

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: P915199

Luminaire Tested: DFN2DIP-TR2F0-030D030US927-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915199
REPORT IS A COMBINATION OF REPORTS P901754 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-030D030US927-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

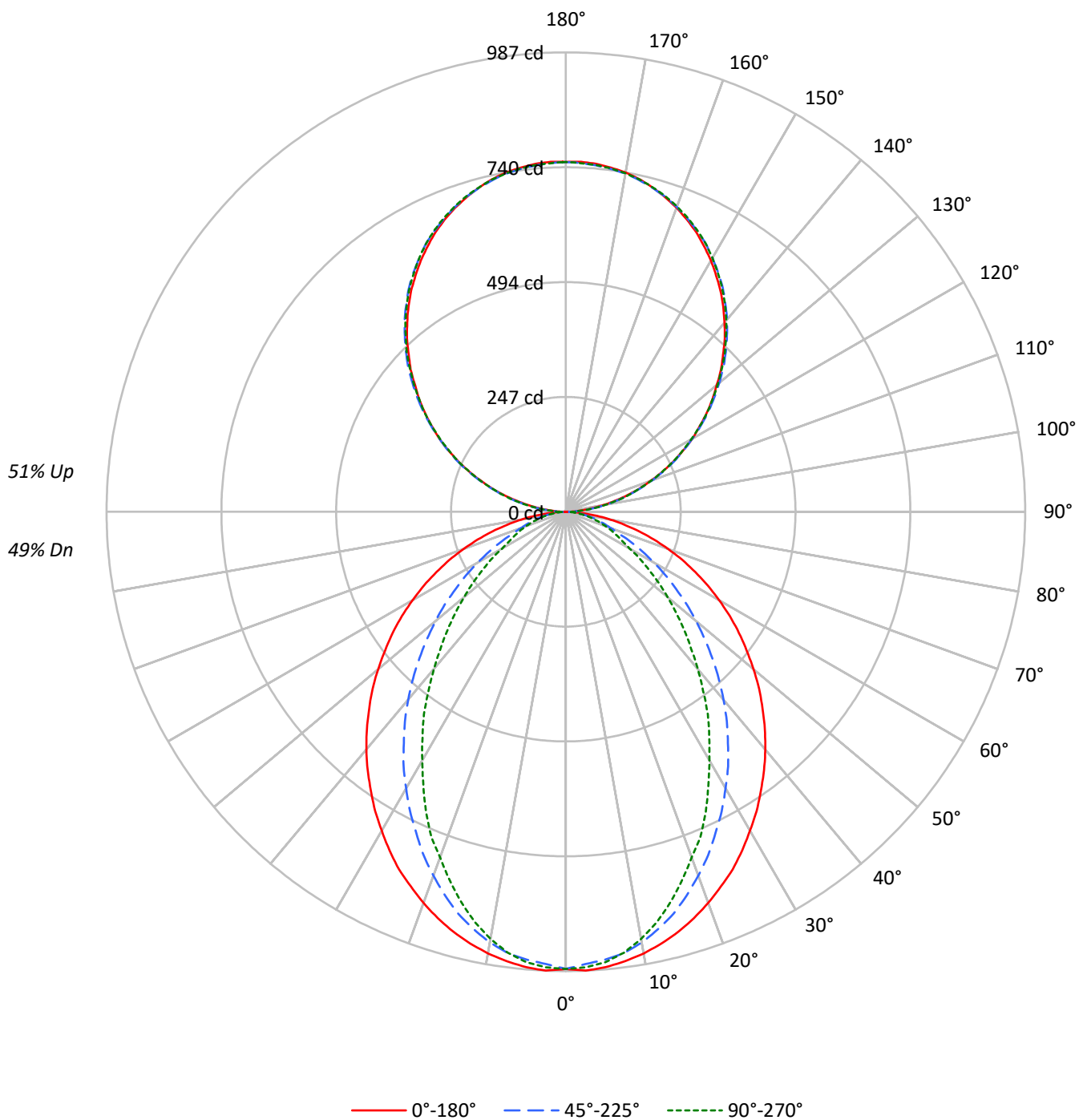
Lumens per Lamp: N/A
Luminaire Lumens: 4123.3 lumens
Efficiency: N/A
Efficacy: 87.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 47
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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	30	10
RCR																	
0	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2191	2191	2191
5°	2191	2151	2166
10°	2166	2104	2092
15°	2133	2030	1980
20°	2090	1929	1843
25°	2047	1818	1711
30°	1989	1704	1545
35°	1932	1582	1400
40°	1875	1456	1233
45°	1808	1317	1083
50°	1738	1177	935
55°	1665	1028	795
60°	1581	874	651
65°	1484	717	582
70°	1366	571	521
75°	1217	494	466
80°	1004	401	393
85°	659	249	277

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1808 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	2.2
10°-20°	252.7	6.1
20°-30°	354.8	8.6
30°-40°	386.8	9.4
40°-50°	355.5	8.6
50°-60°	279.2	6.8
60°-70°	181.7	4.4
70°-80°	93.5	2.3
80°-90°	26.0	0.6
90°-100°	46.5	1.1
100°-110°	147.8	3.6
110°-120°	252.9	6.1
120°-130°	332.6	8.1
130°-140°	373.3	9.1
140°-150°	366.1	8.9
150°-160°	307.1	7.4
160°-170°	203.7	4.9
170°-180°	71.2	1.7
0°-30°	699.6	17.0
0°-40°	1086.3	26.3
0°-60°	1720.9	41.7
0°-90°	2022.2	49.0
90°-120°	447.2	10.8
90°-150°	1519.2	36.8
90°-180°	2101.0	51.0
0°-180°	4123.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	982	982	982	982	982	
5°	982	978	966	974	972	93
15°	934	924	894	877	868	263
25°	848	820	761	724	711	390
35°	731	685	607	551	532	457
45°	597	538	444	381	360	461
55°	454	385	289	236	219	406
65°	307	235	155	124	122	304
75°	164	101	71	65	64	173
85°	38	20	17	17	17	44
90°	1	8	22	21	22	4
95°	33	40	41	41	40	37
105°	136	138	140	141	141	144
115°	254	257	256	256	254	251
125°	369	375	373	371	370	330
135°	477	484	486	485	483	369
145°	580	584	588	588	586	362
155°	663	665	667	670	668	305
165°	721	720	720	725	722	203
175°	750	748	747	752	748	71
180°	752	752	752	752	752	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	982.2	982.2	982.2	982.2	982.2
2.5°	986.7	982.2	972.4	981.4	979.6
5°	982.2	977.8	966.2	974.2	971.5
7.5°	974.2	968.9	956.5	960.0	955.5
10°	963.5	957.4	939.6	936.8	931.6
12.5°	950.2	942.2	918.2	912.9	903.1
15°	934.2	924.4	894.2	877.3	868.5
17.5°	915.5	901.3	864.0	844.5	830.2
20°	894.2	876.4	831.9	809.8	790.2
22.5°	871.2	850.6	799.1	768.9	755.6
25°	848.0	819.5	760.9	724.4	711.1
27.5°	820.5	790.2	725.3	683.6	663.1
30°	791.2	757.3	686.2	641.0	616.9
32.5°	762.6	721.8	649.0	595.6	573.3
35°	730.7	685.3	607.1	551.1	531.6
37.5°	699.6	650.6	568.0	506.6	484.5
40°	666.7	613.4	527.1	464.0	440.9
42.5°	632.9	576.1	486.2	420.4	398.2
45°	597.4	537.7	444.5	381.3	360.0
47.5°	563.6	500.5	404.5	341.3	321.8
50°	526.2	463.1	365.4	304.0	285.3
52.5°	489.7	423.1	328.0	269.3	252.5
55°	454.2	384.8	288.8	235.6	218.7
57.5°	417.8	346.7	254.3	204.5	190.2
60°	380.4	309.3	217.8	172.5	158.3
62.5°	344.0	272.9	186.6	144.0	137.0
65°	306.7	234.6	154.6	124.5	121.8
67.5°	271.2	199.1	124.5	109.3	106.6
70°	233.8	164.5	103.1	94.2	90.6
72.5°	198.2	132.4	86.2	79.1	77.3
75°	163.5	101.3	71.1	64.9	64.0
77.5°	128.9	71.9	56.0	52.4	50.6
80°	96.9	51.6	42.6	39.1	39.1
82.5°	67.5	34.7	29.3	27.6	27.6
85°	38.2	19.5	16.9	16.9	16.9
87.5°	14.3	7.1	7.1	6.3	6.3
90°	0.7	8.2	22.2	20.8	21.5
92.5°	14.0	19.0	19.7	20.4	20.4
95°	33.1	39.5	40.6	40.6	39.5
97.5°	55.1	60.9	63.5	63.5	63.5
100°	80.4	85.6	87.5	87.5	86.8
102.5°	107.2	111.1	113.5	114.2	113.5
105°	136.4	138.2	139.6	140.7	140.7
107.5°	165.4	168.1	168.1	168.6	165.4
110°	193.5	197.2	197.2	197.2	195.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	223.9	227.8	227.0	225.2	223.9
115°	253.8	257.4	256.3	255.6	253.8
117.5°	283.4	288.4	285.3	283.4	281.6
120°	313.4	318.4	313.4	313.4	311.3
122.5°	340.6	346.9	343.7	341.9	340.6
125°	369.2	374.8	373.0	370.9	370.3
127.5°	397.0	404.0	401.6	398.8	397.0
130°	423.0	431.2	430.1	428.7	426.2
132.5°	452.3	458.6	459.1	455.9	454.1
135°	477.4	484.4	485.8	485.1	483.3
137.5°	505.5	511.2	512.3	511.9	509.1
140°	530.2	535.9	539.1	539.1	536.5
142.5°	555.6	561.3	563.1	563.8	561.3
145°	579.6	584.2	587.8	588.4	586.0
147.5°	601.2	606.8	609.5	610.7	608.2
150°	623.4	627.2	629.7	631.8	629.7
152.5°	643.1	646.9	650.1	652.6	650.1
155°	662.8	664.6	666.6	669.8	667.8
157.5°	679.8	681.1	682.3	686.8	683.7
160°	695.0	696.3	697.0	700.8	698.1
162.5°	709.0	709.0	709.7	714.0	710.8
165°	721.0	720.3	720.3	724.8	721.7
167.5°	731.9	729.8	729.8	734.4	731.2
170°	740.1	738.2	737.6	742.1	738.2
172.5°	745.7	743.9	743.2	747.7	743.9
175°	750.3	748.5	747.1	751.6	747.7
177.5°	752.7	750.9	749.6	753.4	749.6
180°	751.6	751.6	751.6	751.6	751.6

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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	9.65	10.47	10.62	11.46	12.74	5.63	6.46	6.61	7.44	8.73
	3H	11.31	12.04	12.29	13.03	14.34	6.81	7.54	7.79	8.53	9.84
	4H	11.90	12.59	12.89	13.59	14.90	7.24	7.94	8.24	8.93	10.25
	6H	12.30	12.94	13.31	13.94	15.27	7.55	8.19	8.56	9.19	10.52
	8H	12.41	13.02	13.43	14.04	15.37	7.63	8.24	8.65	9.26	10.58
	12H	12.47	13.05	13.48	14.05	15.40	7.67	8.25	8.69	9.26	10.61
4H	2H	9.66	10.36	10.67	11.35	12.67	6.21	6.91	7.22	7.90	9.22
	3H	11.47	12.04	12.48	13.07	14.40	7.54	8.12	8.56	9.15	10.48
	4H	12.14	12.67	13.16	13.68	15.04	8.08	8.61	9.10	9.62	10.98
	6H	12.63	13.09	13.66	14.13	15.48	8.48	8.93	9.51	9.97	11.32
	8H	12.79	13.22	13.82	14.25	15.62	8.60	9.02	9.63	10.06	11.42
	12H	12.88	13.26	13.92	14.31	15.68	8.66	9.04	9.70	10.09	11.46
8H	4H	12.10	12.53	13.13	13.56	14.92	8.34	8.77	9.38	9.80	11.17
	6H	12.64	12.99	13.70	14.07	15.43	8.84	9.19	9.89	10.26	11.63
	8H	12.84	13.15	13.91	14.21	15.59	9.02	9.33	10.08	10.39	11.77
	12H	12.97	13.24	14.03	14.29	15.72	9.13	9.40	10.19	10.45	11.87
12H	4H	12.05	12.44	13.10	13.48	14.85	8.35	8.73	9.39	9.77	11.15
	6H	12.62	12.93	13.68	13.98	15.37	8.88	9.19	9.94	10.25	11.63
	8H	12.82	13.09	13.89	14.14	15.57	9.08	9.35	10.14	10.40	11.83