

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: P931516

Luminaire Tested: DFN2DS-TR4F0-080DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931516
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-TR4F0-080DS830-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

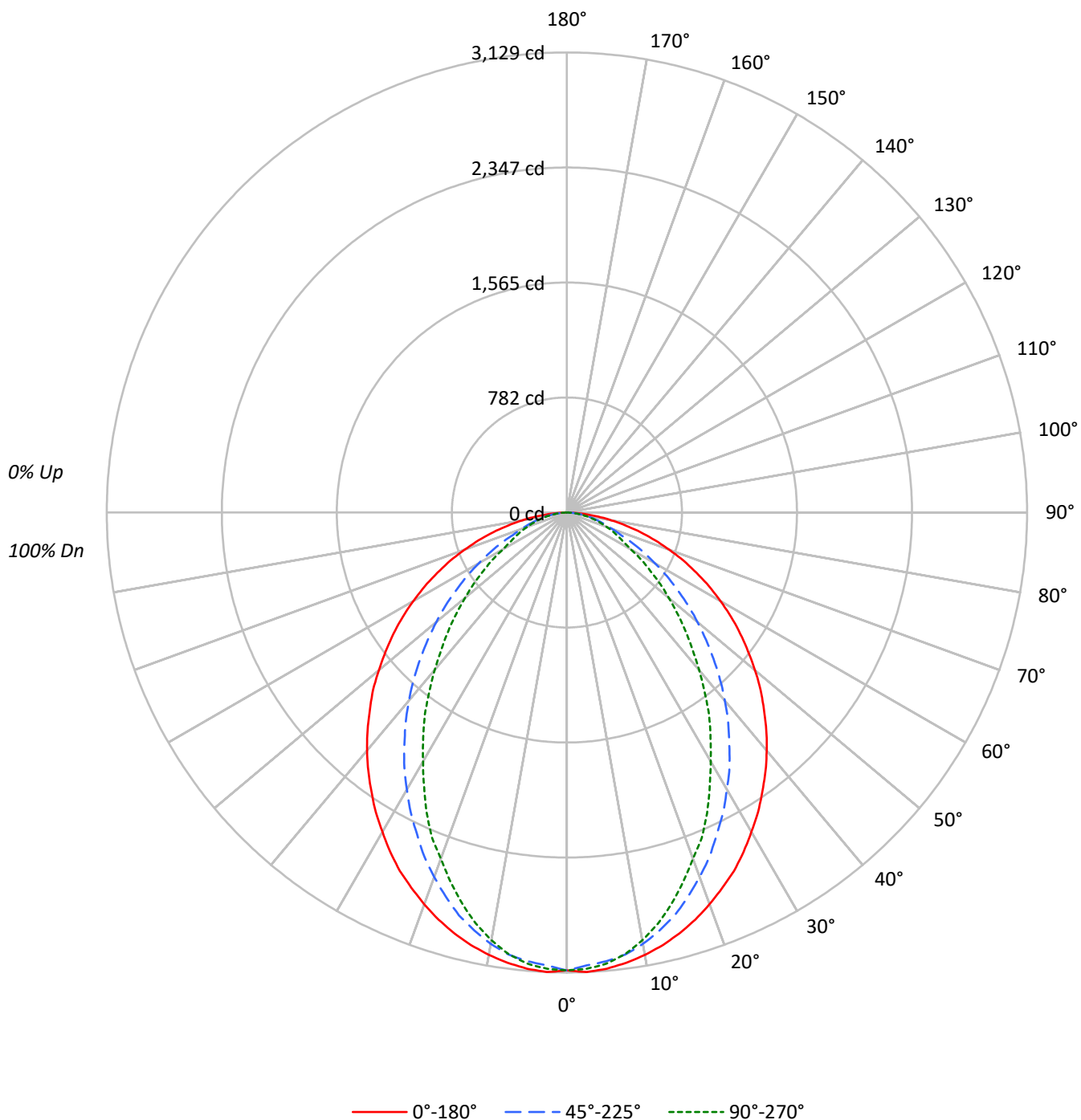
Lumens per Lamp: N/A
Luminaire Lumens: 6405.6 lumens
Efficiency: N/A
Efficacy: 78.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 81.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931516

CATALOG NUMBER: DFN2DS-TR4F0-080DS830-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931516

CATALOG NUMBER: DFN2DS-TR4F0-080DS830-RLL

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°	2474	2474	2474
5°	2484	2443	2457
10°	2465	2404	2383
15°	2436	2332	2265
20°	2397	2230	2118
25°	2357	2115	1977
30°	2301	1996	1794
35°	2247	1867	1635
40°	2192	1733	1450
45°	2128	1583	1282
50°	2062	1432	1118
55°	1995	1269	961
60°	1917	1097	797
65°	1828	922	726
70°	1722	759	668
75°	1592	692	623
80°	1405	619	568
85°	1104	488	488

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2128 cd/sqm

TEST NUMBER: P931516

CATALOG NUMBER: DFN2DS-TR4F0-080DS830-RLL

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	

TEST NUMBER: P931516

CATALOG NUMBER: DFN2DS-TR4F0-080DS830-RLL

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

TEST NUMBER: P931516

CATALOG NUMBER: DFN2DS-TR4F0-080DS830-RLL

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	14.38	15.90	14.75	16.22	16.53	10.34	11.87	10.71	12.18	12.49
	3H	16.15	17.51	16.53	17.84	18.20	11.61	12.97	11.99	13.30	13.66
	4H	16.81	18.09	17.21	18.44	18.82	12.11	13.39	12.51	13.74	14.12
	6H	17.30	18.49	17.72	18.85	19.24	12.49	13.67	12.90	14.04	14.43
	8H	17.47	18.59	17.89	18.98	19.39	12.62	13.74	13.04	14.13	14.53
	12H	17.57	18.65	18.00	19.03	19.46	12.70	13.77	13.13	14.16	14.59
4H	2H	14.49	15.77	14.89	16.12	16.49	11.04	12.32	11.44	12.67	13.05
	3H	16.42	17.48	16.83	17.88	18.28	12.48	13.54	12.89	13.94	14.35
	4H	17.17	18.13	17.60	18.54	18.98	13.08	14.04	13.51	14.45	14.89
	6H	17.76	18.59	18.22	19.04	19.50	13.57	14.40	14.03	14.84	15.30
	8H	17.98	18.75	18.44	19.20	19.66	13.73	14.51	14.19	14.95	15.42
	12H	18.13	18.82	18.61	19.30	19.77	13.85	14.54	14.33	15.02	15.49
8H	4H	17.19	17.97	17.66	18.41	18.88	13.43	14.21	13.90	14.66	15.12
	6H	17.83	18.47	18.33	18.96	19.44	14.02	14.66	14.52	15.16	15.63
	8H	18.08	18.66	18.60	19.17	19.66	14.24	14.82	14.76	15.33	15.82
	12H	18.29	18.80	18.79	19.29	19.85	14.42	14.93	14.93	15.42	15.99
12H	4H	17.18	17.87	17.66	18.35	18.82	13.48	14.17	13.96	14.65	15.12
	6H	17.81	18.39	18.33	18.90	19.39	14.08	14.66	14.60	15.17	15.66
	8H	18.10	18.61	18.61	19.10	19.66	14.36	14.87	14.87	15.36	15.92