

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: P931548

Luminaire Tested: DFN2DS-TR4F0-090DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931548
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-TR4F0-090DS940-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

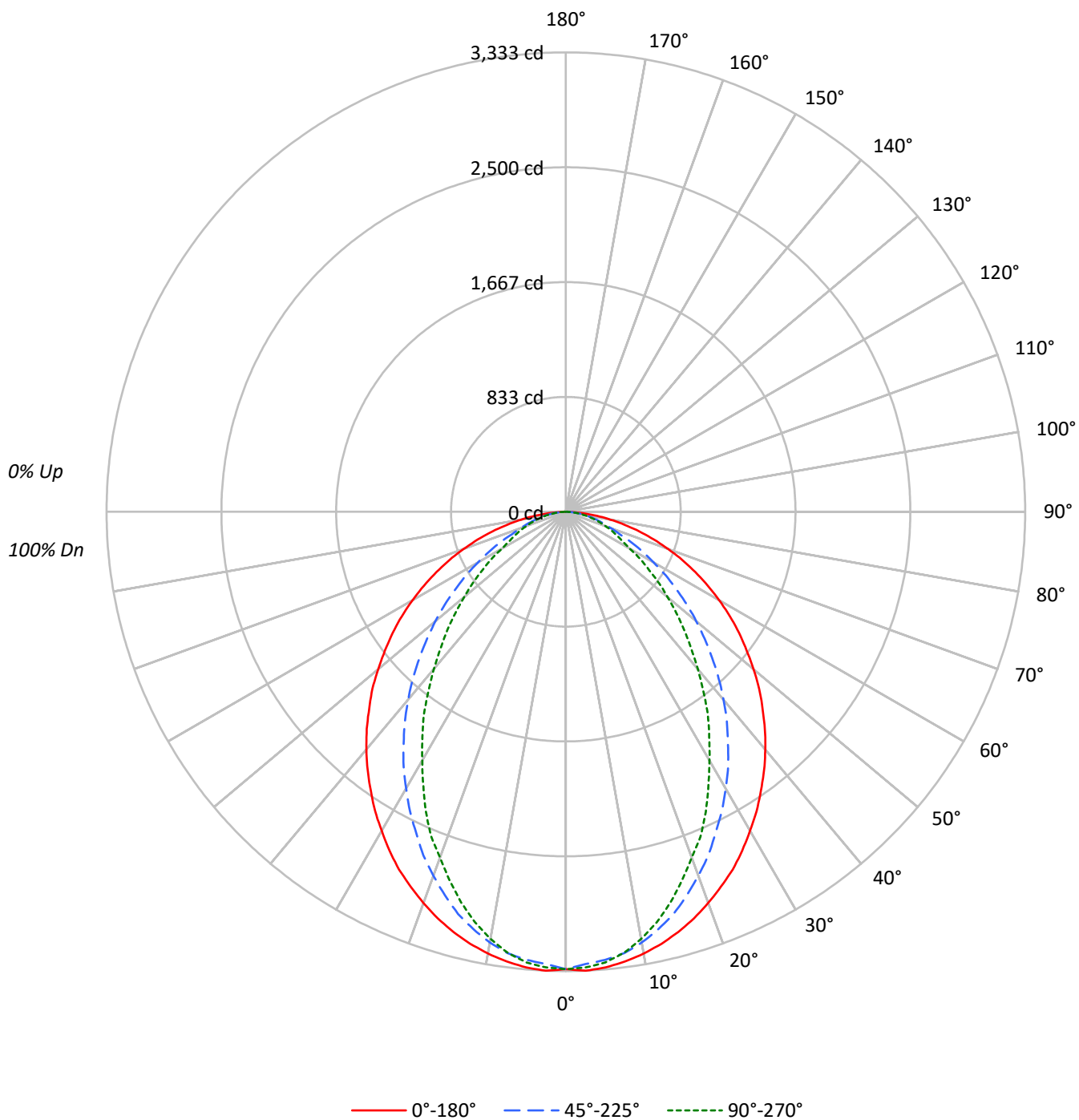
Lumens per Lamp: N/A
Luminaire Lumens: 6823.8 lumens
Efficiency: N/A
Efficacy: 72.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 93.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931548

CATALOG NUMBER: DFN2DS-TR4F0-090DS940-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931548

CATALOG NUMBER: DFN2DS-TR4F0-090DS940-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°	2636	2636	2636
5°	2646	2603	2617
10°	2626	2560	2539
15°	2596	2484	2413
20°	2554	2376	2257
25°	2511	2253	2106
30°	2452	2126	1912
35°	2394	1989	1741
40°	2335	1846	1545
45°	2267	1687	1366
50°	2197	1525	1191
55°	2125	1352	1023
60°	2042	1169	849
65°	1947	982	773
70°	1835	809	711
75°	1696	737	664
80°	1497	659	605
85°	1176	520	520

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2267 cd/sqm

TEST NUMBER: P931548

CATALOG NUMBER: DFN2DS-TR4F0-090DS940-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	311.0	4.6
10°-20°	853.7	12.5
20°-30°	1198.5	17.6
30°-40°	1306.5	19.1
40°-50°	1200.8	17.6
50°-60°	943.0	13.8
60°-70°	613.8	9.0
70°-80°	316.0	4.6
80°-90°	80.7	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°	2363.1	34.6
0°-40°	3669.6	53.8
0°-60°	5813.4	85.2
0°-90°	6823.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6823.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3318	3318	3318	3318	3318	
5°	3318	3303	3264	3291	3282	315
15°	3156	3123	3021	2964	2934	889
25°	2865	2768	2570	2447	2402	1317
35°	2468	2315	2051	1862	1796	1545
45°	2018	1817	1501	1288	1216	1558
55°	1534	1300	976	796	739	1371
65°	1036	793	522	420	411	1027
75°	552	342	240	219	216	584
85°	129	66	57	57	57	155
90°	0	0	0	0	0	

TEST NUMBER: P931548

CATALOG NUMBER: DFN2DS-TR4F0-090DS940-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3318.0	3318.0	3318.0	3318.0	3318.0
2.5°	3333.0	3318.0	3284.8	3315.1	3309.1
5°	3318.0	3303.0	3263.8	3290.9	3281.9
7.5°	3290.9	3273.0	3231.0	3242.8	3227.8
10°	3254.9	3233.9	3174.0	3164.7	3146.9
12.5°	3210.0	3182.9	3101.7	3083.8	3050.6
15°	3155.8	3122.7	3020.8	2963.7	2933.8
17.5°	3092.7	3044.7	2918.4	2852.5	2804.4
20°	3020.8	2960.5	2810.4	2735.6	2669.3
22.5°	2942.7	2873.6	2699.3	2597.3	2552.5
25°	2864.7	2768.4	2570.3	2447.3	2402.1
27.5°	2771.6	2669.3	2450.1	2309.0	2239.9
30°	2672.5	2558.2	2318.0	2165.1	2083.8
32.5°	2576.3	2438.0	2192.1	2011.8	1936.6
35°	2468.3	2315.1	2051.0	1861.8	1795.5
37.5°	2363.2	2197.9	1918.8	1711.4	1636.6
40°	2252.0	2072.0	1780.5	1567.4	1489.4
42.5°	2137.9	1945.9	1642.5	1420.2	1345.3
45°	2017.9	1816.6	1501.4	1288.0	1216.0
47.5°	1903.8	1690.7	1366.4	1152.9	1087.0
50°	1777.7	1564.5	1234.2	1026.8	964.0
52.5°	1654.4	1429.2	1108.0	909.8	852.8
55°	1534.2	1300.1	975.8	795.8	738.8
57.5°	1411.3	1171.1	858.9	690.7	642.6
60°	1285.1	1044.9	735.6	582.7	534.6
62.5°	1162.2	922.0	630.5	486.5	462.6
65°	1036.0	792.6	522.4	420.5	411.3
67.5°	915.9	672.5	420.5	369.2	360.3
70°	789.8	555.6	348.2	318.3	306.1
72.5°	669.6	447.2	291.1	267.2	261.3
75°	552.4	342.2	240.2	219.2	216.3
77.5°	435.5	243.1	189.2	177.2	171.1
80°	327.2	174.3	144.0	132.2	132.2
82.5°	228.1	117.2	99.1	93.0	93.0
85°	129.0	65.9	57.0	57.0	57.0
87.5°	48.1	23.9	23.9	21.1	21.1
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931548

CATALOG NUMBER: DFN2DS-TR4F0-090DS940-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	14.60	16.12	14.97	16.44	16.75	10.56	12.08	10.93	12.40	12.71
	3H	16.37	17.73	16.75	18.06	18.42	11.83	13.19	12.21	13.52	13.88
	4H	17.03	18.31	17.43	18.66	19.04	12.33	13.61	12.73	13.96	14.34
	6H	17.52	18.71	17.93	19.07	19.46	12.71	13.89	13.12	14.26	14.65
	8H	17.69	18.81	18.11	19.20	19.61	12.84	13.96	13.26	14.35	14.75
	12H	17.79	18.87	18.22	19.25	19.68	12.92	13.99	13.35	14.38	14.81
4H	2H	14.71	15.99	15.11	16.34	16.71	11.26	12.54	11.66	12.89	13.27
	3H	16.64	17.70	17.05	18.10	18.50	12.70	13.76	13.11	14.16	14.56
	4H	17.39	18.35	17.82	18.76	19.20	13.30	14.26	13.73	14.67	15.11
	6H	17.98	18.81	18.44	19.26	19.71	13.79	14.62	14.25	15.06	15.52
	8H	18.20	18.97	18.66	19.42	19.88	13.95	14.73	14.41	15.17	15.64
	12H	18.35	19.04	18.83	19.52	19.99	14.07	14.76	14.55	15.24	15.71
8H	4H	17.41	18.19	17.88	18.63	19.10	13.65	14.43	14.12	14.88	15.34
	6H	18.05	18.69	18.55	19.18	19.66	14.24	14.88	14.74	15.37	15.85
	8H	18.30	18.88	18.81	19.39	19.88	14.46	15.04	14.98	15.55	16.04
	12H	18.50	19.01	19.01	19.51	20.07	14.64	15.15	15.15	15.64	16.21
12H	4H	17.40	18.09	17.88	18.57	19.04	13.70	14.39	14.18	14.87	15.34
	6H	18.03	18.61	18.55	19.12	19.61	14.30	14.88	14.82	15.39	15.88
	8H	18.32	18.83	18.83	19.32	19.88	14.58	15.09	15.09	15.58	16.14