

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P930022

Luminaire Tested: DFN2DS-4P4F0-080DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930022
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P4F0-080DS830-RLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

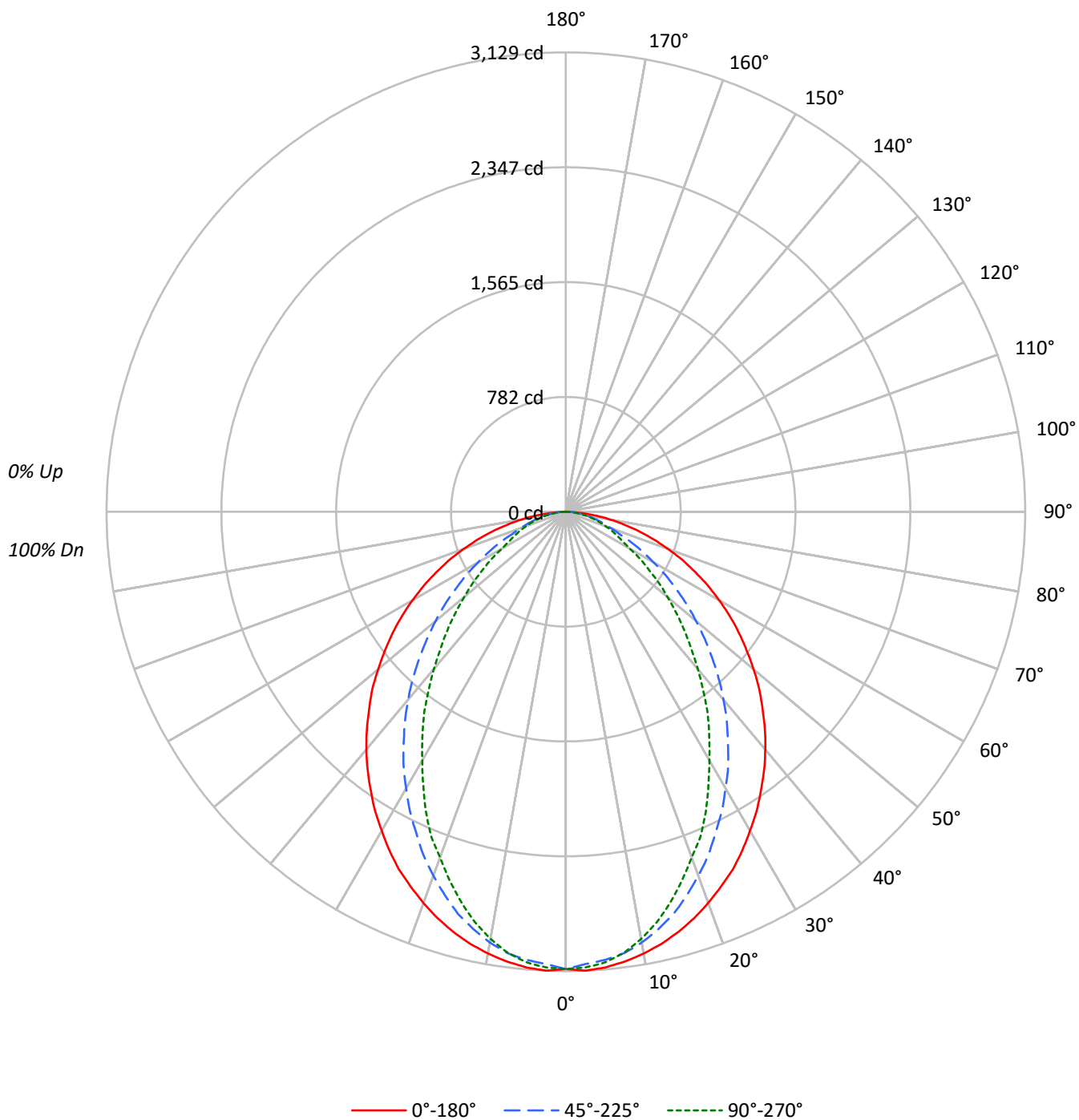
Lumens per Lamp: N/A
Luminaire Lumens: 6405.6 lumens
Efficiency: N/A
Efficacy: 74.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 86.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2021	2021	2021
5°	2028	1995	2006
10°	2013	1963	1946
15°	1990	1904	1850
20°	1958	1821	1730
25°	1925	1727	1614
30°	1879	1630	1465
35°	1835	1525	1335
40°	1790	1415	1184
45°	1738	1293	1047
50°	1684	1169	913
55°	1629	1036	784
60°	1565	896	651
65°	1493	753	593
70°	1406	620	545
75°	1300	565	509
80°	1147	505	464
85°	901	398	398

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1738 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	291.9	4.6
10°-20°	801.3	12.5
20°-30°	1125.1	17.6
30°-40°	1226.4	19.1
40°-50°	1127.2	17.6
50°-60°	885.2	13.8
60°-70°	576.2	9.0
70°-80°	296.6	4.6
80°-90°	75.7	1.2
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°	2218.3	34.6
0°-40°	3444.7	53.8
0°-60°	5457.1	85.2
0°-90°	6405.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6405.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3115	3115	3115	3115	3115	
5°	3115	3101	3064	3089	3081	295
15°	2962	2931	2836	2782	2754	835
25°	2689	2599	2413	2297	2255	1237
35°	2317	2173	1925	1748	1685	1450
45°	1894	1705	1409	1209	1142	1463
55°	1440	1220	916	747	694	1287
65°	972	744	490	395	386	964
75°	519	321	226	206	203	548
85°	121	62	54	54	54	145
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3114.6	3114.6	3114.6	3114.6	3114.6
2.5°	3128.7	3114.6	3083.5	3111.9	3106.2
5°	3114.6	3100.6	3063.8	3089.2	3080.8
7.5°	3089.2	3072.4	3033.0	3044.1	3029.9
10°	3055.4	3035.7	2979.5	2970.8	2954.0
12.5°	3013.3	2987.8	2911.5	2894.8	2863.7
15°	2962.4	2931.3	2835.6	2782.1	2753.9
17.5°	2903.1	2858.0	2739.6	2677.7	2632.5
20°	2835.6	2779.1	2638.3	2568.0	2505.7
22.5°	2762.3	2697.4	2533.9	2438.2	2396.0
25°	2689.0	2598.8	2412.7	2297.3	2254.9
27.5°	2601.7	2505.7	2300.0	2167.5	2102.6
30°	2508.7	2401.3	2175.9	2032.4	1956.1
32.5°	2418.4	2288.7	2057.8	1888.5	1818.0
35°	2317.0	2173.2	1925.3	1747.7	1685.4
37.5°	2218.3	2063.2	1801.2	1606.5	1536.2
40°	2114.0	1945.0	1671.4	1471.3	1398.0
42.5°	2006.9	1826.6	1541.9	1333.2	1262.8
45°	1894.2	1705.2	1409.4	1209.1	1141.5
47.5°	1787.2	1587.1	1282.6	1082.3	1020.4
50°	1668.7	1468.7	1158.6	963.9	904.9
52.5°	1553.0	1341.5	1040.1	854.1	800.6
55°	1440.2	1220.5	916.0	747.0	693.5
57.5°	1324.8	1099.3	806.3	648.4	603.2
60°	1206.3	980.9	690.5	546.9	501.8
62.5°	1090.9	865.4	591.9	456.7	434.3
65°	972.5	744.0	490.4	394.8	386.0
67.5°	859.8	631.3	394.8	346.6	338.3
70°	741.4	521.6	326.9	298.7	287.4
72.5°	628.6	419.8	273.4	250.9	245.2
75°	518.6	321.2	225.5	205.7	203.1
77.5°	408.8	228.2	177.7	166.3	160.6
80°	307.1	163.6	135.2	124.1	124.1
82.5°	214.1	110.0	93.0	87.3	87.3
85°	121.1	61.9	53.5	53.5	53.5
87.5°	45.1	22.4	22.4	19.8	19.8
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	13.68	15.20	14.04	15.51	15.83	9.64	11.16	10.00	11.47	11.79
	3H	15.44	16.81	15.82	17.14	17.50	10.90	12.27	11.28	12.60	12.96
	4H	16.11	17.39	16.51	17.74	18.12	11.41	12.69	11.81	13.04	13.41
	6H	16.60	17.78	17.01	18.15	18.54	11.79	12.97	12.20	13.34	13.73
	8H	16.76	17.89	17.19	18.28	18.68	11.91	13.04	12.34	13.43	13.83
	12H	16.87	17.95	17.30	18.33	18.76	11.99	13.07	12.42	13.45	13.88
4H	2H	13.78	15.06	14.18	15.41	15.79	10.33	11.62	10.73	11.96	12.34
	3H	15.72	16.78	16.13	17.18	17.58	11.78	12.84	12.19	13.24	13.64
	4H	16.47	17.42	16.90	17.84	18.28	12.38	13.33	12.81	13.75	14.19
	6H	17.06	17.89	17.51	18.33	18.79	12.87	13.70	13.32	14.14	14.60
	8H	17.27	18.05	17.73	18.49	18.96	13.03	13.80	13.49	14.25	14.72
	12H	17.42	18.12	17.91	18.60	19.07	13.14	13.84	13.63	14.32	14.79
8H	4H	16.49	17.27	16.95	17.71	18.18	12.73	13.51	13.19	13.95	14.42
	6H	17.13	17.77	17.62	18.26	18.74	13.32	13.96	13.81	14.45	14.93
	8H	17.38	17.95	17.89	18.46	18.95	13.54	14.12	14.05	14.62	15.11
	12H	17.58	18.09	18.09	18.58	19.15	13.72	14.23	14.23	14.72	15.28
12H	4H	16.47	17.17	16.96	17.65	18.12	12.77	13.47	13.26	13.95	14.42
	6H	17.11	17.69	17.62	18.20	18.68	13.38	13.96	13.89	14.47	14.96
	8H	17.39	17.90	17.90	18.39	18.96	13.65	14.16	14.16	14.66	15.22