

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: P242669

Luminaire Tested: S124DRP-S575D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242669
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S575D830-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

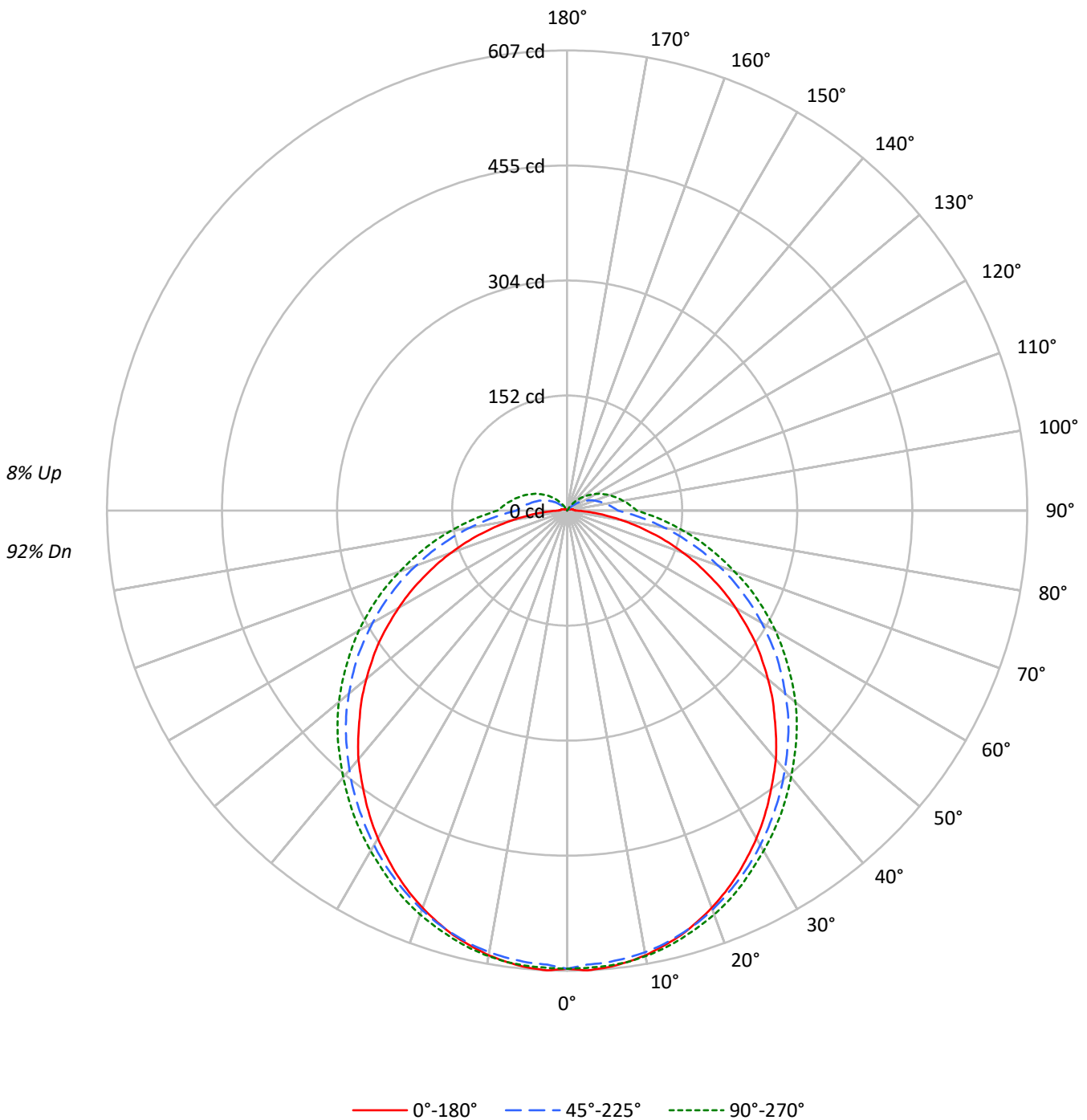
Lumens per Lamp: N/A
Luminaire Lumens: 2060.5 lumens
Efficiency: N/A
Efficacy: 109.6 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 18.8
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	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92																												
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74																												
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60																												
3	87	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50																												
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	49	45	43																												
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37																												
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	39	34	32																												
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28																												
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25																												
9	54	40	32	26	52	39	31	26	38	30	25	36	29	25	34	29	24	22																												
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5372	5372	5372
5°	5388	5245	5258
10°	5356	5154	5146
15°	5307	5049	5017
20°	5235	4935	4890
25°	5152	4807	4752
30°	5064	4680	4611
35°	4964	4551	4487
40°	4883	4427	4357
45°	4764	4311	4245
50°	4662	4179	4126
55°	4559	4054	3988
60°	4396	3895	3860
65°	4218	3725	3704
70°	4002	3529	3522
75°	3701	3315	3355
80°	3367	3101	3185
85°	2939	2901	3069

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4764 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.3	2.8
10°-20°	164.1	8.0
20°-30°	248.1	12.0
30°-40°	300.1	14.6
40°-50°	317.3	15.4
50°-60°	298.6	14.5
60°-70°	247.8	12.0
70°-80°	173.9	8.4
80°-90°	98.0	4.8
90°-100°	58.4	2.8
100°-110°	43.2	2.1
110°-120°	29.0	1.4
120°-130°	16.3	0.8
130°-140°	7.1	0.3
140°-150°	1.4	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	469.4	22.8
0°-40°	769.5	37.3
0°-60°	1385.4	67.2
0°-90°	1905.1	92.5
90°-120°	130.6	6.3
90°-150°	155.4	7.5
90°-180°	155.0	7.5
0°-180°	2060.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	604	604	604	604	604	
5°	605	603	598	604	603	57
15°	580	581	579	585	584	163
25°	531	535	537	544	545	244
35°	464	472	479	489	491	291
45°	387	400	413	424	428	299
55°	303	317	338	351	355	270
65°	210	232	254	271	277	208
75°	116	141	170	189	195	124
85°	36	64	95	115	122	37
90°	11	38	67	87	92	7
95°	9	31	59	77	83	7
105°	6	20	45	62	67	7
115°	4	10	32	47	51	4
125°	3	2	19	32	36	3
135°	1	1	6	17	21	1
145°	1	0	0	4	7	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°	604.4	604.4	604.4	604.4	604.4
2.5°	607.1	605.0	599.6	604.4	603.7
5°	605.0	603.0	598.3	603.7	603.0
7.5°	601.0	599.6	595.6	601.6	601.0
10°	595.6	594.9	591.5	597.6	596.9
12.5°	588.1	588.1	586.1	591.5	591.5
15°	580.0	580.7	578.6	584.7	584.1
17.5°	569.2	571.2	570.5	576.6	575.9
20°	557.7	559.7	560.4	567.1	567.1
22.5°	544.8	547.5	548.9	555.6	557.0
25°	530.6	534.6	536.7	544.1	544.8
27.5°	515.0	521.1	523.8	530.6	531.3
30°	499.5	504.9	509.6	517.1	518.4
32.5°	482.5	489.3	494.7	503.5	504.9
35°	464.3	472.4	479.2	488.6	490.7
37.5°	446.0	455.5	463.6	473.1	475.1
40°	428.4	437.2	446.7	456.8	459.5
42.5°	408.1	418.2	429.7	441.3	443.3
45°	387.1	400.0	412.8	424.3	427.7
47.5°	367.5	380.3	395.2	406.7	410.8
50°	345.8	360.7	375.6	389.1	393.2
52.5°	324.2	339.1	356.7	370.2	374.3
55°	303.2	317.4	337.7	351.2	355.3
57.5°	279.5	297.1	316.7	333.0	336.4
60°	256.5	274.1	296.4	312.0	317.4
62.5°	234.2	253.8	276.1	291.7	297.1
65°	209.8	231.5	254.5	271.4	276.8
67.5°	186.8	209.8	234.2	251.1	256.5
70°	163.1	186.1	211.8	230.1	234.8
72.5°	140.1	163.8	191.5	209.1	214.5
75°	116.4	141.4	169.9	188.8	194.9
77.5°	94.1	120.5	150.2	169.2	176.0
80°	73.8	100.8	130.6	150.9	156.3
82.5°	53.5	81.9	111.7	132.6	138.7
85°	35.9	64.3	94.7	115.1	121.8
87.5°	22.3	50.1	79.9	99.5	105.6
90°	10.8	37.9	67.0	86.6	92.0
92.5°	10.2	33.8	62.9	81.9	87.3
95°	8.8	31.1	58.9	77.2	83.2
97.5°	8.1	27.7	55.5	73.1	79.2
100°	7.4	25.0	51.4	69.7	74.4
102.5°	7.4	22.3	48.1	65.6	71.1
105°	6.1	19.6	44.7	61.6	67.0
107.5°	6.1	17.6	41.3	58.2	62.9
110°	5.4	14.9	38.6	54.1	59.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.7	12.9	35.2	50.1	55.5
115°	4.1	10.2	31.8	46.7	51.4
117.5°	4.1	8.1	28.4	42.6	48.1
120°	3.4	5.4	25.0	38.6	44.0
122.5°	3.4	3.4	21.7	35.2	39.9
125°	2.7	2.0	18.9	31.8	35.9
127.5°	2.7	2.0	15.6	27.7	32.5
130°	2.0	1.4	12.2	24.4	28.4
132.5°	2.0	1.4	9.5	21.0	25.0
135°	1.4	1.4	6.1	16.9	21.0
137.5°	1.4	0.7	3.4	13.5	16.9
140°	1.4	0.7	1.4	10.2	13.5
142.5°	0.7	0.7	0.0	7.4	10.2
145°	0.7	0.0	0.0	4.1	6.8
147.5°	0.7	0.0	0.0	0.7	3.4
150°	0.7	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	15.63	17.16	16.11	17.62	18.12	17.18	18.71	17.66	19.18	19.67
	3H	17.27	18.66	17.76	19.14	19.67	19.49	20.88	19.98	21.36	21.89
	4H	17.84	19.15	18.35	19.65	20.20	20.55	21.87	21.06	22.36	22.91
	6H	18.22	19.45	18.74	19.95	20.52	21.60	22.83	22.13	23.34	23.90
	8H	18.33	19.50	18.86	20.03	20.60	22.12	23.30	22.66	23.83	24.40
	12H	18.39	19.51	18.93	20.04	20.64	22.68	23.80	23.22	24.33	24.93
4H	2H	16.48	17.80	16.99	18.29	18.84	17.68	19.00	18.20	19.49	20.05
	3H	18.36	19.48	18.88	20.02	20.59	20.21	21.33	20.74	21.87	22.44
	4H	19.07	20.09	19.61	20.64	21.24	21.43	22.45	21.97	23.00	23.61
	6H	19.58	20.49	20.15	21.06	21.68	22.66	23.56	23.22	24.14	24.76
	8H	19.74	20.59	20.31	21.16	21.79	23.27	24.12	23.84	24.69	25.33
	12H	19.84	20.61	20.43	21.21	21.85	23.93	24.70	24.52	25.30	25.94
8H	4H	19.64	20.49	20.21	21.07	21.70	21.69	22.53	22.25	23.11	23.74
	6H	20.34	21.06	20.94	21.67	22.31	23.08	23.80	23.68	24.41	25.05
	8H	20.59	21.24	21.20	21.86	22.51	23.82	24.47	24.43	25.09	25.74
	12H	20.78	21.35	21.39	21.97	22.68	24.64	25.22	25.26	25.83	26.55
12H	4H	19.78	20.55	20.37	21.15	21.79	21.70	22.47	22.29	23.07	23.71
	6H	20.55	21.20	21.16	21.82	22.47	23.13	23.78	23.74	24.40	25.05
	8H	20.89	21.47	21.51	22.08	22.80	23.94	24.51	24.55	25.12	25.84