

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: P931520

Luminaire Tested: DFN2DS-TR4F0-080DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931520
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-TR4F0-080DS840-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

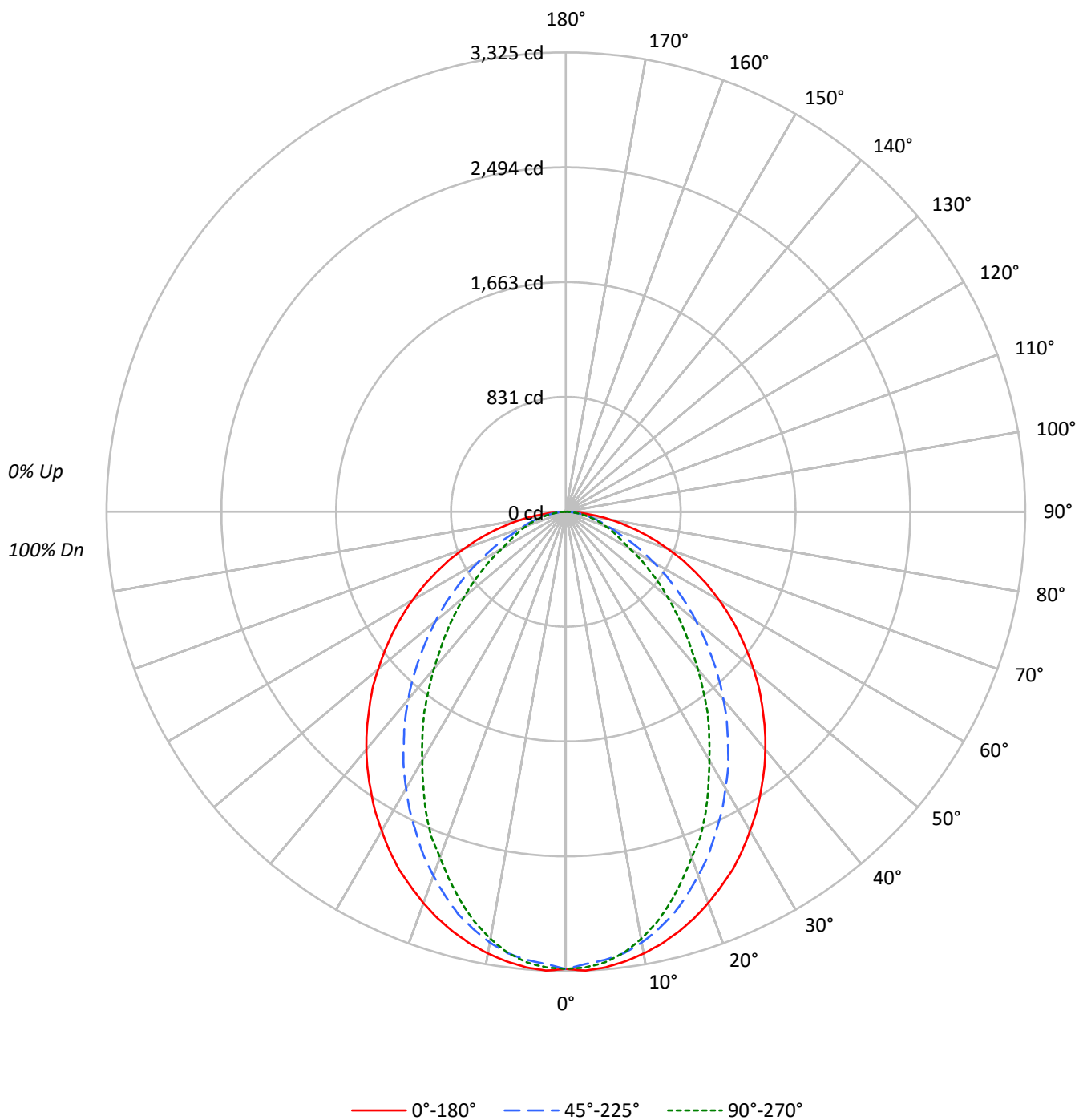
Lumens per Lamp: N/A
Luminaire Lumens: 6806.8 lumens
Efficiency: N/A
Efficacy: 83.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

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: P931520

CATALOG NUMBER: DFN2DS-TR4F0-080DS840-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931520

CATALOG NUMBER: DFN2DS-TR4F0-080DS840-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°	2629	2629	2629
5°	2639	2596	2611
10°	2619	2554	2532
15°	2589	2478	2407
20°	2547	2370	2251
25°	2505	2247	2100
30°	2446	2121	1907
35°	2388	1984	1737
40°	2330	1842	1541
45°	2261	1683	1363
50°	2192	1522	1188
55°	2120	1348	1021
60°	2037	1166	847
65°	1943	980	771
70°	1830	807	709
75°	1692	735	662
80°	1493	657	603
85°	1173	519	519

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2261 cd/sqm

TEST NUMBER: P931520

CATALOG NUMBER: DFN2DS-TR4F0-080DS840-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.2	4.6
10°-20°	851.5	12.5
20°-30°	1195.5	17.6
30°-40°	1303.2	19.1
40°-50°	1197.8	17.6
50°-60°	940.7	13.8
60°-70°	612.3	9.0
70°-80°	315.2	4.6
80°-90°	80.5	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°	2357.2	34.6
0°-40°	3660.4	53.8
0°-60°	5798.9	85.2
0°-90°	6806.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6806.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3310	3310	3310	3310	3310	
5°	3310	3295	3256	3283	3274	314
15°	3148	3115	3013	2956	2926	887
25°	2858	2762	2564	2441	2396	1314
35°	2462	2309	2046	1857	1791	1541
45°	2013	1812	1498	1285	1213	1554
55°	1530	1297	973	794	737	1368
65°	1033	791	521	420	410	1025
75°	551	341	240	219	216	583
85°	129	66	57	57	57	154
90°	0	0	0	0	0	

TEST NUMBER: P931520

CATALOG NUMBER: DFN2DS-TR4F0-080DS840-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3309.7	3309.7	3309.7	3309.7	3309.7
2.5°	3324.6	3309.7	3276.7	3306.8	3300.8
5°	3309.7	3294.8	3255.7	3282.7	3273.8
7.5°	3282.7	3264.9	3222.9	3234.7	3219.7
10°	3246.7	3225.8	3166.1	3156.9	3139.0
12.5°	3202.0	3175.0	3093.9	3076.1	3043.0
15°	3147.9	3114.9	3013.2	2956.4	2926.4
17.5°	3085.0	3037.0	2911.2	2845.4	2797.4
20°	3013.2	2953.2	2803.5	2728.8	2662.7
22.5°	2935.3	2866.4	2692.6	2590.9	2546.0
25°	2857.5	2761.6	2563.9	2441.2	2396.1
27.5°	2764.7	2662.7	2444.0	2303.3	2234.3
30°	2665.9	2551.7	2312.2	2159.7	2078.6
32.5°	2569.9	2432.0	2186.7	2006.8	1931.8
35°	2462.2	2309.3	2045.8	1857.2	1791.0
37.5°	2357.3	2192.4	1914.0	1707.1	1632.4
40°	2246.4	2066.9	1776.1	1563.5	1485.6
42.5°	2132.6	1941.0	1638.4	1416.7	1341.9
45°	2012.8	1812.0	1497.7	1284.8	1213.0
47.5°	1899.1	1686.5	1363.0	1150.0	1084.3
50°	1773.2	1560.7	1231.1	1024.2	961.6
52.5°	1650.2	1425.5	1105.2	907.6	850.7
55°	1530.4	1296.9	973.4	793.8	736.9
57.5°	1407.8	1168.2	856.8	689.0	640.9
60°	1281.9	1042.3	733.7	581.2	533.2
62.5°	1159.3	919.6	628.9	485.3	461.5
65°	1033.4	790.6	521.1	419.5	410.2
67.5°	913.6	670.9	419.5	368.3	359.5
70°	787.8	554.3	347.3	317.4	305.4
72.5°	668.0	446.1	290.5	266.7	260.6
75°	551.1	341.3	239.6	218.6	215.8
77.5°	434.4	242.4	188.8	176.7	170.7
80°	326.3	173.9	143.6	131.8	131.8
82.5°	227.5	116.9	98.8	92.8	92.8
85°	128.7	65.8	56.9	56.9	56.9
87.5°	47.9	23.8	23.8	21.0	21.0
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931520

CATALOG NUMBER: DFN2DS-TR4F0-080DS840-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	14.59	16.12	14.96	16.43	16.74	10.55	12.08	10.92	12.39	12.70
	3H	16.36	17.72	16.74	18.05	18.41	11.82	13.18	12.20	13.51	13.87
	4H	17.03	18.31	17.43	18.65	19.03	12.32	13.60	12.72	13.95	14.33
	6H	17.51	18.70	17.93	19.06	19.46	12.70	13.88	13.11	14.25	14.64
	8H	17.68	18.81	18.11	19.20	19.60	12.83	13.95	13.25	14.34	14.74
	12H	17.78	18.86	18.21	19.24	19.67	12.91	13.99	13.34	14.37	14.80
4H	2H	14.70	15.98	15.10	16.33	16.71	11.25	12.53	11.65	12.88	13.26
	3H	16.63	17.69	17.04	18.09	18.49	12.69	13.76	13.10	14.16	14.56
	4H	17.38	18.34	17.81	18.75	19.19	13.29	14.25	13.72	14.66	15.10
	6H	17.97	18.80	18.43	19.25	19.71	13.78	14.61	14.24	15.05	15.51
	8H	18.19	18.96	18.65	19.41	19.88	13.94	14.72	14.41	15.16	15.63
	12H	18.34	19.03	18.82	19.51	19.98	14.06	14.75	14.54	15.23	15.70
8H	4H	17.40	18.18	17.87	18.63	19.09	13.65	14.42	14.11	14.87	15.33
	6H	18.04	18.68	18.54	19.18	19.65	14.23	14.87	14.73	15.37	15.84
	8H	18.29	18.87	18.81	19.38	19.87	14.45	15.03	14.97	15.54	16.03
	12H	18.50	19.01	19.01	19.50	20.06	14.63	15.14	15.14	15.63	16.20
12H	4H	17.39	18.08	17.87	18.56	19.03	13.69	14.38	14.17	14.86	15.33
	6H	18.02	18.60	18.54	19.11	19.60	14.30	14.87	14.81	15.38	15.87
	8H	18.31	18.82	18.82	19.31	19.87	14.57	15.08	15.08	15.57	16.14