

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: P931552

Luminaire Tested: DFN2DS-TR4F0-100DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931552
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-TR4F0-100DS830-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

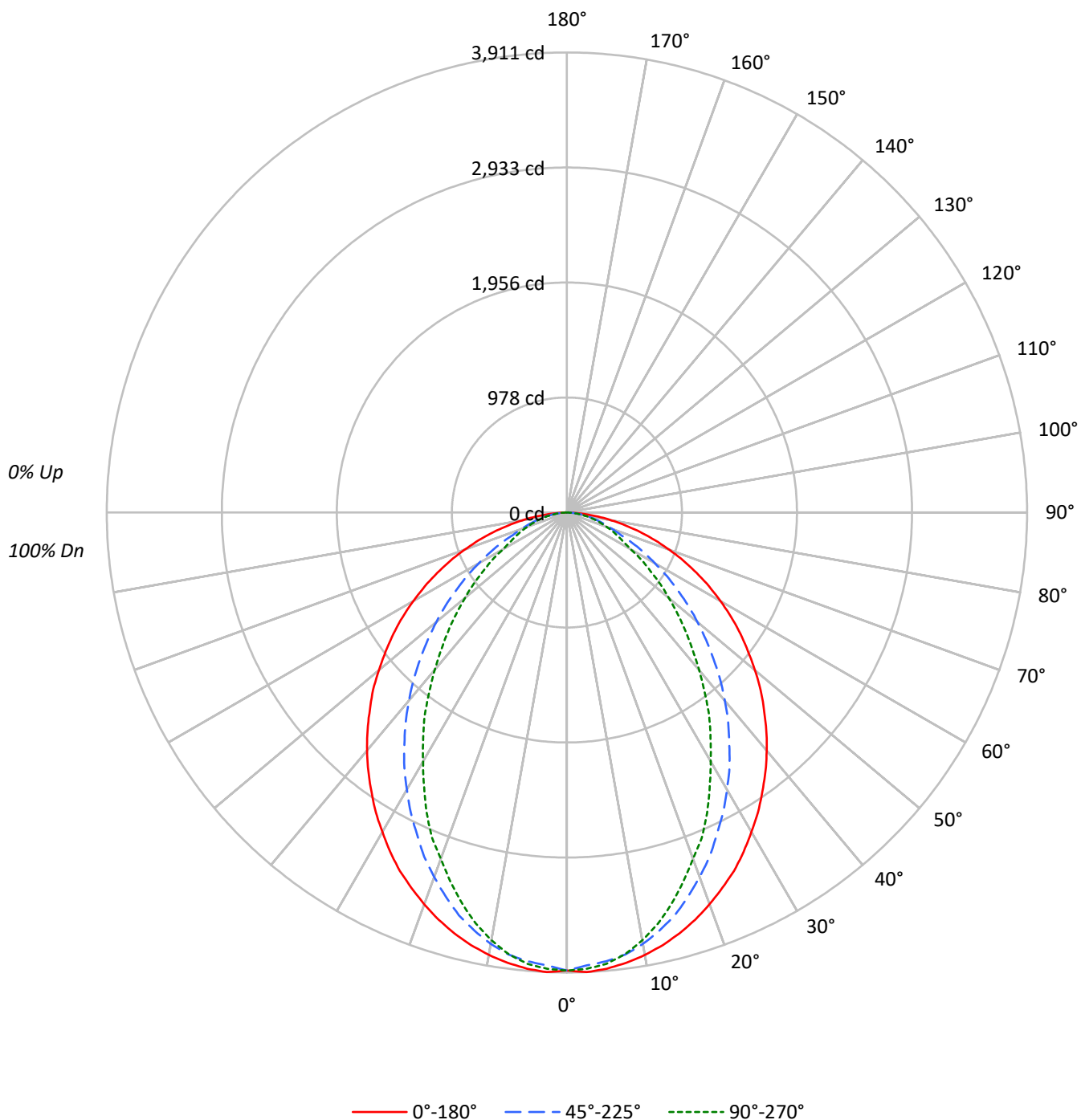
Lumens per Lamp: N/A
Luminaire Lumens: 8007.0 lumens
Efficiency: N/A
Efficacy: 74.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 107.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931552

CATALOG NUMBER: DFN2DS-TR4F0-100DS830-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931552

CATALOG NUMBER: DFN2DS-TR4F0-100DS830-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°	3093	3093	3093
5°	3105	3054	3071
10°	3081	3004	2979
15°	3046	2915	2831
20°	2997	2788	2648
25°	2946	2644	2471
30°	2877	2495	2243
35°	2809	2334	2043
40°	2740	2167	1812
45°	2660	1979	1603
50°	2578	1790	1398
55°	2494	1586	1201
60°	2396	1372	997
65°	2285	1152	907
70°	2152	949	835
75°	1990	865	779
80°	1756	773	710
85°	1380	610	610

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2660 cd/sqm

TEST NUMBER: P931552

CATALOG NUMBER: DFN2DS-TR4F0-100DS830-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	364.9	4.6
10°-20°	1001.7	12.5
20°-30°	1406.3	17.6
30°-40°	1533.0	19.1
40°-50°	1409.0	17.6
50°-60°	1106.5	13.8
60°-70°	720.2	9.0
70°-80°	370.7	4.6
80°-90°	94.7	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°	2772.9	34.6
0°-40°	4305.8	53.8
0°-60°	6821.3	85.2
0°-90°	8007.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8007.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3893	3893	3893	3893	3893	
5°	3893	3876	3830	3862	3851	369
15°	3703	3664	3544	3478	3442	1043
25°	3361	3248	3016	2872	2819	1546
35°	2896	2716	2407	2185	2107	1813
45°	2368	2132	1762	1511	1427	1829
55°	1800	1526	1145	934	867	1609
65°	1216	930	613	493	483	1205
75°	648	402	282	257	254	686
85°	151	77	67	67	67	181
90°	0	0	0	0	0	

TEST NUMBER: P931552

CATALOG NUMBER: DFN2DS-TR4F0-100DS830-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3893.3	3893.3	3893.3	3893.3	3893.3
2.5°	3910.8	3893.3	3854.4	3889.9	3882.8
5°	3893.3	3875.7	3829.7	3861.5	3851.0
7.5°	3861.5	3840.5	3791.2	3805.0	3787.5
10°	3819.2	3794.6	3724.3	3713.5	3692.5
12.5°	3766.6	3734.7	3639.4	3618.5	3579.6
15°	3703.0	3664.1	3544.5	3477.6	3442.4
17.5°	3629.0	3572.5	3424.5	3347.1	3290.7
20°	3544.5	3473.8	3297.8	3210.0	3132.1
22.5°	3452.9	3371.8	3167.3	3047.7	2995.0
25°	3361.3	3248.5	3015.9	2871.6	2818.6
27.5°	3252.2	3132.1	2875.0	2709.4	2628.3
30°	3135.9	3001.7	2719.8	2540.5	2445.1
32.5°	3023.1	2860.8	2572.2	2360.7	2272.4
35°	2896.3	2716.5	2406.6	2184.6	2106.8
37.5°	2773.0	2578.9	2251.5	2008.2	1920.3
40°	2642.5	2431.3	2089.3	1839.2	1747.6
42.5°	2508.6	2283.2	1927.4	1666.5	1578.6
45°	2367.7	2131.5	1761.8	1511.3	1426.8
47.5°	2234.0	1983.9	1603.3	1352.8	1275.5
50°	2085.9	1835.8	1448.1	1204.8	1131.2
52.5°	1941.2	1676.9	1300.1	1067.6	1000.7
55°	1800.3	1525.6	1145.0	933.8	866.8
57.5°	1656.0	1374.1	1007.8	810.4	754.0
60°	1508.0	1226.1	863.2	683.7	627.3
62.5°	1363.6	1081.8	739.8	570.9	542.8
65°	1215.7	930.0	613.1	493.4	482.6
67.5°	1074.7	789.1	493.4	433.2	422.8
70°	926.6	652.0	408.5	373.4	359.3
72.5°	785.7	524.8	341.7	313.6	306.5
75°	648.2	401.5	281.8	257.2	253.8
77.5°	511.0	285.2	222.0	207.8	200.7
80°	383.9	204.5	169.0	155.1	155.1
82.5°	267.6	137.5	116.2	109.2	109.2
85°	151.4	77.3	66.9	66.9	66.9
87.5°	56.4	28.1	28.1	24.7	24.7
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931552

CATALOG NUMBER: DFN2DS-TR4F0-100DS830-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	15.16	16.68	15.52	16.99	17.31	11.12	12.64	11.48	12.95	13.27
	3H	16.92	18.29	17.30	18.62	18.98	12.38	13.75	12.76	14.08	14.44
	4H	17.59	18.87	17.99	19.22	19.60	12.88	14.17	13.28	14.51	14.89
	6H	18.08	19.26	18.49	19.63	20.02	13.27	14.45	13.68	14.82	15.21
	8H	18.24	19.37	18.67	19.76	20.16	13.39	14.52	13.82	14.91	15.31
	12H	18.35	19.42	18.78	19.81	20.24	13.47	14.55	13.90	14.93	15.36
4H	2H	15.26	16.54	15.66	16.89	17.27	11.81	13.09	12.21	13.44	13.82
	3H	17.19	18.26	17.61	18.66	19.06	13.26	14.32	13.67	14.72	15.12
	4H	17.94	18.90	18.38	19.32	19.76	13.86	14.81	14.29	15.23	15.67
	6H	18.54	19.37	18.99	19.81	20.27	14.34	15.18	14.80	15.62	16.08
	8H	18.75	19.53	19.21	19.97	20.44	14.51	15.28	14.97	15.73	16.20
	12H	18.90	19.60	19.39	20.08	20.55	14.62	15.32	15.11	15.80	16.27
8H	4H	17.97	18.75	18.43	19.19	19.66	14.21	14.99	14.67	15.43	15.90
	6H	18.61	19.25	19.10	19.74	20.22	14.80	15.44	15.29	15.93	16.41
	8H	18.86	19.43	19.37	19.94	20.43	15.02	15.59	15.53	16.10	16.59
	12H	19.06	19.57	19.57	20.06	20.63	15.20	15.71	15.71	16.20	16.76
12H	4H	17.95	18.65	18.44	19.13	19.60	14.25	14.95	14.74	15.43	15.90
	6H	18.59	19.16	19.10	19.67	20.16	14.86	15.44	15.37	15.95	16.44
	8H	18.87	19.38	19.38	19.87	20.44	15.13	15.64	15.64	16.14	16.70