

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: P243529

Luminaire Tested: S124DRP-H575D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243529
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-55)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-H575D830-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

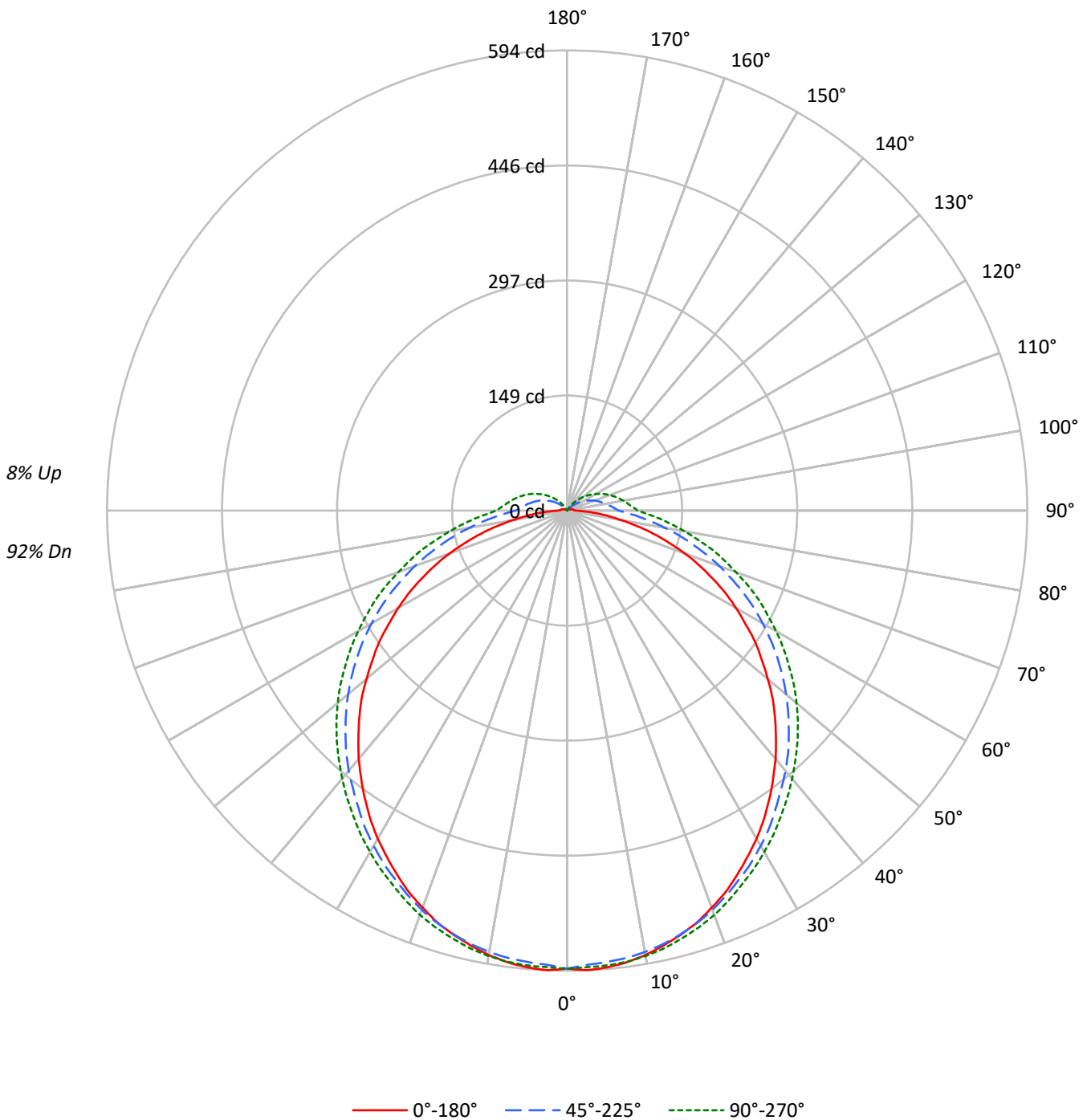
Lumens per Lamp: N/A
Luminaire Lumens: 2021.3 lumens
Efficiency: N/A
Efficacy: 117.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 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	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	86	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	46	55	49	45	43
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	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	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5256	5256	5256
5°	5272	5128	5139
10°	5238	5042	5033
15°	5186	4941	4911
20°	5119	4831	4790
25°	5040	4705	4649
30°	4957	4588	4527
35°	4863	4458	4401
40°	4770	4346	4284
45°	4670	4226	4172
50°	4559	4105	4056
55°	4460	3976	3921
60°	4319	3832	3791
65°	4156	3670	3657
70°	3963	3486	3468
75°	3656	3260	3331
80°	3239	3044	3138
85°	2931	2868	3023

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4670 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.0	2.8
10°-20°	160.5	7.9
20°-30°	243.0	12.0
30°-40°	294.2	14.6
40°-50°	311.2	15.4
50°-60°	293.2	14.5
60°-70°	243.6	12.1
70°-80°	171.2	8.5
80°-90°	96.4	4.8
90°-100°	57.2	2.8
100°-110°	42.4	2.1
110°-120°	28.3	1.4
120°-130°	16.0	0.8
130°-140°	6.8	0.3
140°-150°	1.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	459.5	22.7
0°-40°	753.7	37.3
0°-60°	1358.0	67.2
0°-90°	1869.3	92.5
90°-120°	127.9	6.3
90°-150°	152.0	7.5
90°-180°	152.0	7.5
0°-180°	2021.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	591	591	591	591	591	
5°	592	589	585	590	589	56
15°	567	568	566	572	572	160
25°	519	523	525	533	533	239
35°	455	462	469	480	481	285
45°	380	392	405	417	420	293
55°	297	312	331	346	349	264
65°	207	228	251	266	273	205
75°	115	140	167	186	194	122
85°	36	64	94	114	120	37
90°	11	37	67	85	91	7
95°	9	30	58	76	81	7
105°	6	20	44	60	66	7
115°	4	10	31	45	51	4
125°	2	2	18	31	35	2
135°	1	1	6	16	20	1
145°	1	0	0	4	6	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°	591.3	591.3	591.3	591.3	591.3
2.5°	593.8	591.9	586.9	590.7	590.0
5°	591.9	589.4	585.0	590.0	589.4
7.5°	588.2	586.3	582.5	588.2	587.5
10°	582.5	581.2	578.7	583.8	583.8
12.5°	575.0	575.0	573.1	578.7	578.7
15°	566.8	568.1	566.2	572.4	571.8
17.5°	557.4	558.6	558.0	564.3	564.3
20°	545.4	547.3	548.6	555.5	555.5
22.5°	533.5	536.0	537.3	544.8	544.8
25°	519.0	523.4	525.3	532.9	532.9
27.5°	504.0	509.6	513.4	520.3	521.6
30°	488.9	495.2	499.6	507.1	509.0
32.5°	472.5	478.8	485.7	493.3	495.8
35°	454.9	462.5	469.4	479.5	481.3
37.5°	436.7	445.5	453.7	464.4	466.9
40°	418.5	429.2	438.6	448.7	451.8
42.5°	399.0	409.7	422.3	433.0	436.1
45°	379.5	391.5	404.7	416.6	420.4
47.5°	360.1	372.6	387.1	399.6	404.0
50°	338.1	351.9	368.9	381.4	386.5
52.5°	316.7	331.8	350.6	363.2	368.9
55°	296.6	312.3	331.2	345.6	349.4
57.5°	273.3	290.9	311.7	327.4	331.2
60°	252.0	269.6	291.6	307.3	311.7
62.5°	230.0	248.8	271.5	287.2	291.6
65°	206.7	227.5	250.7	266.4	273.3
67.5°	184.1	204.9	229.4	247.0	252.6
70°	161.5	182.9	209.2	226.8	231.2
72.5°	137.6	160.9	187.9	206.1	212.4
75°	115.0	139.5	167.1	186.0	193.5
77.5°	93.0	118.8	147.7	167.1	172.2
80°	71.0	99.3	128.2	147.7	154.0
82.5°	53.4	79.8	110.0	130.7	135.7
85°	35.8	63.5	93.6	113.7	120.0
87.5°	21.4	49.6	78.5	97.4	103.7
90°	10.7	37.1	66.6	84.8	91.1
92.5°	9.4	33.3	61.6	79.8	86.1
95°	8.8	30.2	57.8	76.0	81.1
97.5°	8.2	27.6	54.0	71.6	77.3
100°	7.5	24.5	50.9	67.9	73.5
102.5°	6.9	22.0	47.1	64.1	69.7
105°	6.3	19.5	44.0	60.3	66.0
107.5°	5.7	17.0	40.8	56.6	62.2
110°	5.0	14.5	37.7	52.8	58.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.4	12.6	33.9	49.0	54.7
115°	4.4	10.1	30.8	45.2	50.9
117.5°	3.8	7.5	27.6	41.5	46.5
120°	3.8	5.7	24.5	37.7	42.7
122.5°	3.1	3.8	21.4	34.6	39.0
125°	2.5	1.9	18.2	30.8	35.2
127.5°	2.5	1.9	15.1	27.0	31.4
130°	1.9	1.9	11.9	23.2	27.6
132.5°	1.9	1.3	8.8	20.1	23.9
135°	1.3	1.3	5.7	16.3	20.1
137.5°	1.3	0.6	3.8	13.2	17.0
140°	1.3	0.6	1.3	10.1	13.2
142.5°	0.6	0.6	0.0	6.9	9.4
145°	0.6	0.0	0.0	3.8	6.3
147.5°	0.6	0.0	0.0	0.6	3.1
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	15.55	17.08	16.03	17.55	18.04	17.14	18.66	17.61	19.13	19.62
	3H	17.20	18.59	17.69	19.07	19.61	19.45	20.84	19.94	21.31	21.85
	4H	17.78	19.09	18.29	19.59	20.14	20.52	21.83	21.03	22.33	22.88
	6H	18.16	19.38	18.68	19.89	20.46	21.56	22.79	22.09	23.30	23.86
	8H	18.26	19.44	18.80	19.97	20.54	22.08	23.25	22.61	23.78	24.36
	12H	18.33	19.45	18.87	19.98	20.58	22.63	23.76	23.17	24.28	24.88
4H	2H	16.41	17.73	16.92	18.22	18.77	17.64	18.96	18.15	19.45	20.00
	3H	18.30	19.42	18.82	19.96	20.53	20.17	21.29	20.69	21.83	22.40
	4H	19.01	20.04	19.55	20.58	21.19	21.40	22.42	21.94	22.97	23.57
	6H	19.53	20.43	20.09	21.00	21.62	22.62	23.52	23.18	24.09	24.71
	8H	19.68	20.53	20.25	21.10	21.74	23.23	24.08	23.80	24.65	25.28
	12H	19.79	20.56	20.38	21.16	21.79	23.89	24.66	24.48	25.26	25.90
8H	4H	19.59	20.44	20.16	21.01	21.64	21.65	22.50	22.22	23.07	23.70
	6H	20.28	21.00	20.89	21.62	22.25	23.03	23.75	23.64	24.37	25.00
	8H	20.54	21.18	21.15	21.81	22.46	23.77	24.42	24.39	25.04	25.69
	12H	20.72	21.30	21.34	21.91	22.63	24.60	25.18	25.21	25.79	26.50
12H	4H	19.73	20.50	20.32	21.10	21.73	21.67	22.44	22.26	23.04	23.67
	6H	20.50	21.15	21.11	21.77	22.42	23.08	23.73	23.70	24.36	25.01
	8H	20.84	21.41	21.45	22.02	22.74	23.89	24.47	24.50	25.08	25.80