

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: P920651

Luminaire Tested: DFN2DIP-TR2F0-030D020US935-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920651
REPORT IS A COMBINATION OF REPORTS P901744 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-030D020US935-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

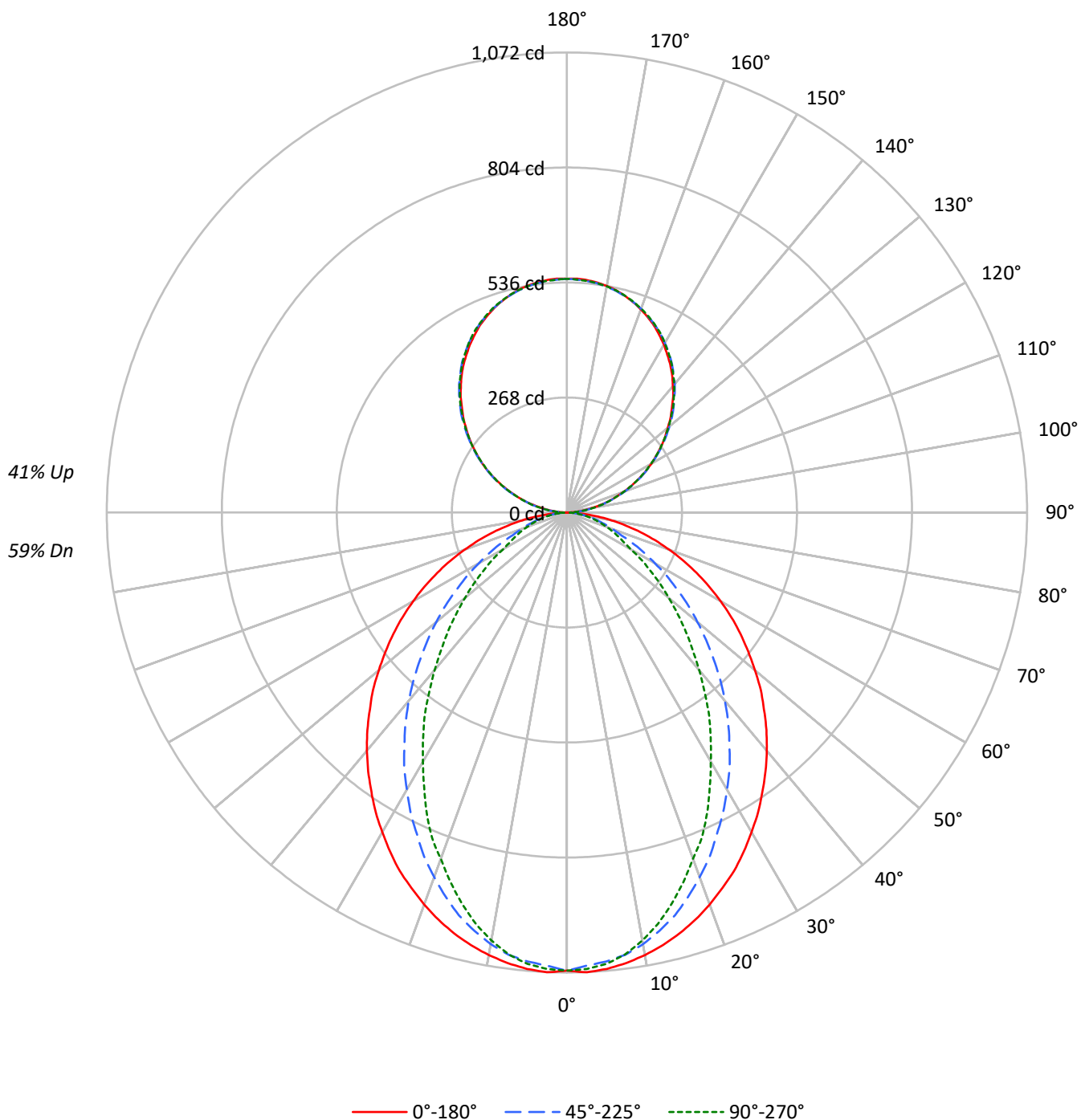
Lumens per Lamp: N/A
Luminaire Lumens: 3719.5 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 40.5
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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64
1	100	96	92	89	94	90	87	84	78	76	74	68	66	64	58	57	56
2	92	85	79	74	86	79	74	70	69	65	62	60	57	55	52	50	48
3	84	75	68	62	78	70	64	59	62	57	53	54	50	47	46	44	41
4	77	67	59	53	72	63	56	51	55	50	46	48	44	41	42	39	36
5	71	60	52	46	66	56	49	44	50	44	40	44	39	36	38	34	32
6	66	54	46	40	61	51	44	39	45	39	35	40	35	32	35	31	28
7	61	49	41	36	57	46	39	34	41	35	31	36	32	28	32	28	25
8	57	45	37	32	53	42	35	30	38	32	28	33	29	25	29	26	23
9	53	41	34	29	50	39	32	27	35	29	25	31	26	23	27	24	21
10	50	38	31	26	47	36	29	25	32	27	23	29	24	21	25	22	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2381	2381	2381
5°	2381	2338	2354
10°	2354	2287	2274
15°	2318	2206	2151
20°	2272	2097	2003
25°	2224	1976	1859
30°	2162	1852	1679
35°	2100	1719	1521
40°	2037	1582	1340
45°	1965	1431	1176
50°	1889	1279	1017
55°	1810	1118	864
60°	1718	950	707
65°	1613	779	632
70°	1484	620	566
75°	1322	537	507
80°	1091	435	427
85°	716	270	300

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1965 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.1	2.7
10°-20°	274.7	7.4
20°-30°	385.6	10.4
30°-40°	420.3	11.3
40°-50°	386.3	10.4
50°-60°	303.4	8.2
60°-70°	197.5	5.3
70°-80°	101.7	2.7
80°-90°	27.5	0.7
90°-100°	33.7	0.9
100°-110°	107.1	2.9
110°-120°	183.2	4.9
120°-130°	241.0	6.5
130°-140°	270.5	7.3
140°-150°	265.3	7.1
150°-160°	222.5	6.0
160°-170°	147.6	4.0
170°-180°	51.6	1.4
0°-30°	760.3	20.4
0°-40°	1180.7	31.7
0°-60°	1870.4	50.3
0°-90°	2197.1	59.1
90°-120°	324.0	8.7
90°-150°	1100.8	29.6
90°-180°	1522.0	40.9
0°-180°	3719.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1068	1063	1050	1059	1056	101
15°	1015	1005	972	954	944	286
25°	922	891	827	787	773	424
35°	794	745	660	599	578	497
45°	649	584	483	414	391	501
55°	494	418	314	256	238	441
65°	333	255	168	135	132	330
75°	178	110	77	70	70	188
85°	42	21	18	18	18	48
90°	0	6	16	15	16	4
95°	24	29	29	29	29	27
105°	99	100	101	102	102	104
115°	184	186	186	185	184	182
125°	267	272	270	269	268	239
135°	346	351	352	352	350	267
145°	420	423	426	426	425	262
155°	480	482	483	485	484	221
165°	522	522	522	525	523	147
175°	544	542	541	545	542	52
180°	545	545	545	545	545	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1067.6	1067.6	1067.6	1067.6	1067.6
2.5°	1072.4	1067.6	1056.9	1066.6	1064.7
5°	1067.6	1062.7	1050.2	1058.9	1055.9
7.5°	1058.9	1053.1	1039.6	1043.4	1038.5
10°	1047.2	1040.5	1021.2	1018.2	1012.5
12.5°	1032.8	1024.1	998.0	992.2	981.5
15°	1015.4	1004.7	971.9	953.6	943.9
17.5°	995.1	979.6	939.0	917.8	902.3
20°	971.9	952.5	904.2	880.2	858.8
22.5°	946.8	924.5	868.5	835.7	821.2
25°	921.7	890.7	827.0	787.4	772.8
27.5°	891.7	858.8	788.3	743.0	720.7
30°	859.9	823.1	745.8	696.6	670.5
32.5°	828.9	784.5	705.3	647.3	623.1
35°	794.2	744.8	659.9	599.0	577.7
37.5°	760.3	707.1	617.3	550.6	526.6
40°	724.6	666.7	572.9	504.3	479.2
42.5°	687.9	626.1	528.5	456.9	432.8
45°	649.3	584.4	483.1	414.4	391.2
47.5°	612.5	544.0	439.6	370.9	349.7
50°	572.0	503.3	397.1	330.4	310.1
52.5°	532.3	459.9	356.5	292.7	274.4
55°	493.6	418.3	313.9	256.1	237.7
57.5°	454.1	376.8	276.4	222.2	206.7
60°	413.5	336.2	236.7	187.4	172.0
62.5°	373.9	296.6	202.9	156.5	148.9
65°	333.3	255.0	168.1	135.3	132.3
67.5°	294.7	216.4	135.3	118.8	115.9
70°	254.1	178.7	112.0	102.4	98.5
72.5°	215.4	143.9	93.7	86.0	84.0
75°	177.7	110.1	77.3	70.5	69.6
77.5°	140.1	78.2	60.9	57.0	55.0
80°	105.3	56.1	46.3	42.5	42.5
82.5°	73.4	37.7	31.9	30.0	30.0
85°	41.5	21.2	18.3	18.3	18.3
87.5°	15.5	7.7	7.7	6.8	6.8
90°	0.5	5.9	16.1	15.1	15.6
92.5°	10.2	13.8	14.3	14.8	14.8
95°	23.9	28.6	29.4	29.4	28.6
97.5°	39.9	44.2	46.0	46.0	46.0
100°	58.3	62.1	63.4	63.4	62.9
102.5°	77.7	80.4	82.2	82.7	82.2
105°	98.8	100.1	101.2	101.9	101.9
107.5°	119.9	121.8	121.8	122.2	119.9
110°	140.3	142.8	142.8	142.8	141.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	162.2	165.0	164.5	163.2	162.2
115°	183.9	186.5	185.7	185.2	183.9
117.5°	205.4	209.1	206.7	205.4	204.1
120°	227.0	230.7	227.0	227.0	225.6
122.5°	246.8	251.3	249.1	247.8	246.8
125°	267.4	271.6	270.3	268.8	268.3
127.5°	287.7	292.7	290.9	289.0	287.7
130°	306.5	312.5	311.6	310.6	308.8
132.5°	327.7	332.3	332.6	330.4	329.0
135°	345.9	351.0	352.0	351.5	350.2
137.5°	366.3	370.4	371.3	370.9	368.9
140°	384.2	388.3	390.6	390.6	388.8
142.5°	402.6	406.6	408.0	408.5	406.6
145°	420.0	423.3	425.9	426.4	424.6
147.5°	435.6	439.7	441.7	442.5	440.7
150°	451.7	454.4	456.2	457.7	456.2
152.5°	466.0	468.7	471.1	472.9	471.1
155°	480.3	481.6	483.0	485.3	483.9
157.5°	492.6	493.5	494.4	497.7	495.3
160°	503.6	504.5	505.1	507.8	505.8
162.5°	513.8	513.8	514.2	517.4	515.0
165°	522.5	521.9	521.9	525.2	523.0
167.5°	530.3	528.8	528.8	532.1	529.9
170°	536.2	534.9	534.4	537.7	534.9
172.5°	540.4	539.0	538.6	541.8	539.0
175°	543.6	542.3	541.3	544.6	541.8
177.5°	545.4	544.2	543.1	545.9	543.1
180°	544.6	544.6	544.6	544.6	544.6

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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	10.84	11.75	11.72	12.65	13.79	6.82	7.73	7.70	8.63	9.77
	3H	12.50	13.31	13.39	14.22	15.38	8.00	8.81	8.89	9.72	10.88
	4H	13.09	13.86	14.01	14.78	15.95	8.44	9.21	9.35	10.12	11.30
	6H	13.50	14.21	14.42	15.13	16.31	8.75	9.46	9.67	10.38	11.57
	8H	13.62	14.29	14.55	15.23	16.41	8.84	9.51	9.77	10.45	11.63
	12H	13.67	14.31	14.61	15.24	16.45	8.88	9.52	9.81	10.45	11.66
4H	2H	10.86	11.63	11.78	12.54	13.72	7.41	8.18	8.33	9.09	10.27
	3H	12.67	13.31	13.60	14.26	15.44	8.75	9.39	9.68	10.33	11.52
	4H	13.35	13.93	14.29	14.87	16.08	9.29	9.87	10.22	10.81	12.02
	6H	13.85	14.35	14.80	15.31	16.52	9.69	10.20	10.64	11.16	12.37
	8H	14.01	14.48	14.96	15.43	16.66	9.82	10.28	10.77	11.24	12.47
	12H	14.10	14.52	15.07	15.49	16.72	9.88	10.30	10.85	11.27	12.50
8H	4H	13.32	13.79	14.27	14.74	15.97	9.56	10.03	10.51	10.98	12.21
	6H	13.86	14.25	14.84	15.25	16.47	10.06	10.45	11.04	11.44	12.67
	8H	14.06	14.40	15.05	15.39	16.64	10.24	10.58	11.23	11.57	12.81
	12H	14.19	14.49	15.18	15.47	16.76	10.35	10.65	11.34	11.63	12.92
12H	4H	13.27	13.69	14.24	14.67	15.90	9.57	9.99	10.54	10.96	12.19
	6H	13.84	14.18	14.82	15.17	16.41	10.10	10.44	11.09	11.43	12.68
	8H	14.04	14.34	15.03	15.33	16.62	10.30	10.60	11.29	11.58	12.88