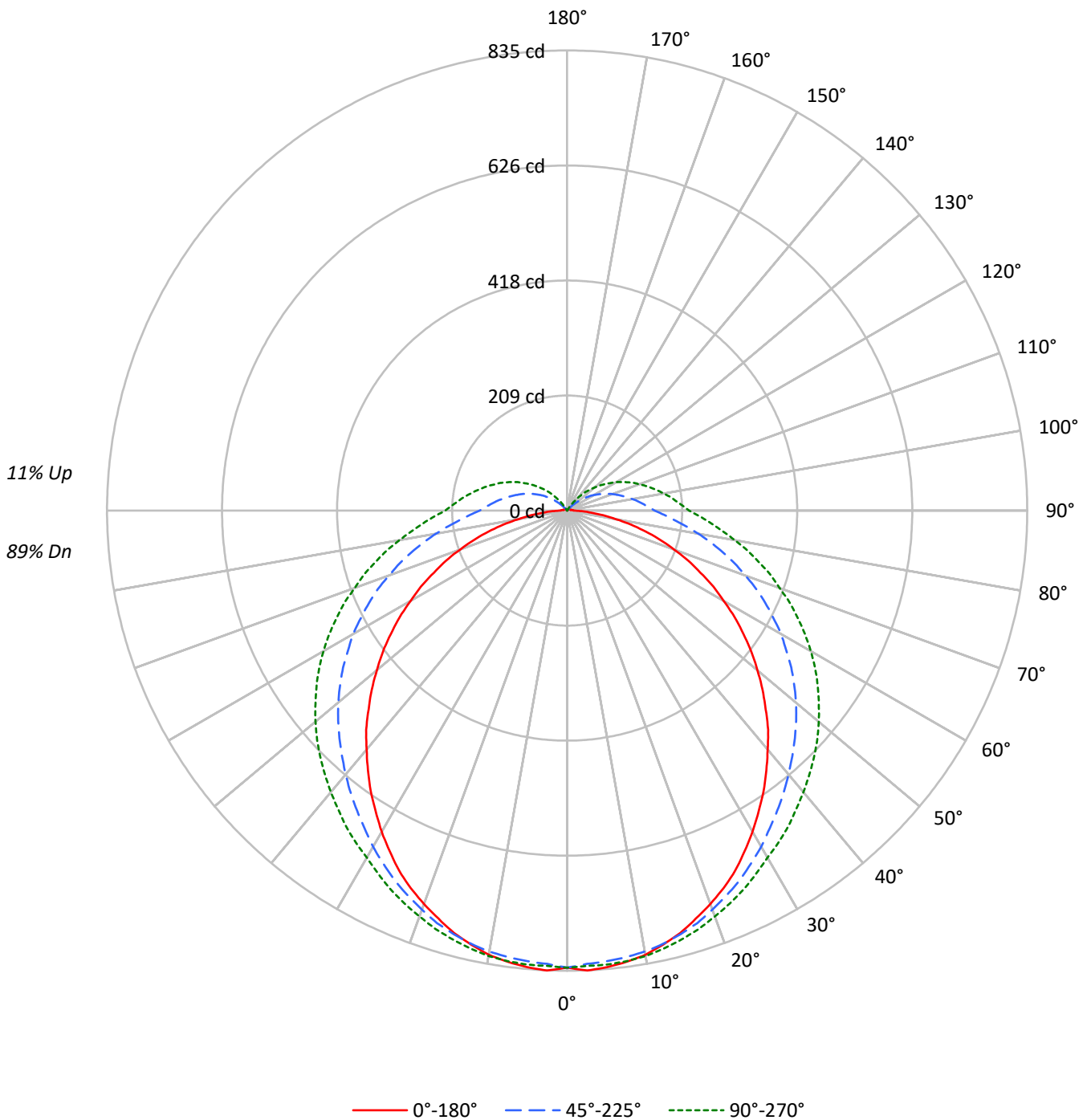
Lumens per Lamp: N/A
Luminaire Lumens: 3164.5 lumens
Efficiency: N/A
Efficacy: 90.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

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

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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	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°	15798	15798	15798
5°	15875	15141	15060
10°	15771	14633	14424
15°	15554	14106	13772
20°	15278	13550	13151
25°	15007	13016	12586
30°	14623	12474	12027
35°	14235	11949	11617
40°	13827	11496	11212
45°	13438	11088	10858
50°	13022	10712	10510
55°	12585	10311	10154
60°	12050	9894	9780
65°	11495	9415	9349
70°	10869	8898	8883
75°	10069	8382	8444
80°	8809	7846	7990
85°	7596	7346	7603

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13438 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.6	2.5
10°-20°	225.5	7.1
20°-30°	341.7	10.8
30°-40°	416.1	13.1
40°-50°	447.6	14.1
50°-60°	434.7	13.7
60°-70°	379.6	12.0
70°-80°	292.2	9.2
80°-90°	195.7	6.2
90°-100°	135.0	4.3
100°-110°	98.6	3.1
110°-120°	65.1	2.1
120°-130°	36.3	1.1
130°-140°	15.2	0.5
140°-150°	2.6	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	645.8	20.4
0°-40°	1061.8	33.6
0°-60°	1944.2	61.4
0°-90°	2811.8	88.9
90°-120°	298.7	9.4
90°-150°	352.8	11.1
90°-180°	353.0	11.2
0°-180°	3164.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	829	829	829	829	829	
5°	832	828	821	828	827	79
15°	793	796	796	806	805	223
25°	721	730	740	755	758	332
35°	621	642	665	691	700	388
45°	510	542	584	621	633	393
55°	391	434	496	540	555	349
65°	267	326	397	446	462	265
75°	148	215	292	344	359	156
85°	43	118	195	245	262	46
90°	12	82	159	207	221	8
95°	10	66	138	184	198	8
105°	6	41	103	145	159	7
115°	5	18	72	108	121	4
125°	2	2	41	73	84	3
135°	1	1	13	38	48	1
145°	0	0	0	7	13	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°	829.4	829.4	829.4	829.4	829.4
2.5°	835.4	831.8	823.4	829.4	827.0
5°	831.8	828.2	820.9	828.2	827.0
7.5°	825.8	823.4	817.3	825.8	824.6
10°	818.5	816.1	812.5	822.2	820.9
12.5°	806.5	807.7	805.3	814.9	813.7
15°	793.3	795.7	795.7	806.5	805.3
17.5°	776.5	781.3	784.9	795.7	795.7
20°	759.6	765.7	770.5	783.7	783.7
22.5°	741.6	748.8	756.0	769.3	771.7
25°	721.2	729.6	740.4	754.8	758.4
27.5°	697.1	710.4	722.4	740.4	742.8
30°	673.1	688.7	704.4	723.6	727.2
32.5°	646.7	664.7	683.9	706.8	714.0
35°	621.4	641.9	664.7	691.1	699.5
37.5°	593.8	616.6	645.5	674.3	682.7
40°	566.1	592.6	625.0	656.3	667.1
42.5°	539.7	566.1	604.6	639.5	650.3
45°	509.6	542.1	584.2	621.4	633.4
47.5°	480.8	515.6	563.7	602.2	615.4
50°	450.7	488.0	542.1	583.0	596.2
52.5°	421.9	461.6	519.3	561.3	575.7
55°	390.6	433.9	496.4	539.7	555.3
57.5°	360.6	408.7	471.2	518.1	533.7
60°	328.1	379.8	448.3	494.0	510.8
62.5°	299.3	353.4	421.9	471.2	486.8
65°	266.8	325.7	396.7	445.9	461.6
67.5°	238.0	299.3	371.4	420.7	437.5
70°	206.7	269.2	343.8	395.4	409.9
72.5°	177.9	242.8	318.5	369.0	387.0
75°	147.8	215.2	292.1	343.8	359.4
77.5°	119.0	188.7	266.8	318.5	335.4
80°	90.1	163.5	241.6	292.1	308.9
82.5°	66.1	138.2	217.6	268.0	283.7
85°	43.3	117.8	194.7	245.2	262.0
87.5°	26.4	98.6	175.5	224.8	240.4
90°	12.0	81.7	158.7	206.7	221.2
92.5°	10.8	74.5	147.8	194.7	209.1
95°	9.6	66.1	138.2	183.9	198.3
97.5°	8.4	60.1	129.8	174.3	188.7
100°	8.4	52.9	120.2	164.7	177.9
102.5°	7.2	46.9	111.8	155.1	168.3
105°	6.0	40.9	103.4	145.4	158.7
107.5°	6.0	34.9	95.0	135.8	149.0
110°	4.8	28.8	87.7	126.2	139.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.8	24.0	79.3	117.8	131.0
115°	4.8	18.0	72.1	108.2	121.4
117.5°	3.6	13.2	63.7	99.8	111.8
120°	3.6	8.4	56.5	90.1	103.4
122.5°	3.6	4.8	49.3	81.7	92.6
125°	2.4	2.4	40.9	73.3	84.1
127.5°	2.4	1.2	33.7	63.7	74.5
130°	2.4	1.2	26.4	55.3	64.9
132.5°	2.4	1.2	19.2	46.9	56.5
135°	1.2	1.2	13.2	38.5	48.1
137.5°	1.2	1.2	7.2	30.0	38.5
140°	1.2	0.0	2.4	21.6	28.8
142.5°	1.2	0.0	0.0	14.4	20.4
145°	0.0	0.0	0.0	7.2	13.2
147.5°	0.0	0.0	0.0	1.2	4.8
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



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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	17.81	19.29	18.34	19.82	20.40	20.87	22.35	21.40	22.88	23.46
	3H	19.31	20.66	19.85	21.20	21.82	23.50	24.85	24.04	25.39	26.01
	4H	19.81	21.10	20.37	21.65	22.28	24.78	26.06	25.34	26.62	27.25
	6H	20.12	21.32	20.70	21.89	22.53	26.11	27.31	26.68	27.87	28.52
	8H	20.20	21.35	20.78	21.94	22.59	26.79	27.94	27.37	28.53	29.18
	12H	20.24	21.34	20.83	21.92	22.60	27.54	28.65	28.13	29.23	29.91
4H	2H	18.92	20.21	19.48	20.76	21.39	21.26	22.55	21.82	23.10	23.73
	3H	20.68	21.78	21.25	22.37	23.02	24.10	25.20	24.67	25.80	26.45
	4H	21.32	22.33	21.91	22.93	23.62	25.54	26.56	26.13	27.16	27.84
	6H	21.77	22.67	22.38	23.29	23.99	27.05	27.95	27.66	28.57	29.26
	8H	21.90	22.74	22.51	23.37	24.07	27.83	28.67	28.44	29.30	30.00
	12H	21.97	22.74	22.61	23.39	24.10	28.70	29.47	29.33	30.12	30.83
8H	4H	22.16	23.01	22.78	23.63	24.34	25.74	26.58	26.35	27.21	27.91
	6H	22.82	23.54	23.47	24.21	24.92	27.40	28.12	28.05	28.78	29.49
	8H	23.06	23.70	23.71	24.38	25.10	28.30	28.95	28.96	29.63	30.35
	12H	23.22	23.80	23.88	24.46	25.25	29.34	29.92	30.00	30.58	31.37
12H	4H	22.39	23.16	23.03	23.81	24.52	25.74	26.51	26.38	27.16	27.87
	6H	23.17	23.82	23.82	24.49	25.21	27.43	28.08	28.09	28.76	29.48
	8H	23.50	24.08	24.16	24.75	25.53	28.40	28.98	29.06	29.64	30.43