

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: P931515

Luminaire Tested: DFN2DS-TR4F0-080DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931515
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-TR4F0-080DS830-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

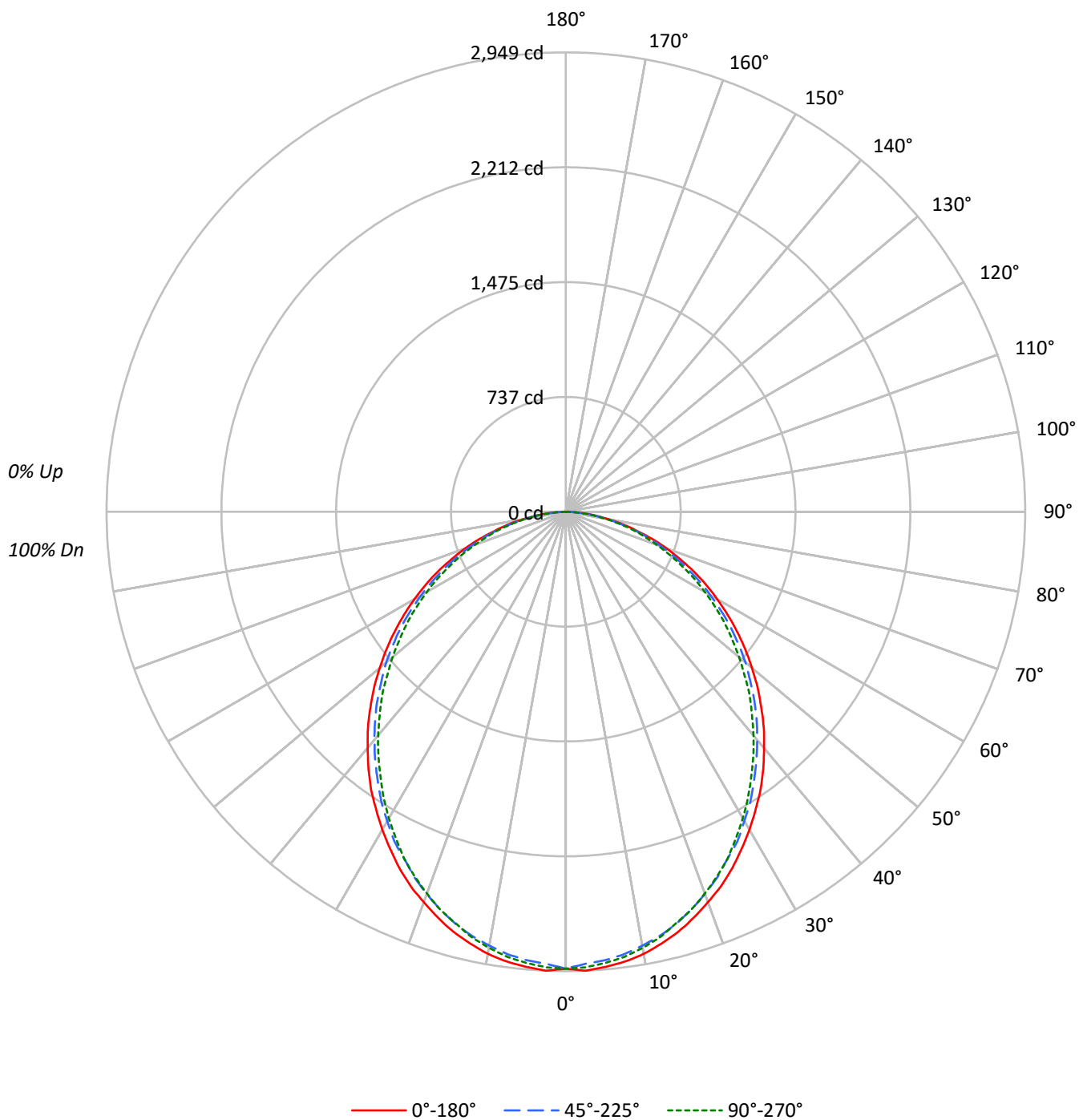
Lumens per Lamp: N/A
Luminaire Lumens: 7460.7 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

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: P931515

CATALOG NUMBER: DFN2DS-TR4F0-080DS830-FLL

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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2330	2330	2330
5°	2338	2305	2318
10°	2325	2281	2293
15°	2296	2252	2250
20°	2255	2207	2205
25°	2214	2153	2153
30°	2163	2103	2085
35°	2114	2043	2013
40°	2053	1982	1945
45°	1993	1923	1875
50°	1927	1861	1795
55°	1859	1789	1722
60°	1783	1702	1640
65°	1702	1617	1543
70°	1598	1513	1441
75°	1453	1393	1359
80°	1291	1251	1186
85°	1053	1004	900

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1993 cd/sqm

TEST NUMBER: P931515

CATALOG NUMBER: DFN2DS-TR4F0-080DS830-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.0	3.7
10°-20°	776.5	10.4
20°-30°	1141.2	15.3
30°-40°	1325.4	17.8
40°-50°	1323.8	17.7
50°-60°	1154.3	15.5
60°-70°	853.3	11.4
70°-80°	482.8	6.5
80°-90°	127.4	1.7
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°	2193.7	29.4
0°-40°	3519.1	47.2
0°-60°	5997.2	80.4
0°-90°	7460.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7460.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2932	2932	2932	2932	2932	
5°	2932	2921	2890	2913	2907	278
15°	2791	2775	2738	2749	2735	786
25°	2526	2504	2456	2461	2456	1163
35°	2180	2152	2106	2089	2075	1361
45°	1774	1754	1711	1681	1669	1369
55°	1342	1325	1292	1258	1244	1200
65°	905	888	860	835	821	895
75°	474	468	454	437	443	505
85°	116	113	110	102	99	136
90°	0	0	0	0	0	

TEST NUMBER: P931515

CATALOG NUMBER: DFN2DS-TR4F0-080DS830-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2932.3	2932.3	2932.3	2932.3	2932.3
2.5°	2949.3	2935.3	2904.2	2932.3	2926.9
5°	2932.3	2921.2	2890.2	2912.6	2907.2
7.5°	2912.6	2895.8	2864.7	2887.4	2881.8
10°	2881.8	2862.0	2828.2	2850.6	2842.3
12.5°	2839.3	2822.5	2788.7	2802.7	2797.1
15°	2791.4	2774.7	2737.8	2749.2	2735.2
17.5°	2732.2	2715.4	2678.6	2692.7	2678.6
20°	2667.3	2650.5	2611.0	2619.4	2608.3
22.5°	2602.7	2577.2	2540.4	2540.4	2534.7
25°	2526.3	2503.9	2456.1	2461.4	2456.1
27.5°	2441.7	2422.0	2385.4	2377.0	2363.0
30°	2357.4	2334.6	2292.5	2284.1	2272.7
32.5°	2267.0	2250.2	2205.0	2188.0	2176.7
35°	2179.6	2151.5	2106.3	2089.3	2075.2
37.5°	2080.9	2055.4	2010.3	1990.5	1976.5
40°	1979.5	1956.7	1911.6	1886.4	1875.1
42.5°	1880.8	1858.0	1813.2	1784.7	1768.0
45°	1773.7	1753.9	1711.4	1680.6	1669.3
47.5°	1669.3	1649.5	1604.3	1573.2	1556.5
50°	1559.2	1545.2	1505.6	1466.1	1452.1
52.5°	1452.1	1432.3	1395.9	1364.8	1345.0
55°	1342.3	1325.2	1291.5	1257.7	1243.5
57.5°	1232.2	1218.2	1181.4	1147.5	1136.1
60°	1122.1	1111.1	1071.5	1040.4	1032.1
62.5°	1015.0	995.3	967.2	939.1	927.7
65°	905.3	888.2	860.0	834.6	820.6
67.5°	792.4	778.1	752.9	733.3	721.9
70°	688.0	676.6	651.3	631.5	620.4
72.5°	580.9	569.6	555.5	535.8	527.4
75°	473.5	468.2	453.9	437.1	442.7
77.5°	377.8	366.4	360.8	352.4	344.0
80°	282.1	279.1	273.5	265.1	259.3
82.5°	191.8	191.8	189.1	177.7	177.7
85°	115.5	112.8	110.1	101.5	98.7
87.5°	50.9	45.2	39.5	31.1	28.2
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931515

CATALOG NUMBER: DFN2DS-TR4F0-080DS830-FLL

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	14.22	15.83	14.59	16.15	16.46	13.78	15.39	14.14	15.70	16.02
	3H	15.97	17.43	16.35	17.75	18.11	15.48	16.93	15.86	17.26	17.62
	4H	16.62	17.99	17.02	18.33	18.71	16.12	17.49	16.52	17.84	18.22
	6H	17.09	18.35	17.50	18.72	19.11	16.58	17.85	17.00	18.22	18.61
	8H	17.23	18.44	17.65	18.83	19.23	16.73	17.94	17.15	18.33	18.73
	12H	17.32	18.48	17.75	18.86	19.29	16.81	17.97	17.24	18.35	18.78
4H	2H	14.78	16.15	15.18	16.50	16.87	14.43	15.80	14.83	16.14	16.52
	3H	16.76	17.90	17.17	18.30	18.70	16.35	17.50	16.76	17.89	18.29
	4H	17.53	18.57	17.96	18.98	19.42	17.11	18.14	17.54	18.56	18.99
	6H	18.13	19.03	18.58	19.47	19.93	17.70	18.60	18.15	19.04	19.50
	8H	18.32	19.17	18.78	19.61	20.07	17.88	18.73	18.34	19.17	19.63
	12H	18.45	19.21	18.93	19.69	20.16	18.00	18.76	18.48	19.23	19.70
8H	4H	17.81	18.65	18.27	19.10	19.56	17.43	18.28	17.89	18.72	19.19
	6H	18.52	19.22	19.01	19.71	20.19	18.14	18.84	18.63	19.33	19.81
	8H	18.78	19.41	19.29	19.92	20.40	18.39	19.02	18.90	19.53	20.01
	12H	18.98	19.54	19.49	20.03	20.59	18.57	19.12	19.07	19.61	20.18
12H	4H	17.83	18.59	18.31	19.07	19.54	17.47	18.23	17.95	18.70	19.17
	6H	18.57	19.20	19.08	19.70	20.19	18.20	18.83	18.71	19.34	19.82
	8H	18.88	19.44	19.39	19.93	20.49	18.50	19.06	19.01	19.55	20.11