

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: P931603

Luminaire Tested: DFN2DS-TR4F0-120DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931603
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-TR4F0-120DS950-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

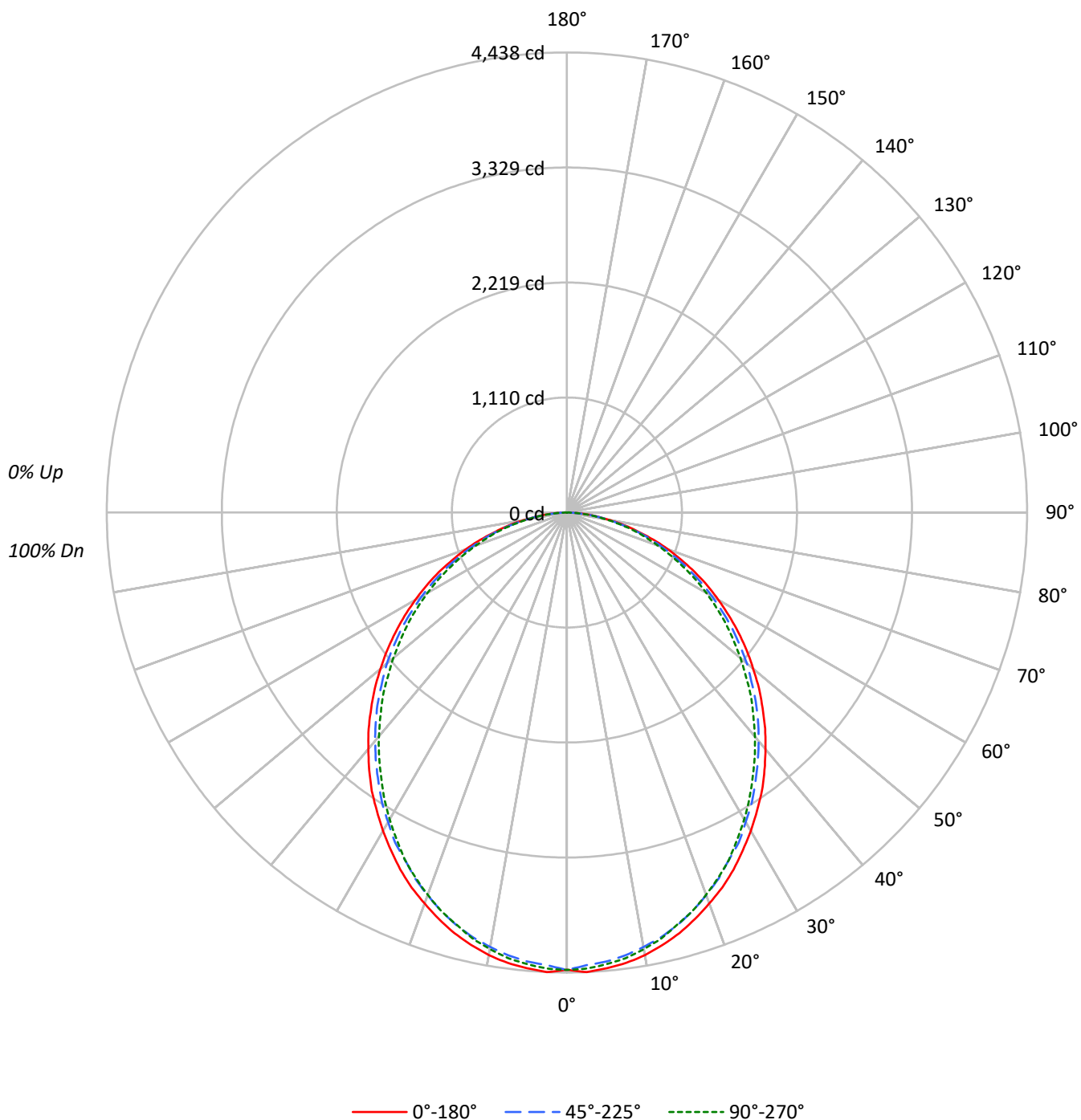
Lumens per Lamp: N/A
Luminaire Lumens: 11226.6 lumens
Efficiency: N/A
Efficacy: 85.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 131.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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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			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3505	3505	3505
5°	3519	3468	3489
10°	3498	3433	3450
15°	3455	3388	3385
20°	3393	3322	3318
25°	3332	3240	3240
30°	3254	3164	3137
35°	3181	3074	3029
40°	3089	2983	2926
45°	2999	2893	2822
50°	2900	2800	2700
55°	2798	2692	2592
60°	2683	2562	2468
65°	2561	2433	2321
70°	2405	2276	2169
75°	2187	2096	2045
80°	1942	1883	1786
85°	1584	1510	1355

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2999 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	415.3	3.7
10°-20°	1168.5	10.4
20°-30°	1717.2	15.3
30°-40°	1994.5	17.8
40°-50°	1992.0	17.7
50°-60°	1736.9	15.5
60°-70°	1284.0	11.4
70°-80°	726.4	6.5
80°-90°	191.7	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°	3301.0	29.4
0°-40°	5295.5	47.2
0°-60°	9024.4	80.4
0°-90°	11226.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11226.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4412	4412	4412	4412	4412	
5°	4412	4396	4349	4383	4375	419
15°	4200	4175	4120	4137	4116	1183
25°	3802	3768	3696	3704	3696	1749
35°	3280	3238	3170	3144	3123	2048
45°	2669	2639	2575	2529	2512	2060
55°	2020	1994	1943	1892	1871	1806
65°	1362	1336	1294	1256	1235	1347
75°	713	704	683	658	666	761
85°	174	170	166	153	149	204
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4412.5	4412.5	4412.5	4412.5	4412.5
2.5°	4438.1	4416.9	4370.2	4412.5	4404.4
5°	4412.5	4395.8	4349.0	4382.7	4374.6
7.5°	4382.7	4357.5	4310.7	4344.9	4336.4
10°	4336.4	4306.6	4255.8	4289.5	4277.0
12.5°	4272.4	4247.2	4196.4	4217.5	4208.9
15°	4200.4	4175.2	4119.8	4136.9	4115.8
17.5°	4111.3	4086.1	4030.7	4051.9	4030.7
20°	4013.6	3988.4	3929.0	3941.6	3925.0
22.5°	3916.4	3878.1	3822.7	3822.7	3814.2
25°	3801.5	3767.8	3695.8	3703.9	3695.8
27.5°	3674.2	3644.5	3589.6	3576.9	3555.8
30°	3547.2	3513.0	3449.5	3437.0	3419.9
32.5°	3411.3	3386.1	3318.1	3292.5	3275.4
35°	3279.8	3237.6	3169.5	3143.9	3122.8
37.5°	3131.3	3093.1	3025.0	2995.4	2974.2
40°	2978.7	2944.5	2876.5	2838.7	2821.6
42.5°	2830.2	2796.0	2728.4	2685.7	2660.5
45°	2669.0	2639.3	2575.3	2529.0	2511.9
47.5°	2511.9	2482.1	2414.2	2367.4	2342.2
50°	2346.2	2325.1	2265.6	2206.2	2185.0
52.5°	2185.0	2155.4	2100.5	2053.6	2023.9
55°	2019.8	1994.2	1943.3	1892.5	1871.3
57.5°	1854.2	1833.0	1777.6	1726.8	1709.7
60°	1688.5	1671.9	1612.5	1565.7	1553.0
62.5°	1527.4	1497.6	1455.4	1413.1	1396.0
65°	1362.2	1336.5	1294.2	1255.9	1234.8
67.5°	1192.5	1170.9	1133.1	1103.4	1086.3
70°	1035.3	1018.2	980.0	950.3	933.7
72.5°	874.2	857.1	835.9	806.3	793.6
75°	712.6	704.5	682.9	657.7	666.2
77.5°	568.5	551.4	542.9	530.2	517.7
80°	424.5	420.0	411.5	398.9	390.3
82.5°	288.5	288.5	284.5	267.4	267.4
85°	173.8	169.7	165.7	152.6	148.6
87.5°	76.5	67.9	59.4	46.8	42.3
90°	0.0	0.0	0.0	0.0	0.0

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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	15.64	17.25	16.01	17.57	17.88	15.20	16.81	15.56	17.12	17.44
	3H	17.39	18.84	17.77	19.17	19.53	16.90	18.35	17.28	18.68	19.04
	4H	18.04	19.41	18.44	19.75	20.13	17.54	18.91	17.94	19.26	19.64
	6H	18.51	19.77	18.92	20.14	20.53	18.00	19.27	18.42	19.64	20.03
	8H	18.65	19.86	19.07	20.25	20.65	18.15	19.36	18.57	19.75	20.15
	12H	18.74	19.90	19.17	20.28	20.71	18.23	19.39	18.66	19.77	20.20
4H	2H	16.20	17.57	16.60	17.92	18.29	15.85	17.22	16.25	17.56	17.94
	3H	18.18	19.32	18.59	19.72	20.12	17.77	18.92	18.18	19.31	19.71
	4H	18.95	19.99	19.38	20.40	20.84	18.53	19.56	18.96	19.98	20.41
	6H	19.55	20.45	20.00	20.89	21.35	19.12	20.02	19.57	20.46	20.92
	8H	19.74	20.58	20.20	21.03	21.49	19.30	20.15	19.76	20.59	21.05
	12H	19.87	20.63	20.35	21.11	21.58	19.42	20.18	19.90	20.65	21.12
8H	4H	19.23	20.07	19.69	20.51	20.98	18.85	19.70	19.31	20.14	20.61
	6H	19.94	20.64	20.43	21.13	21.61	19.56	20.26	20.05	20.75	21.23
	8H	20.20	20.83	20.71	21.34	21.82	19.81	20.44	20.32	20.95	21.43
	12H	20.40	20.96	20.91	21.45	22.01	19.99	20.54	20.49	21.03	21.60
12H	4H	19.25	20.01	19.73	20.49	20.96	18.89	19.65	19.37	20.12	20.59
	6H	19.99	20.62	20.49	21.12	21.61	19.62	20.25	20.13	20.76	21.24
	8H	20.30	20.86	20.81	21.35	21.91	19.92	20.48	20.43	20.97	21.53