

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: P929831

Luminaire Tested: DFN2DS-4P2F0-040DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929831
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-4P2F0-040DS927-FLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

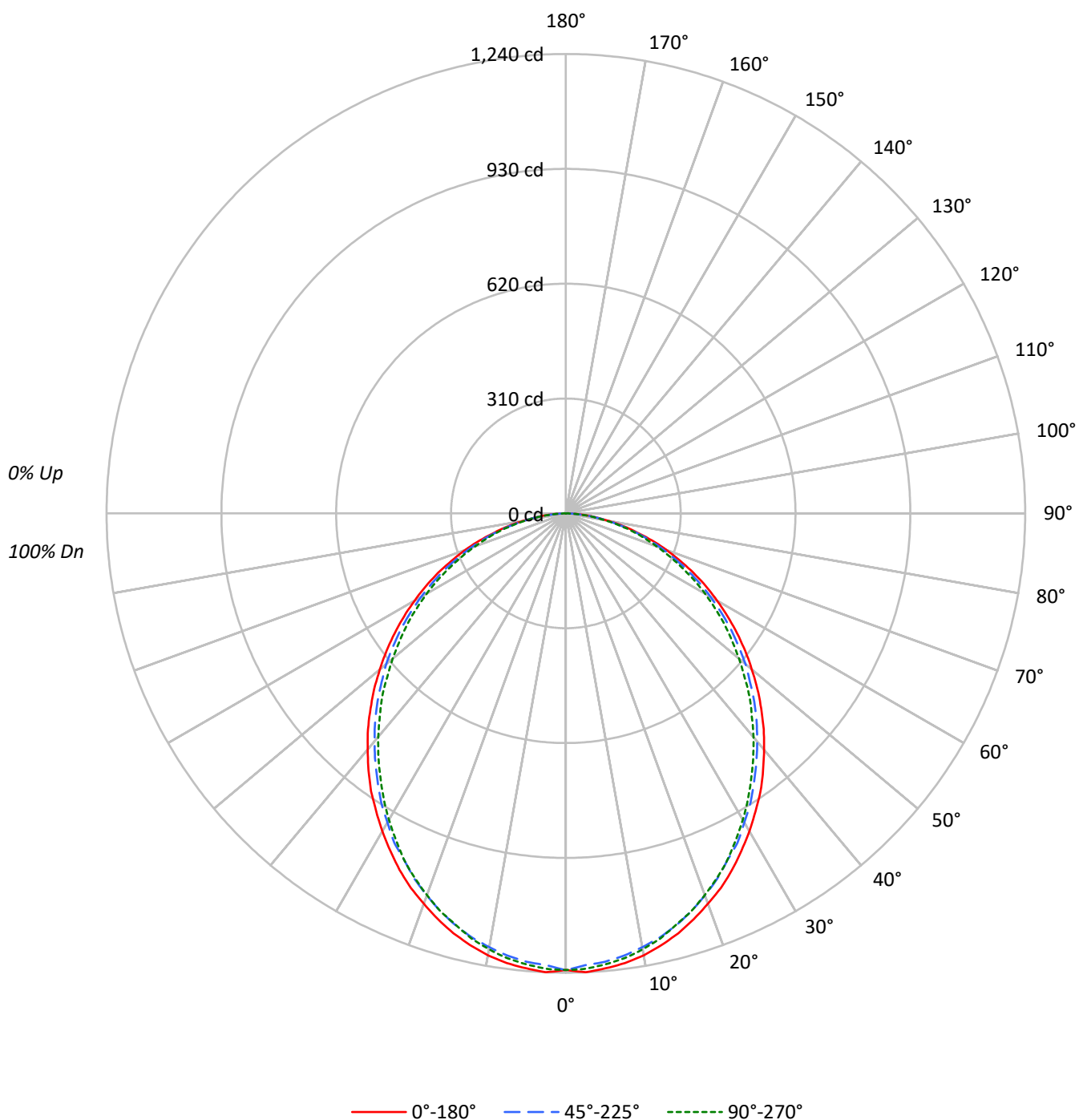
Lumens per Lamp: N/A
Luminaire Lumens: 3136.3 lumens
Efficiency: N/A
Efficacy: 72.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 43.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
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
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°	3087	3087	3087
5°	3098	3054	3072
10°	3080	3023	3038
15°	3042	2983	2981
20°	2988	2925	2922
25°	2934	2853	2853
30°	2865	2786	2762
35°	2801	2707	2667
40°	2720	2627	2577
45°	2640	2548	2485
50°	2554	2466	2378
55°	2463	2370	2282
60°	2362	2256	2173
65°	2255	2142	2044
70°	2117	2005	1909
75°	1926	1846	1800
80°	1710	1657	1573
85°	1393	1330	1192

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2640 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.0	3.7
10°-20°	326.4	10.4
20°-30°	479.7	15.3
30°-40°	557.2	17.8
40°-50°	556.5	17.7
50°-60°	485.2	15.5
60°-70°	358.7	11.4
70°-80°	202.9	6.5
80°-90°	53.6	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°	922.2	29.4
0°-40°	1479.4	47.2
0°-60°	2521.1	80.4
0°-90°	3136.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3136.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1233	1233	1233	1233	1233	
5°	1233	1228	1215	1224	1222	117
15°	1173	1166	1151	1156	1150	330
25°	1062	1053	1032	1035	1032	489
35°	916	904	886	878	872	572
45°	746	737	720	706	702	575
55°	564	557	543	529	523	504
65°	381	373	362	351	345	376
75°	199	197	191	184	186	213
85°	48	47	46	43	42	57
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1232.7	1232.7	1232.7	1232.7	1232.7
2.5°	1239.9	1233.9	1220.9	1232.7	1230.5
5°	1232.7	1228.0	1214.9	1224.4	1222.1
7.5°	1224.4	1217.3	1204.2	1213.8	1211.4
10°	1211.4	1203.1	1189.0	1198.4	1194.8
12.5°	1193.5	1186.5	1172.3	1178.3	1175.8
15°	1173.4	1166.4	1150.9	1155.7	1149.8
17.5°	1148.6	1141.5	1126.1	1131.9	1126.1
20°	1121.2	1114.2	1097.6	1101.1	1096.5
22.5°	1094.1	1083.4	1067.9	1067.9	1065.6
25°	1062.0	1052.6	1032.5	1034.7	1032.5
27.5°	1026.4	1018.1	1002.8	999.3	993.4
30°	991.0	981.4	963.7	960.1	955.4
32.5°	953.0	946.0	927.0	919.8	915.0
35°	916.3	904.5	885.5	878.3	872.4
37.5°	874.8	864.1	845.1	836.8	830.9
40°	832.2	822.6	803.6	793.0	788.3
42.5°	790.7	781.1	762.2	750.3	743.2
45°	745.6	737.4	719.5	706.5	701.7
47.5°	701.7	693.4	674.5	661.4	654.4
50°	655.5	649.5	633.0	616.3	610.4
52.5°	610.4	602.2	586.8	573.7	565.4
55°	564.3	557.1	542.9	528.7	522.8
57.5°	518.0	512.1	496.6	482.4	477.7
60°	471.7	467.0	450.5	437.4	433.9
62.5°	426.7	418.4	406.6	394.7	390.0
65°	380.6	373.3	361.5	350.9	345.0
67.5°	333.1	327.1	316.6	308.2	303.5
70°	289.2	284.5	273.8	265.5	260.8
72.5°	244.3	239.4	233.6	225.2	221.7
75°	199.1	196.8	190.8	183.7	186.1
77.5°	158.8	154.0	151.7	148.1	144.6
80°	118.6	117.3	114.9	111.4	109.1
82.5°	80.6	80.6	79.5	74.7	74.7
85°	48.5	47.4	46.3	42.6	41.5
87.5°	21.4	19.0	16.6	13.1	11.8
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	15.20	16.81	15.56	17.12	17.44	14.75	16.36	15.12	16.68	16.99
	3H	16.95	18.40	17.33	18.73	19.09	16.46	17.91	16.83	18.24	18.60
	4H	17.59	18.96	17.99	19.31	19.69	17.10	18.47	17.50	18.82	19.19
	6H	18.06	19.33	18.47	19.70	20.09	17.56	18.83	17.97	19.20	19.59
	8H	18.21	19.42	18.63	19.81	20.21	17.70	18.91	18.13	19.30	19.70
	12H	18.30	19.46	18.73	19.84	20.27	17.79	18.95	18.21	19.33	19.76
4H	2H	15.76	17.13	16.16	17.48	17.85	15.41	16.77	15.80	17.12	17.50
	3H	17.73	18.88	18.14	19.28	19.68	17.33	18.47	17.74	18.87	19.27
	4H	18.51	19.55	18.94	19.96	20.40	18.09	19.12	18.52	19.54	19.97
	6H	19.11	20.01	19.56	20.45	20.91	18.67	19.58	19.13	20.02	20.48
	8H	19.30	20.14	19.76	20.59	21.05	18.86	19.70	19.32	20.15	20.61
	12H	19.43	20.19	19.91	20.66	21.13	18.98	19.74	19.46	20.21	20.68
8H	4H	18.78	19.63	19.24	20.07	20.54	18.41	19.26	18.87	19.70	20.16
	6H	19.50	20.20	19.99	20.69	21.16	19.12	19.82	19.61	20.31	20.78
	8H	19.76	20.39	20.27	20.89	21.38	19.37	20.00	19.88	20.50	20.99
	12H	19.96	20.51	20.46	21.01	21.57	19.54	20.10	20.05	20.59	21.15
12H	4H	18.81	19.57	19.29	20.05	20.51	18.44	19.20	18.93	19.68	20.15
	6H	19.54	20.18	20.05	20.68	21.17	19.17	19.81	19.68	20.31	20.80
	8H	19.86	20.41	20.36	20.91	21.47	19.48	20.04	19.99	20.53	21.09