

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: P931557

Luminaire Tested: DFN2DS-TR4F0-100DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931557
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-TR4F0-100DS850-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

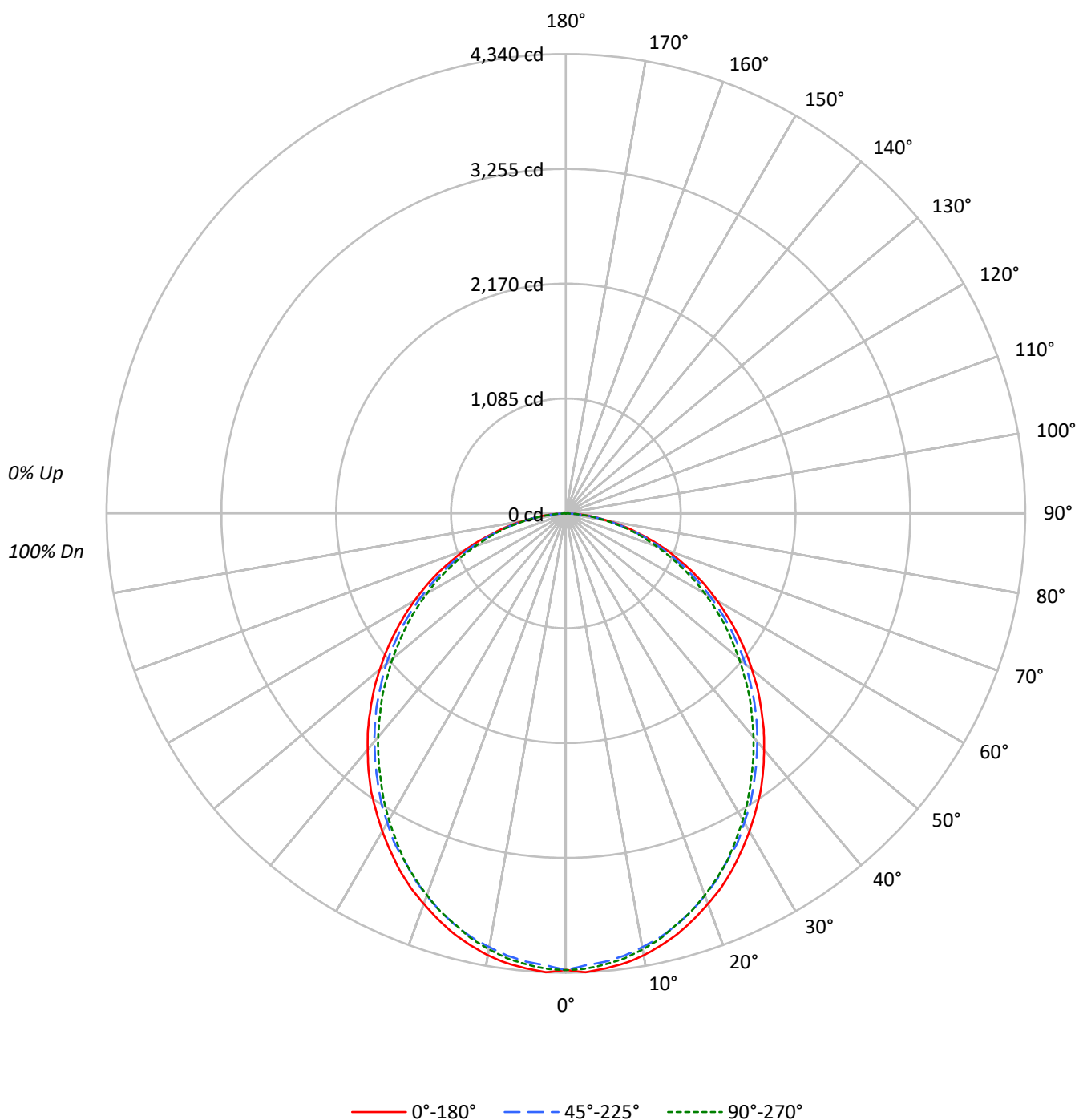
Lumens per Lamp: N/A
Luminaire Lumens: 10979.1 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P931557

CATALOG NUMBER: DFN2DS-TR4F0-100DS850-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931557

CATALOG NUMBER: DFN2DS-TR4F0-100DS850-FLL

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°	3428	3428	3428
5°	3441	3392	3412
10°	3421	3357	3374
15°	3378	3314	3310
20°	3318	3248	3245
25°	3259	3168	3168
30°	3182	3095	3068
35°	3111	3006	2962
40°	3021	2917	2862
45°	2932	2830	2760
50°	2836	2738	2641
55°	2736	2632	2535
60°	2624	2505	2413
65°	2504	2379	2270
70°	2352	2226	2121
75°	2139	2050	2000
80°	1899	1841	1746
85°	1549	1477	1324

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2932 cd/sqm

TEST NUMBER: P931557

CATALOG NUMBER: DFN2DS-TR4F0-100DS850-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	406.1	3.7
10°-20°	1142.7	10.4
20°-30°	1679.4	15.3
30°-40°	1950.5	17.8
40°-50°	1948.1	17.7
50°-60°	1698.7	15.5
60°-70°	1255.7	11.4
70°-80°	710.4	6.5
80°-90°	187.5	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°	3228.3	29.4
0°-40°	5178.7	47.2
0°-60°	8825.5	80.4
0°-90°	10979.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10979.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4315	4315	4315	4315	4315	
5°	4315	4299	4253	4286	4278	410
15°	4108	4083	4029	4046	4025	1157
25°	3718	3685	3614	3622	3614	1711
35°	3208	3166	3100	3075	3054	2003
45°	2610	2581	2518	2473	2456	2014
55°	1975	1950	1900	1851	1830	1766
65°	1332	1307	1266	1228	1208	1317
75°	697	689	668	643	652	744
85°	170	166	162	149	145	200
90°	0	0	0	0	0	

TEST NUMBER: P931557

CATALOG NUMBER: DFN2DS-TR4F0-100DS850-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4315.2	4315.2	4315.2	4315.2	4315.2
2.5°	4340.3	4319.6	4273.8	4315.2	4307.2
5°	4315.2	4298.9	4253.1	4286.2	4278.2
7.5°	4286.2	4261.4	4215.6	4249.1	4240.8
10°	4240.8	4211.8	4162.0	4195.0	4182.7
12.5°	4178.3	4153.6	4103.9	4124.6	4116.2
15°	4107.8	4083.2	4029.0	4045.7	4025.1
17.5°	4020.7	3996.1	3941.8	3962.6	3941.8
20°	3925.1	3900.5	3842.4	3854.7	3838.4
22.5°	3830.0	3792.7	3738.4	3738.4	3730.1
25°	3717.8	3684.8	3614.3	3622.2	3614.3
27.5°	3593.2	3564.1	3510.4	3498.1	3477.4
30°	3469.1	3435.6	3373.5	3361.2	3344.4
32.5°	3336.1	3311.5	3244.9	3219.9	3203.1
35°	3207.6	3166.2	3099.7	3074.6	3053.9
37.5°	3062.3	3024.8	2958.4	2929.3	2908.6
40°	2913.0	2879.5	2813.1	2776.2	2759.4
42.5°	2767.7	2734.2	2668.3	2626.4	2601.8
45°	2610.1	2581.1	2518.5	2473.2	2456.5
47.5°	2456.5	2427.5	2361.0	2315.1	2290.5
50°	2294.5	2273.8	2215.7	2157.6	2136.9
52.5°	2136.9	2107.9	2054.1	2008.4	1979.3
55°	1975.4	1950.3	1900.5	1850.7	1830.1
57.5°	1813.3	1792.6	1738.5	1688.8	1672.0
60°	1651.3	1635.0	1576.9	1531.1	1518.8
62.5°	1493.7	1464.7	1423.3	1381.9	1365.2
65°	1332.1	1307.1	1265.7	1228.2	1207.6
67.5°	1166.2	1145.0	1108.1	1079.1	1062.3
70°	1012.5	995.8	958.4	929.3	913.0
72.5°	854.9	838.2	817.6	788.5	776.1
75°	696.9	689.0	667.8	643.2	651.5
77.5°	556.1	539.3	530.9	518.6	506.3
80°	415.1	410.8	402.3	390.0	381.7
82.5°	282.2	282.2	278.2	261.5	261.5
85°	169.9	166.0	162.0	149.3	145.3
87.5°	74.9	66.4	58.1	45.8	41.4
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931557

CATALOG NUMBER: DFN2DS-TR4F0-100DS850-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	15.56	17.17	15.93	17.49	17.80	15.12	16.73	15.48	17.04	17.36
	3H	17.31	18.77	17.69	19.09	19.45	16.82	18.28	17.20	18.60	18.96
	4H	17.96	19.33	18.36	19.68	20.05	17.46	18.83	17.86	19.18	19.56
	6H	18.43	19.70	18.84	20.06	20.45	17.93	19.20	18.34	19.56	19.95
	8H	18.57	19.78	19.00	20.17	20.57	18.07	19.28	18.49	19.67	20.07
	12H	18.66	19.82	19.09	20.20	20.63	18.15	19.31	18.58	19.69	20.12
4H	2H	16.12	17.49	16.52	17.84	18.22	15.77	17.14	16.17	17.49	17.86
	3H	18.10	19.24	18.51	19.64	20.04	17.69	18.84	18.10	19.24	19.64
	4H	18.88	19.91	19.31	20.32	20.76	18.45	19.49	18.88	19.90	20.34
	6H	19.47	20.38	19.93	20.82	21.27	19.04	19.94	19.49	20.38	20.84
	8H	19.66	20.51	20.12	20.95	21.42	19.22	20.07	19.68	20.51	20.98
	12H	19.79	20.55	20.27	21.03	21.50	19.34	20.10	19.82	20.58	21.05
8H	4H	19.15	19.99	19.61	20.44	20.90	18.77	19.62	19.23	20.06	20.53
	6H	19.86	20.57	20.36	21.05	21.53	19.48	20.18	19.97	20.67	21.15
	8H	20.12	20.75	20.63	21.26	21.75	19.73	20.36	20.24	20.87	21.35
	12H	20.32	20.88	20.83	21.37	21.93	19.91	20.47	20.42	20.96	21.52
12H	4H	19.17	19.93	19.65	20.41	20.88	18.81	19.57	19.29	20.05	20.51
	6H	19.91	20.54	20.42	21.05	21.53	19.54	20.17	20.05	20.68	21.16
	8H	20.22	20.78	20.73	21.27	21.83	19.84	20.40	20.35	20.89	21.45