

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: P243288

Luminaire Tested: S123DRP-H560D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243288
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H560D830-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

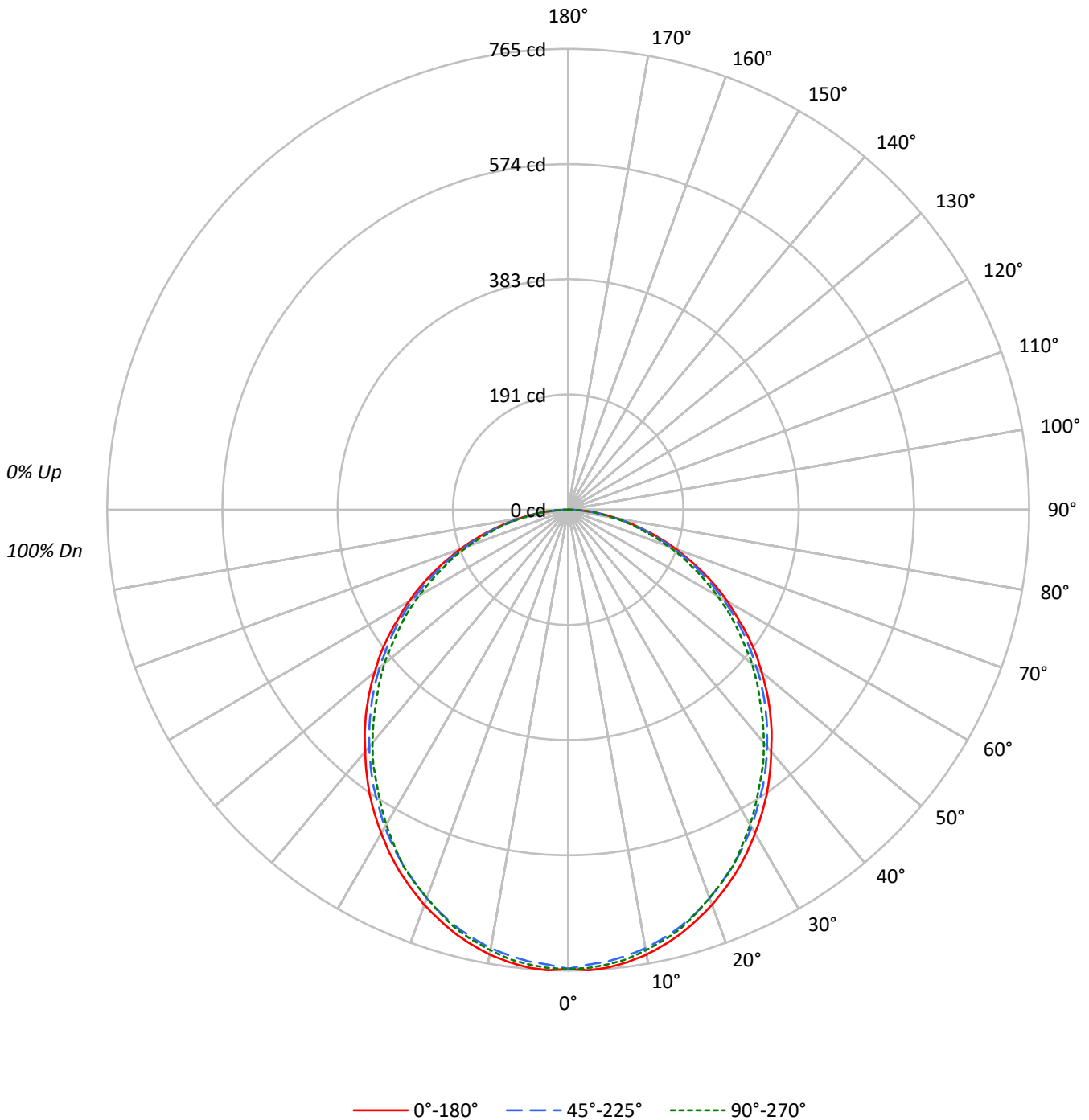
Lumens per Lamp: N/A
Luminaire Lumens: 2016.4 lumens
Efficiency: N/A
Efficacy: 117.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84				
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70				
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59				
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53	51				
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44				
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39				
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34				
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30				
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27				
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9239	9239	9239
5°	9281	9160	9221
10°	9227	9096	9141
15°	9132	8997	9036
20°	9005	8851	8844
25°	8858	8689	8699
30°	8681	8514	8452
35°	8508	8322	8201
40°	8293	8124	7994
45°	8122	7928	7722
50°	7903	7701	7513
55°	7675	7477	7223
60°	7404	7205	6916
65°	7084	6866	6579
70°	6727	6503	6234
75°	6238	6060	5737
80°	5612	5480	5305
85°	5243	4979	4812

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8122 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.9	3.6
10°-20°	203.4	10.1
20°-30°	301.1	14.9
30°-40°	353.1	17.5
40°-50°	357.0	17.7
50°-60°	315.7	15.7
60°-70°	237.1	11.8
70°-80°	136.6	6.8
80°-90°	40.5	2.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	576.3	28.6
0°-40°	929.4	46.1
0°-60°	1602.1	79.5
0°-90°	2016.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2016.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	762	762	762	762	762	
5°	763	760	753	759	758	72
15°	728	724	717	722	720	205
25°	662	657	650	653	650	305
35°	575	570	562	560	554	359
45°	474	470	462	456	450	365
55°	363	361	354	347	342	324
65°	247	245	239	233	229	245
75°	133	132	129	126	122	141
85°	38	37	36	35	35	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	762.2	762.2	762.2	762.2	762.2
2.5°	765.4	762.8	755.9	762.8	761.6
5°	762.8	759.7	752.8	759.1	757.8
7.5°	757.2	754.1	746.5	753.4	752.2
10°	749.7	746.5	739.0	744.6	742.7
12.5°	739.6	736.5	728.9	733.3	732.1
15°	727.7	723.9	717.0	722.0	720.1
17.5°	713.2	710.1	702.5	708.8	703.2
20°	698.1	695.0	686.2	691.8	685.6
22.5°	680.5	676.8	668.0	671.7	668.6
25°	662.3	657.3	649.7	652.9	650.4
27.5°	642.2	637.2	629.6	630.9	626.5
30°	620.2	615.8	608.3	609.5	603.9
32.5°	598.2	594.4	585.0	585.0	579.4
35°	575.0	569.9	562.4	560.5	554.2
37.5°	549.8	545.4	538.5	535.4	531.6
40°	524.1	521.6	513.4	509.6	505.2
42.5°	499.6	495.2	488.2	483.2	478.2
45°	473.8	470.0	462.5	456.2	450.5
47.5°	446.8	443.6	436.1	429.2	424.8
50°	419.1	416.6	408.4	400.9	398.4
52.5°	392.1	389.0	380.8	373.9	368.9
55°	363.2	360.7	353.8	346.9	341.8
57.5°	332.4	332.4	324.9	318.6	314.8
60°	305.4	302.2	297.2	290.3	285.3
62.5°	277.1	275.2	268.3	261.4	257.6
65°	247.0	245.1	239.4	233.1	229.4
67.5°	217.4	216.8	211.8	206.7	204.2
70°	189.8	188.5	183.5	178.5	175.9
72.5°	161.5	160.2	155.8	151.4	148.3
75°	133.2	132.0	129.4	125.7	122.5
77.5°	105.6	105.6	102.4	101.2	99.9
80°	80.4	79.8	78.5	77.3	76.0
82.5°	57.8	57.2	55.9	55.3	55.3
85°	37.7	37.1	35.8	35.2	34.6
87.5°	19.5	18.2	17.6	16.3	15.7
90°	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	19.18	20.80	19.54	21.12	21.43	18.87	20.49	19.23	20.81	21.12
	3H	20.97	22.44	21.35	22.77	23.13	20.62	22.09	21.00	22.42	22.78
	4H	21.65	23.04	22.05	23.38	23.76	21.27	22.65	21.67	23.00	23.38
	6H	22.15	23.43	22.56	23.80	24.19	21.77	23.05	22.18	23.42	23.81
	8H	22.32	23.54	22.74	23.93	24.33	21.94	23.17	22.37	23.56	23.95
	12H	22.44	23.61	22.87	24.00	24.42	22.06	23.24	22.49	23.62	24.05
4H	2H	19.77	21.15	20.16	21.50	21.87	19.52	20.91	19.92	21.25	21.63
	3H	21.79	22.95	22.20	23.35	23.75	21.50	22.66	21.90	23.05	23.45
	4H	22.60	23.65	23.03	24.07	24.50	22.27	23.33	22.71	23.74	24.17
	6H	23.23	24.15	23.69	24.59	25.05	22.90	23.82	23.36	24.26	24.72
	8H	23.45	24.31	23.91	24.75	25.22	23.12	23.99	23.58	24.43	24.89
	12H	23.62	24.40	24.10	24.87	25.34	23.29	24.07	23.77	24.54	25.01
8H	4H	22.90	23.76	23.36	24.20	24.66	22.61	23.47	23.07	23.91	24.38
	6H	23.65	24.37	24.14	24.85	25.33	23.36	24.08	23.86	24.57	25.04
	8H	23.95	24.59	24.46	25.10	25.58	23.66	24.30	24.17	24.81	25.30
	12H	24.21	24.77	24.71	25.26	25.83	23.91	24.48	24.42	24.97	25.53
12H	4H	22.93	23.70	23.41	24.18	24.65	22.65	23.42	23.13	23.90	24.37
	6H	23.71	24.35	24.21	24.86	25.34	23.43	24.07	23.94	24.58	25.07
	8H	24.06	24.63	24.57	25.12	25.68	23.79	24.36	24.30	24.85	25.41