

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: P243530

Luminaire Tested: S124DRP-H795D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243530
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-H795D830-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

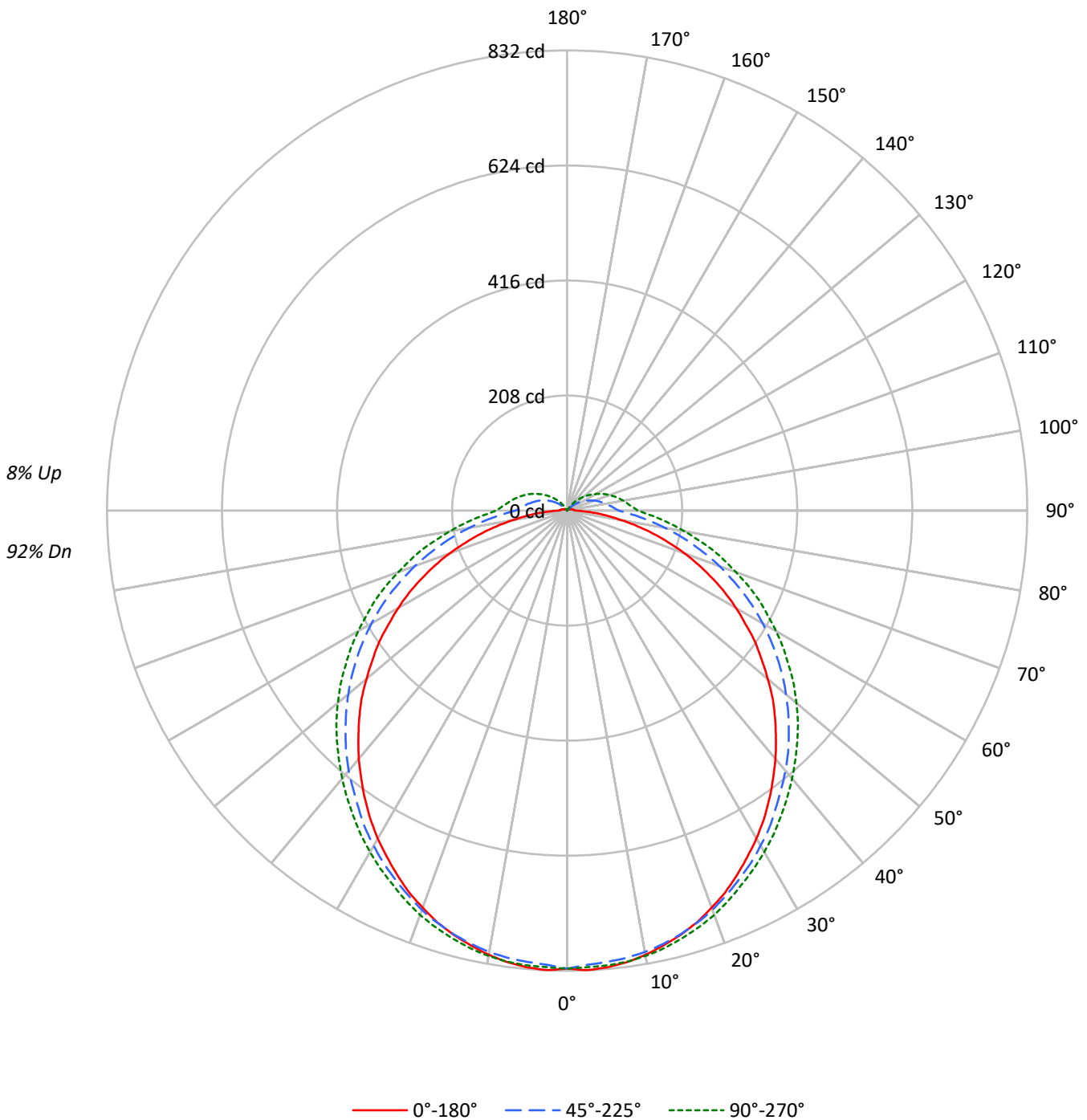
Lumens per Lamp: N/A
Luminaire Lumens: 2830.7 lumens
Efficiency: N/A
Efficacy: 119.9 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 23.6
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

TEST NUMBER: P243530

CATALOG NUMBER: S124DRP-H795D830-X4F0-XX-UDD-D-W

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°	7361	7361	7361
5°	7383	7182	7198
10°	7336	7062	7048
15°	7263	6919	6878
20°	7170	6766	6707
25°	7059	6590	6510
30°	6942	6425	6340
35°	6811	6243	6164
40°	6680	6087	5999
45°	6541	5918	5843
50°	6384	5748	5679
55°	6246	5568	5492
60°	6049	5365	5308
65°	5821	5139	5122
70°	5551	4884	4858
75°	5119	4567	4667
80°	4535	4263	4393
85°	4110	4016	4235

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6541 cd/sqm



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CATALOG NUMBER: S124DRP-H795D830-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.4	2.8
10°-20°	224.8	7.9
20°-30°	340.3	12.0
30°-40°	412.0	14.6
40°-50°	435.8	15.4
50°-60°	410.6	14.5
60°-70°	341.2	12.1
70°-80°	239.8	8.5
80°-90°	135.1	4.8
90°-100°	80.1	2.8
100°-110°	59.3	2.1
110°-120°	39.6	1.4
120°-130°	22.3	0.8
130°-140°	9.6	0.3
140°-150°	1.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	643.5	22.7
0°-40°	1055.5	37.3
0°-60°	1901.9	67.2
0°-90°	2617.9	92.5
90°-120°	179.1	6.3
90°-150°	212.8	7.5
90°-180°	213.0	7.5
0°-180°	2830.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	828	828	828	828	828	
5°	829	826	819	826	826	79
15°	794	796	793	802	801	224
25°	727	733	736	746	746	335
35°	637	648	657	672	674	399
45°	532	548	567	584	589	410
55°	415	437	464	484	489	370
65°	290	319	351	373	383	287
75°	161	195	234	260	271	171
85°	50	89	131	159	168	52
90°	15	52	93	119	128	10
95°	12	42	81	106	114	10
105°	9	27	62	84	92	9
115°	6	14	43	63	71	6
125°	4	3	26	43	49	3
135°	2	2	8	23	28	2
145°	1	0	0	5	9	1
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: P243530

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	828.1	828.1	828.1	828.1	828.1
2.5°	831.6	829.0	822.0	827.2	826.4
5°	829.0	825.5	819.3	826.4	825.5
7.5°	823.7	821.1	815.8	823.7	822.8
10°	815.8	814.0	810.5	817.6	817.6
12.5°	805.2	805.2	802.6	810.5	810.5
15°	793.8	795.5	792.9	801.7	800.8
17.5°	780.6	782.3	781.5	790.3	790.3
20°	763.9	766.5	768.3	777.9	777.9
22.5°	747.1	750.7	752.4	763.0	763.0
25°	726.9	733.1	735.7	746.3	746.3
27.5°	705.8	713.7	719.0	728.7	730.4
30°	684.7	693.5	699.6	710.2	712.8
32.5°	661.8	670.6	680.3	690.8	694.3
35°	637.1	647.7	657.4	671.5	674.1
37.5°	611.6	623.9	635.4	650.3	653.9
40°	586.1	601.1	614.3	628.3	632.7
42.5°	558.8	573.8	591.4	606.3	610.7
45°	531.5	548.3	566.7	583.5	588.7
47.5°	504.3	521.9	542.1	559.7	565.9
50°	473.5	492.8	516.6	534.2	541.2
52.5°	443.5	464.7	491.1	508.7	516.6
55°	415.4	437.4	463.8	484.0	489.3
57.5°	382.8	407.5	436.5	458.5	463.8
60°	352.9	377.5	408.3	430.3	436.5
62.5°	322.1	348.5	380.2	402.2	408.3
65°	289.5	318.6	351.1	373.1	382.8
67.5°	257.8	286.9	321.2	345.9	353.8
70°	226.2	256.1	293.1	317.7	323.9
72.5°	192.7	225.3	263.1	288.7	297.5
75°	161.0	195.4	234.1	260.5	271.1
77.5°	130.2	166.3	206.8	234.1	241.1
80°	99.4	139.0	179.5	206.8	215.6
82.5°	74.8	111.8	154.0	183.0	190.1
85°	50.2	88.9	131.1	159.3	168.1
87.5°	29.9	69.5	110.0	136.4	145.2
90°	15.0	51.9	93.3	118.8	127.6
92.5°	13.2	46.6	86.2	111.8	120.6
95°	12.3	42.2	81.0	106.5	113.5
97.5°	11.4	38.7	75.7	100.3	108.2
100°	10.6	34.3	71.3	95.0	103.0
102.5°	9.7	30.8	66.0	89.8	97.7
105°	8.8	27.3	61.6	84.5	92.4
107.5°	7.9	23.8	57.2	79.2	87.1
110°	7.0	20.2	52.8	73.9	81.8



TEST NUMBER: P243530

CATALOG NUMBER: S124DRP-H795D830-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.2	17.6	47.5	68.6	76.6
115°	6.2	14.1	43.1	63.4	71.3
117.5°	5.3	10.6	38.7	58.1	65.1
120°	5.3	7.9	34.3	52.8	59.8
122.5°	4.4	5.3	29.9	48.4	54.6
125°	3.5	2.6	25.5	43.1	49.3
127.5°	3.5	2.6	21.1	37.8	44.0
130°	2.6	2.6	16.7	32.6	38.7
132.5°	2.6	1.8	12.3	28.2	33.4
135°	1.8	1.8	7.9	22.9	28.2
137.5°	1.8	0.9	5.3	18.5	23.8
140°	1.8	0.9	1.8	14.1	18.5
142.5°	0.9	0.9	0.0	9.7	13.2
145°	0.9	0.0	0.0	5.3	8.8
147.5°	0.9	0.0	0.0	0.9	4.4
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	16.72	18.25	17.20	18.72	19.21	18.31	19.83	18.78	20.30	20.79
	3H	18.37	19.76	18.86	20.24	20.78	20.62	22.01	21.11	22.48	23.02
	4H	18.95	20.26	19.46	20.76	21.31	21.69	23.01	22.20	23.50	24.05
	6H	19.33	20.55	19.85	21.06	21.63	22.73	23.96	23.26	24.47	25.03
	8H	19.44	20.61	19.97	21.14	21.71	23.25	24.42	23.78	24.95	25.53
	12H	19.50	20.62	20.04	21.15	21.75	23.80	24.93	24.34	25.45	26.05
4H	2H	17.58	18.90	18.09	19.39	19.94	18.81	20.13	19.32	20.62	21.17
	3H	19.47	20.59	19.99	21.13	21.70	21.34	22.46	21.86	23.00	23.57
	4H	20.18	21.21	20.72	21.75	22.36	22.57	23.59	23.11	24.14	24.74
	6H	20.70	21.60	21.26	22.17	22.79	23.79	24.69	24.35	25.27	25.88
	8H	20.85	21.70	21.42	22.27	22.91	24.40	25.25	24.97	25.82	26.45
	12H	20.96	21.73	21.55	22.33	22.96	25.06	25.83	25.65	26.43	27.07
8H	4H	20.76	21.61	21.33	22.18	22.81	22.82	23.67	23.39	24.24	24.87
	6H	21.45	22.17	22.06	22.79	23.42	24.21	24.92	24.81	25.54	26.17
	8H	21.71	22.35	22.32	22.98	23.63	24.94	25.59	25.56	26.21	26.86
	12H	21.89	22.47	22.51	23.08	23.80	25.77	26.35	26.38	26.96	27.68
12H	4H	20.90	21.67	21.49	22.27	22.90	22.84	23.61	23.43	24.21	24.85
	6H	21.67	22.32	22.28	22.94	23.59	24.25	24.90	24.87	25.53	26.18
	8H	22.00	22.58	22.62	23.19	23.91	25.06	25.64	25.67	26.25	26.97